

**Project Name: Manglore Smart City
Grand Summary for Priority Road DPR 7**

Sr. No.	Description	Cost In INR
1	Road and Other Works	30,00,32,735
2	Street Lighting	52,89,945
3	Landscape Work	2,20,184
	Construction Cost Sub Total	30,55,42,864
	GST @ 12% on Civil Constrction Cost (Refer 1.0 Abstract)	3,51,78,040
	Provision for Third Party Damages and Maintenance at 1 st Year(DLP)	32,57,030
	GST @12% on DLP Cost (Refer 5.1 Abstract)	2,29,258
	Maintenance Cost of 2nd,3rd and 4th Year	1,27,05,091
	GST @12% on Maintenanace Cost	12,19,735
	Escalation and Tender Premium @10%	3,05,54,286
	Add 3% Contengency	91,66,286
	Miscellaneous and Rounding off	47,410
	Grand Total	39,79,00,000

**EXECUTIVE ENGINEER
MSCL MANGALURU**

**GENERAL MANAGER TECHNICAL
MSCL MANGALURU**

**MANAGING DIRECTOR
MSCL Mangaluru**

**Name of the Work :- Mangalore Smart City
1.0 BOQ of Road and Other Work for Priority Road DPR 7**

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
1.00	Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)	Sqm	10778.06	74.98	8,08,139	
2.00	KSRRB M200.Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled material stacking serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (SI No : 18.47)	Cum	220.81	1001.90	2,21,230	
3.00	KSRRB M200-Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (S.I.No.18.49)	Rmt	3025.50	13.20	39,937	
4.00	KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 18-19,S.I.18.20)	Cum	4104.22	429.00	17,60,710	
5.00	KSRRB M200-17.2. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. v)Steel work in all types of Sections upto a Height of 5 m above plinth level excluding Cutting of Rivet- B. Excluding dismembering. (KPWD SOR 18-19,18.33)	MT	7.20	2082.30	14,993	
6.00	KSRRB 300-50. Scarifying bituminous course 50mm to 75mm thick along with premix carpet / surface dressing by road roller attached with scarifier without disturbing the base and stacking the debris including cost of all labour charges, HOM of machineries complete as per specifications. MORTH / Section 5.(KSRRB SI No.19.56)	Sqm	22839.80	42.90	9,79,827	
7.00	KSRRB 300-46. Scarifying stone metal crust 50mm to 100mm thick by road roller with scarifier along with 20mm premix carpet / surface dressing and stacking of old serviceable materials including cost of all labour charges, HOM of machineries complete as per specifications. MORTH / Section 5. (KSRRB SI No.19.52)	Sqm	45679.60	42.90	19,59,655	
8.00	KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. i)Dismantling Brick/Tile work B.In Cement mortar (SI No : 18.23)	Cum	2.30	386.10	888	
9.00	Removing B.S slab of drain and stackin as directed by engineer in charge.(PWD 18-19,SI No : 5.32)	Sqm	5631.60	107.80	6,07,086	
10.00	KSRRB M800-Permanent type barricade in construction zone KSRRB M800-44.1. Construction of a permanent type barricade made of steel components, 1.5 m high from road level, fitted with 3 horizontal rails 200 mm wide and 4 m long on 50 x 50 x 5 mm angle iron vertical support, painted with yellow and white strips, 150 mm in width at an angle of 45°, complete as per IRC:SP:55-2014 complete as per specifications . A. With steel components (SI No : 24.45)	Nos.	250.00	4,211.90	10,52,975	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
11.00	KSRRB M300-14. Excavation for roadwork in all types of soil with hydraulic excavator of 0.9 bucket capacity including cutting and loading in tippers,trimming bottom and side slopes,in accordance with requirements of lines and grades and cross sections,and transporting disposal location up to a lead of 5.00Km and complete as per specifications. MORTH specification No.301 (SI No : 19.14)	Cum	41411.21	56.36	23,33,936	
12.00	KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 18-19,SI No.2.11)	Cum	28998.05	132.00	38,27,742	
13.00	KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occurring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Section 3.(KPWD 18-19,SI No.19.64)	Sqm	16500.72	6.60	1,08,905	
14.00	KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills , ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (SI.No. 4.6 of KPWD 18-19)	Cum	946.09	6,490.00	61,40,133	
15.00	KSRRB 400 Granular Sub-Base with Coarse Graded Material (table 400-1) KSRRB M400-7. Construction of granular sub-base by providing Coarse graded crushed stone aggregates of granite / trap / basalt material, speading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per MORTH specifications clause 401 and Table 400-1 Grading VI. (SI.No.20.4 of KPWD SR 2018-19)	Cum	2551.36	2,382.60	60,78,864	
16.00	KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechaical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material (RA Attached)	Cum	2206.98	2,640.00	58,26,427	
17.00	KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters confirming to IS 9103-1999 reaffirmed -2008 at machine mixed,concrete laid in layers not exceeding 15cms thick, vibrated for all works in foundation for footings, pedastals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnspillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (SI No : 4.10 of KPWD 18-19)	Cum	5376.43	6,817.80	3,66,55,400	
18.00	KSRB 4.6.1 Providing and removing centering, shuttering, strutting, propping etc.,and removal of formwork for foundations, footings, bases of columns for mass concrete including cost of all materials,labour complete as per specifications. Specification No. KSB 4.6.2 (SI No : 4.28 of KPWD 18-19)	Sqm	34392.03	289.30	99,49,613	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
19.00	KSRB 4.9.2 : Providing T.M.T steel reinforcement for RCC work including straightening,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to thr adjoining members wherever necessary complete as per design (laps,hooks and wastage shall not be measured and paid) cost of materials,labour,HOM of machinery complete as per specifications.Specification No. KBS4.6.3. do with TMT bars Fe500 (SI No : 4.46.2 of KPWD 18-19)	MT	543.42	77,860.20	4,23,10,790	
20.00	KSRRB M300- Construction of Subgrade . KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305IKPWD 18-19,19.62,17.1 and 17.4)	Cum	4633.95	620.62	28,75,922	
21.00	KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,laid with a paver with electronic sensor,compacting with 8-10 tonnes double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (SI No : 22.1.1 of KPWD 18-19)	Cum	1230.23	4,452.80	54,77,957	
22.00	KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site, Manually laid and compacting with palte compactor ,finishing and curing complete as per MORTH specifications Clause 601. (RA attached)	Cum	509.75	4,048.00	20,63,468	
23.00	Providing and laying cement concrete using 20mm and down size granite coarse aggregates and fine aggregates of ready mixed concrete for RCC works laid in 15 em thick layers and well compacted including vibrating curing etc., for all super structure works with all lead and lift etc., complete. (exculsive of cost of steel and fabrication charges) Note : The RMC should be obtained only from the plants certified by Quality Council of India as per CE, C&B letter, AE2, 2015-16, Dt. 12-09-2015 Ready mixed Cement concrete M-25 (KPWD,4.49.2)	Cum	1639.59	6,046.70	99,14,109	
24.00	KSSRRB M600-2.Construction of unreinforced,dowel jointed, plain cement concrete pavement over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplastisizer at 3 lts confirming to IS9103-1999 reaffirmed 2008(Coarse and fine aggregate conforming to IS:383) mixed in a batching and mixing plant as per approved mix design,transported to site,laid with a fixed form paver spread,compacted and finished in a continuous operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent primer, joints sealant, debonding strip, dowel bars, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per MORTH specifications Clause 602.with M40 @420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (SI No : 22.2.2 of KPWD 18-19)	Cum	3173.19	6,341.50	2,01,22,784	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
25.00	Providing and placing joint sealant compound of cold polysulphide in the grooves after widening the groove to required width, sand blasting the groove face if recommended by the sealant manufacturer, cleaning the groove with air compressor, insertion of debonding strip, priming the sides of the sealant if the sealant manufacturer recommends and pouring the sealant all complete including material, manpower and as shown on drawing and as per MORTH specifications clause 602. (Non SOR Item)	Rmt	347.63	115.00	39,977	
26.00	KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 Repairs of spalled joints grooves of contraction joints longitudinal joints and expansion joints in concrete pavement using epoxy mortar concrete complete as per specifications.Morth specification No.3005.1 (SI No : 35.8 of KPWD 18-19)	Rmt	695.26	364.10	2,53,143	
27.00	Providing and laying at or near ground level factory made Median kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per drawing. (Precast C.C. kerb stone shall be approved by Engineer-in-charge). (RA Attached)	Cum	5.10	19,479.70	99,346	
28.00	Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC M20 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (SI No : 5.3 of KPWD 18-19)	Cum	325.14	17,029.77	55,37,021	
29.00	Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC M20 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (SI No : 5.3 of KPWD 18-19)	Cum	114.33	17,029.77	19,46,995	
30.00	Reusing existing kerb stone obtained from dismantaling of existing footpath or by other dismantaling work and laying at or near ground level in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including transportation to site from stack yard, making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).	Rmt	1,512.75	58.23	88,087	
31.00	KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per MORTH specifications section 8. (SI No : 24.1 of KPWD 18-19)	Sqm	1,199.07	88.00	1,05,518	
32.00	P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting. (Rate analysis attached)	Nos.	428.00	7,911.54	33,86,139	
33.00	P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)	Nos.	451.00	5,276.57	23,79,731	
34.00	P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)	Nos.	216.00	7,912.28	17,09,052	
35.00	Raising manhole cover and frame to the required road top level including the removing existing cover and raising of MH top wall in RCC M25 and refixing the same cover in proper position with all finish,including cost of all materials, labour, etc. complete.	Nos.	107.00	1,804.00	1,93,028	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
36.00	KSRRB M300- Wrought iron and mild steel welded work KSRRB M300-18. Wrought iron and mild steel welded work (using angles, square bars, tees and channel grills, gratings with grating frames, gates and tree guards of any size and design etc. including cost of screens and welding rods or bolts and nuts complete fixed in position but without the cost of excavation and concrete for fixing which will be paid separately complete as per specifications.(KPWD,18-19,Sl.No.19.97)	Quintal	324.42	7,905.70	25,64,767	
37.00	KSRB 12-8.2 : Constructing brick masonry inspection chamber 500x700mm, and 450mm depth , (clear inside dimension) for pipeline with one or two inlets, using table moulded non-modular bricks of class designation 50 in cement mortar 1:5, C.I cover with frame (light duty) 455x610mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23kg and weight of frame 15 kg) R.C.C. top slab with cement concrete M 15 with 20mm and downsize granite metal , foundation concrete M 5 with 40mm and downsize granite metal inside plastering 12mm thick with cement mortar 1:3, finished smooth with a floating coat of cement on walls and bed concrete complete as per standard design including cost of materials, labour charges, curing complete as per specifications. Specification No. KBS (S.I.No.11.52 of PWD SR 2018-19)	Nos.	8.00	9,125.60	73,005	
38.00	Providing gully pipe lowering,laying of PVC 100 mm dia pipes to the required alignments including specials and grade as indicated in drawings/design and hydraulically testing of the pipe line.The rate shall include all jointing materials,testing apparatus and water for testi g etc as directed by the Engineer in charge (page No.41,Item No.7,KUWSDB SOR 2016-17)	Rmt	654.00	301.70	1,97,312	
39.00	KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia , of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2018-19, Sl.No.12.89)	Nos.	436.00	913.00	3,98,068	
40.00	KSRRB M2200- Providing Weep Holes KSRRB M2200-8. Providing weep holes in Brick masonry / Plain / Reinforced concrete abutment, wing wall / return wall with 100 mm dia AC pipe, extending through the full width of the structure with slope of 1V :20H towards drawing face. Complete as per drawing and Technical Specifications complete as per specifications MORTH Specification No.2706 & 2200 (PWD SR 2018-19, Sl.No.28.10)	Nos./M	4,510.00	161.70	7,29,267	
41.00	KSRRB M800-29.3. Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2018-19,Sl.No.24.36)	Rmt	797.00	5,524.20	44,02,787	
42.00	Providing and laying Dia 225mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil presuure and other physical properties comforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	28,493.50	1,971.80	5,61,83,483	
43.00	Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil presuure and other physical properties comforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years.(Market Rate)	Rmt	10,963.50	1,068.90	1,17,18,885	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
44.00	Providing and Fixing Spacers for Power Ducts of size 225 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	3,551.00	1,003.00	35,61,653	
45.00	Providing and Fixing Spacers for Power Ducts of size 160 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	3,611.00	1,947.00	70,30,617	
46.00	Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)	Rmt	5,816.70	601.30	34,97,582	
47.00	Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and staping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.	Sqm	13,882.74	624.00	86,62,830	
48.00	Cutting of Control joints panels(in Footpath) at suitable required locations using using tools and tackles.	Rmt	3,969.85	59.00	2,34,221	
49.00	Providing and laying heavy duty cobble stones 75mm thick , using cement and course sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm thick sand bed (average thickness) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications. (KPWD SR 2018-19,SI No : 14.7)	Sqm	5,082.84	1,225.40	62,28,512	
50.00	KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen (KPWD 18-19,S.I.No.21.17.1)	Cum	141.08	8,622.90	12,16,476	
51.00	KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen (KPWD 18-19,S.I.No.21.22.6)	Cum	37.62	9,637.10	3,62,548	
52.00	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory & Informatory signboards made out of cube corner micro prismatic grade sheeting conforming to type XI standards of IRC:67:2012 specifications & fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminum skin on both sides & fixed over a support frame of 25X25X3mm MS angle and mounted on 75 mm dia OR 75X75X6mm mild steel angle to Total height 2.70 m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60mm below ground level. the sign post should be painted with be coat of red oxide paint and two coats of synthetic enamel paint of black and white colour with bands of 30 cm height alternatively firmly fixed to the ground by means of foundation with M20 grade cement concrete of 45cmX45cmX60cm including cost & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the works as directed by engineer in-charge.	Nos.	105.00	3,862.10	4,05,521	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
	10 years warranty for Retro Reflective Sheeting from the original sheeting manufactures as per clause 6.9 in IRC: 2012 & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier. 900MM Equilateral Triangle-TYPE XI (KPWD 18-19,SI No : 24.2.1)					
53.00	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory & Informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC:67:2012 specifications & fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminium skin on both sides & fixed over a support frame of 25X25X3mm MS angle and mounted on 75 mm dia OR 75X75X6mm mild steel angle to Total height 2.70 m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60mm below ground level. the sign post should be painted with be coat of red oxide paint and two coats of synthetic enamel paint of black and white colour with bands of 30 cm height alternatively firmly fixed to the ground by means of foundation with M20 grade cement concrete of 45cmX45cmX60cm including cost & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the works as directed be engineer in-charge.	Nos.	13.00	5,453.80	70,899	
	10 years warranty for Retro Reflective Sheeting from the original sheeting manufactures as per clause 6.9 in IRC: 2012 & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier. 900MM Octagon Stop Board-TYPE XI (KPWD 18-19,SI No : 24.2.6)					
54.00	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory & Informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC:67:2012 specifications & fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminum skin on both sides & fixed over a support frame of 25X25X3mm MS angle and mounted on 75 mm dia OR 75X75X6mm mild steel angle to Total height 2.70 m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60mm below ground level. the sign post should be painted with be coat of red oxide paint and two coats of synthetic enamel paint of black and white colour with bands of 30 cm height alternatively firmly fixed to the ground by means of foundation with M20 grade cement concrete of 45cmX45cmX60cm including cost & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the works as directed be engineer in-charge.	Nos.	91.00	3,429.80	3,12,112	
	10 years warranty for Retro Reflective Sheeting from the original sheeting manufactures as per clause 6.9 in IRC: 2012 & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier. 600MM Circle-TYPE XI (KPWD 18-19,SI No : 24.2.3)					
55.00	KSRRB M800-3. Direction and Place Identification Signs upto 0.9 sqm Size Board :-Manufacturing, supply and installation of retro- reflectorised cautionary, mandatory and informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC :67:2012 specifications & fixed over 4 mm thick aluminium composite panel sheet having minimum 0.30 thick aluminium skin on both sides & fixed over a support frame of 25x25x3 mm MS angle and mounted on 75mm dia OR 75x75x6mm Mild steel angle of total height 2.70m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60 cm below ground level. The sign post should be painted with one coat of red oxide paint and white colour with brands of 30 cm height alternatively firmly fixed to the ground by means of foundation with M20 grade cement concrete of 45 cm x45 cm x 60 cm including cost & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the work as directed by engineer in charge. 10 years warranty for retro reflective sheeting from the original sheeting manufacturer as per clause 6.9 in IRC 2012 & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier. (KPWD 18-19,SI No : 24.3)	Sqm	22.50	7619.70	1,71,443	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
56.00	Direction and Place Identification Signs with size more than 0.9 sqm Size Board: Providing and erecting direction and place identification retro-reflectorised sign as per IRC:67 made of high intensity grade sheeting vide Clause 801.3, fixed over aluminium sheeting, 2 mm thick with area exceeding 0.9 sqm supported on a mild steel single angle iron post 75 x 75 x 6 mm, 2 Nos. firmly fixed to the ground by means of properly designed foundation with M 15 grade cement concrete 45 x 45 x 60 em, 60 em below ground level as per approved drawing.	Sqm	36.00	7926.60	2,85,358	
57.00	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, supply and installation of retro- reflectorised cautionary, mandatory and informatory signboards made out of cube corner micro prismatic grade sheeting confirming to 600x800 MM type XI standards of IRC :67:2012 specifications & fixed over 4 mm thick aluminium composite panel sheet having minimum 0.30 thick aluminium skin on both sides & fixed over a support frame of 25x25x3 mm MS angle and mounted on 75mm dia OR 75x75x6mm Mild steel angle of total height 2.70m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60 cm below ground level. The sign post should be painted with one coat of red oxide paint and white colour with brands of 30 cm height alternatively firmly fixed to the ground by means of foundation with (KPWD18-19,24.2.4)	Nos.	23.00	4453.90	1,02,440	
	M20 grade cement concrete of 45 cm x45 cm x 60 cm including cost & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the work as directed by engineer in charge. 10 years warranty for retro reflective sheeting from the original sheeting manufacturer as per clause 6.9 in IRC 2012 & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier.					
58.00	KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications (KPWD 18-19,SI No : 24.41)	Nos.	490.00	317.90	1,55,771	
59.00	Supply & Installation of Solar Raised Pavement Markers made of polycarbonate molded body with circular shape, solar powered, LED self illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens in passive mode. The marker shall support a load of 20000 kg tested in accordance to IRC 37 and shall be resistant to dust and water ingress according to IP 65 (Ingress Protection 65 is a test which is conducted to check if solar road stud is protected from total dust Ingress and low pressure water jets from any direction) standards and should withstand temperatures in the range of 0 C to 70 C. Color of lighting could be provided in red or yellow (amber) as per requirement and typical frequency of blinking is 1 Hz. There should be current losses of less than 20 micro-amperes at 2.4 V in sleep-charging mode to enhance the life of the marker and a full charge should provide for a minimum autonomy of 50 hours. The height, width and length of the marker shall not be less than 10 mm x 100 mm x 100 mm. Also, the surface diameter of the marker shall not be less than 100 mm respectively. The weight of the marker shall not exceed 0.5 Kilograms. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer.	Nos.	320.00	3257.10	10,42,272	
60.00	Road Marking with hot applied Thermoplastic Compound with Reflecting Glass Beads on Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5mm thick including reflectorising glass beads at 250 gms and 2 ltr of primer per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streak and holes complete as per specifications. MORTH specification No.803 (KPWD 18-19,SI No : 24.15)	Sqm	3848.04	471.90	18,15,891	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
61.00	Providing and Fixing of Bus shelter (on prepared foundation) made of SS 304 frame work with brush steel finish, Galvanised Aluminium powder coated roofing and electronic circuit to control its lighting.The seating shall be made of SS 304 tubular sections for seat and back rest.each unit size of 4500mm x 600mm with a minimum backrest support of 450mm.Bus shelter shall have the Side Display board to have 1100X400mm Electronic display.The electronic display board to be of LED Scrolling type with Oval, 4.3 x 5.1mm dia. Diffused. LED's having Amber colour.Dual bin system should be adopted one for recycle waste & other for dry waste.Each bin shall be with minimum capacity of 70Ltrs.Interactive Information Panel-display equipment with information area of 1400 x 1400 and touch screen LED display panel of area not less than 600-900mm with integrated 8mm toughened glass.Advertisement Area 2 nos of size 4500mm x 1650mm and 2100mm x 2000mm shall be integrated within the design of the Bus Shelter. This shall be backlit type with SS box framing sides and back complete.Provision for installing outdoor WiFi Router.The Foundation slab shall be made in min M25 concrete. The cast iron nuts, bolts shall be rust proof hot deep galvanized powder coated etc.The materials used shall be Nonflammable (NON SOR Item)	Nos.	3.00	1500000.00	45,00,000	
62.00	Providing & installing of E- toilet with Super structure of the electronic toilet to have asthetic ambience with inner room size 1.2 x 0.8 x 2.4 (LXWXH)meters and Size of electronic toilet overall size in meters 2.30x1.25x2.80 (LXWXH) Total area 35 Sft. with Built-access controlled main door and side walls made of SS Grade 304,Toilet floor and closet are to be stainless steel of grade 304.E-Toilet shall have Built-in water tank with minimum 225 Lit capacity and Access controll using coin validator for entering the unit based on automatic payment collection mechanism exit from the unit should be manual.Automatic lights inside the unit with gloves on opening the door.E-Toilet shall be Automatic flushing system which includes Automatic Pre flush cleaning before use,Automatic closet washing mechanism after use and Automatic platform cleaning mechanism programmed after specific numbers.In addition to these flush switch is to be provided for manual operation.Standard features should include heath faucet,exhaust fan and cloth hanger.	Nos	4.00	5,75,000	23,00,000	
	The E-Toilet shall have Alert to users-different indication on 'ready to use',busy are to be provided in the unit also with Voice guidance in the unit for users. Web enabled support-GPRS based Real time data to be provided from the unit through web for knowing the health status like number of users per day and coins collected.E-toilet shall have Modular and portable design enabling easy assembling and installation at site.Call ceneter and web portal facilities for registering complience and tracking usage,coin collection etc.Status display in LED,Printed instruction stickers are to be provided.For Advertisement purpose space for advertisement dispaly to be povided on the exterior of the unit for income generation and sustainability. Backup power facility like UPS is to be provided to supplement upto 30 Min Base of the unit to be placed on a suitable concrete structure with a ashthetic finish. (Non SOR Item)					
63.00	KSRB 6-2.3 : Providing and constructing burnt brick masonry with approved quality of non-modular bricks of standard size of class designation 5.0Newton per sqmm (table moulded) with cement mortar 1:6 for basement and superstructu/re including cost of materials, labour charges, scaffolding, curing complete as per specifications. Specification No. KBS 6.2. (KPWD 18-19,SI.No.6.7)	Cum	62.43	8576.70	5,35,454	
64.00	KSRB15-3.8 : Providing 18mm thick cement plaster in single coat with cement mortar 1:4, to brick masonry including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.(KPWD 18-19,SI No.15.16)	Sqm	187.92	288.20	54,159	
65.00	Providing and fixing 450mm wide X 600mmX 20mm thk.RIVERWASHED BLACK GRANITE CLADDING on surface of seating as directed by architect (Non SOR Item)	Sqm	111.60	3527.00	3,93,613	
66.00	Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)	Nos.	146.00	4,500	6,57,000	
67.00	Providing and fixing of railing as detail design in MS HOLLOW SECTION and bars (shop drawing to be approved),with vertical support of 0.9m @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)	MT	8.32	100,000	8,32,000	

Sr. No.	Specification	Unit	Qty.	Rate	Amount	Remarks
68.00	Providing and Fixing SS 304 Outdoor Dustbin (Pivoted Type and Mounted on SS Poles) of 55 liters capacity all complete to the satisfaction of the Engineer in charge. (NON SOR Item)	Nos.	35.00	7,500	2,62,500	
69.00	KSRRB M300-14. Half brick circular tree guard, in 2nd class brick, internal diametre 1.25 metres, and height 1.2 metres, above ground and 0.20 metre below ground, bottom two courses laid dry, and top three courses in cement mortar 1:6 (1 cement 6 sand) and the intermediate courses being in dry honey comb masonry, as per design complete, complete as per specifications.KSRRB M300-Edging with 2nd class bricks, laid dry lengthwise	Nos.	20.00	2,466	49,324	
70.00	Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead of 5 km Item No 17.4 KSRRB M100-4.1- Earth	Cum	12,413.16	90.86	11,27,860	
71.00	Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead of 5km Item No 17.4 KSRRB M100-4.1- Debris	Cum	11,254.96	91.30	10,27,578	
			Total		30,00,32,735	

**ASSISTANT ENGINEER
MSCL MANGALURU**

**ASSISTANT EXECUTIVE ENGINEER
MSCL MANGALURU**

**EXECUTIVE ENGINEER
MSCL MANGALURU**

**GM TECHNICAL
MSCL MANGALURU**

Name of the Work :- Mangalore Smart City
1.1 Measurement Sheet of Road and Other Work for DPR 7

Sr. No.	Description	Unit	No's	L	B	H	Qty.
Road and Junction Pavment and Other Works							
1	Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)						
	Road No.1-GHS Road						
	LHS						
	Ch.100.00 to Ch.230.0-Footpath	Sqm	1	130.0	2.76		358.80
	RHS						
	Ch.280.0 to Ch.375.0-Footpath	Sqm	1	95.0	2.15		204.25
	Road No.2-P.M.Rao Road						
	RHS						
	Ch.0.00 to Ch.40.0-Footpath	Sqm	1	40.0	4.31		172.40
	LHS						
	Ch.150.0 to Ch.188.50-Footpath	Sqm	1	38.5	1.33		51.21
	Road No.3-Sharavu Temple Road						
	LHS						
	Ch.8.0 to Ch.18.0-Footpath	Sqm	1	10.0	1.79		17.90
	Ch.17.0 to Ch.80.0-Carriageway	Sqm	1	63.0	5.21		328.23
	Ch.110.0 to Ch.195.0-Carriageway	Sqm	1	85.0	4.50		382.50
	Road No.4-G.H.S. Cross Road						
	LHS						
	Ch.0.0 to Ch.40.0-Carriageway	Sqm	1	40.0	4.04		161.60
	Ch.40.0 to Ch.140.0-Footpath	Sqm	1	100.0	1.91		191.00
	RHS						
	Ch.138.0 to Ch.180.0-Footpath	Sqm	1	42.0	1.89		79.38
	Road No.5-Vithoba Temple Road						
	LHS						
	Ch.0.0 to Ch.65.0-Footpath	Sqm	1	65.0	4.31		280.15
	Ch.65.0 to Ch.130.0-Footpath	Sqm	1	65.0	5.20		338.00
	Ch.142.0 to Ch.160.0-Footpath	Sqm	1	18.0	0.93		16.74
	Ch.165.0 to Ch.220.0-Footpath	Sqm	1	55.0	0.82		45.10
	Ch.220.0 to Ch.270.0-Footpath	Sqm	1	50.0	1.20		60.00
	Ch.315.0 to Ch.390.0-Footpath	Sqm	1	75.0	1.30		97.50
	Ch.415.0 to Ch.490.0-Footpath	Sqm	1	75.0	0.91		68.25
	RHS						
	Ch.10.0 to Ch.220.0	Sqm	1	210.0	0.32		67.20
	Ch.220.0 to Ch.280.0	Sqm	1	60.0	1.05		63.00
	Road No.7-Maidan 1st Cross Road						
	LHS						
	Ch.20.0 to Ch.120.0	Sqm	1	100.0	2.80		280.00
	RHS						
	Ch.20.0 to Ch.22.0	Sqm	1	2.0	5.93		11.86
	Ch.30.0 to Ch.130.0	Sqm	1	100.0	2.56		256.00
	Road No.8-Maidan 3rd Cross Road						
	LHS						
	Ch.40.0 to Ch.185.0-Footpath	Sqm	1	145.0	3.15		456.75
	RHS						
	Ch.0.0 to Ch.190.0-Footpath	Sqm	1	190.0	1.79		340.10
	Road No.9-Bibi Alabi Road						
	LHS						
	Ch.0.0 to Ch.320.0-Footpath	Sqm	1	320.0	3.43		1097.60
	Ch.330.0 to Ch.435.0-Footpath	Sqm	1	105.0	1.93		202.65
	Ch.0.0 to Ch.200.0-Carriageway	Sqm	1	200.0	3.28		656.00
	Ch.230.0 to Ch.280.0-Carriageway	Sqm	1	50.0	5.22		261.00
	Ch.400.0 to Ch.430.0-Carriageway	Sqm	1	30.0	7.30		219.00
	RHS						
	Ch.50.0 to Ch.160.0-Carriageway	Sqm	1	110.0	2.77		304.70
	Road 10-Bibi Alabi-Kandak Road						
	LHS						
	Ch.15.00 to Ch.150.0-Footpath	Sqm	1	135.0	0.48		64.80
	RHS						
	Ch.280.0 to Ch.290.0-Footpath	Sqm	1	10.0	3.68		36.80
	Ch.380.0 to Ch.410.0-Footpath	Sqm	1	30.0	4.88		146.40
	Ch.445.0 to Ch.465.0-Footpath	Sqm	1	20.0	1.42		28.40
	Road 11-Maidan 4th Cross Road-Extn						
	LHS						
	Ch.0.0 to Ch.160.0-Footpath	Sqm	1	160.0	3.72		595.20
	RHS						
	Ch.20.0 to Ch.150.0-Footpath	Sqm	1	130.0	6.30		819.00
	Road 13-J.M 1st Cross Road						
	LHS						
	Ch.60.0 to Ch.150.0-Footpath	Sqm	1	90.0	1.99		179.10
	Road 15-Mission Street Road						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	RHS						
	Ch.40.0 to Ch.35.0-Footpath	Sqm	1	5.0	8.63		43.15
	Consider 20% Extra Qty.						1796.34
		Sqm		Total Qty.			10778.06
	Consider 60mm Paver Block	Cum					646.68
2	KSRRB M200.Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking into pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled material stacking serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (SI No : 18.47)						
	RCC Pipe Crossing-						
1	Road No.1-GHS Road	Cum	1	370	7.5	0.25	693.75
2	Road No.4-G.H.S. Cross Road	Cum	1	180	7.5	0.25	337.50
3	Road No.9-Bibi Alabi Road	Cum	1	470	14	0.25	1645.00
	Road No.1-GHS Road						
	Ch.60.0 to Ch.350.0	Cum	1	290	1.2	0.25	87.00
						Sub Total=	2763.25
		Cum		Total Qty. @5%of Road + SWD of		Sub Total	220.81
3	KSRRB M200-Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (S.I.No.18.49)						
	Footpath						
	Road No.1-GHS Road						
	LHS						
	Ch.100.00 to Ch.230.0-Footpath	Rm	1	130			130.00
	RHS						
	Ch.280.0 to Ch.375.0-Footpath	Rm	1	95			95.00
	Road No.2-P.M.Rao Road						
	RHS						
	Ch.0.00 to Ch.40.0-Footpath	Rm	1	40			40.00
	LHS						
	Ch.150.0 to Ch.188.50-Footpath	Rm	1	38.5			38.50
	Road No.3-Sharavu Temple Road						
	LHS						
	Ch.8.0 to Ch.18.0-Footpath	Rm	1	10			10.00
	Road No.4-G.H.S. Cross Road						
	LHS						
	Ch.40.0 to Ch.140.0-Footpath	Rm	1	100			100.00
	RHS						
	Ch.138.0 to Ch.180.0-Footpath	Rm	1	42			42.00
	Road No.5-Vithoba Temple Road						
	LHS						
	Ch.0.0 to Ch.65.0-Footpath	Rm	1	65			65.00
	Ch.65.0 to Ch.130.0-Footpath	Rm	1	65			65.00
	Ch.142.0 to Ch.160.0-Footpath	Rm	1	18			18.00
	Ch.165.0 to Ch.220.0-Footpath	Rm	1	55			55.00
	Ch.220.0 to Ch.270.0-Footpath	Rm	1	50			50.00
	Ch.315.0 to Ch.390.0-Footpath	Rm	1	75			75.00
	Ch.415.0 to Ch.490.0-Footpath	Rm	1	75			75.00
	RHS						
	Ch.10.0 to Ch.220.0-Footpath	Rm	1	210			210.00
	Ch.220.0 to Ch.280.0-Footpath	Rm	1	60			60.00
	Road No.7-Maidan 1st Cross Road						
	LHS						
	Ch.20.0 to Ch.120.0-Footpath	Rm	1	100			100.00
	RHS						
	Ch.20.0 to Ch.22.0-Footpath	Rm	1	2			2.00
	Ch.30.0 to Ch.130.0-Footpath	Rm	1	100			100.00
	Road No.8-Maidan 3rd Cross Road						
	LHS						
	Ch.40.0 to Ch.185.0-Footpath	Rm	1	145			145.00
	RHS						
	Ch.0.0 to Ch.190.0-Footpath	Rm	1	190			190.00
	Road No.9-Bibi Alabi Road						
	LHS						
	Ch.0.0 to Ch.320.0-Footpath	Rm	1	320			320.00
	Ch.330.0 to Ch.435.0-Footpath	Rm	1	105			105.00
	Median	Rm	1	355			355.00
	Road 10-Bibi Alabi-Kandak Road						
	LHS						
	Ch.15.00 to Ch.150.0-Footpath	Rm	1	135			135.00
	RHS						
	Ch.280.0 to Ch.290.0-Footpath	Rm	1	10			10.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.380.0 to Ch.410.0-Footpath	Rm	1	30			30.00
	Ch.445.0 to Ch.465.0-Footpath	Rm	1	20			20.00
	Road 11-Maidan 4th Cross Road-Extn						
	LHS						
	Ch.0.0 to Ch.160.0-Footpath	Rm	1	160			160.00
	RHS						
	Ch.20.0 to Ch.150.0-Footpath	Rm	1	130			130.00
	Road 13-J.M 1st Cross Road						
	LHS						
	Ch.60.0 to Ch.150.0-Footpath	Rm	1	90			90.00
	Road 15-Mission Street Road						
	RHS						
	Ch.40.0 to Ch.35.0-Footpath	Rm	1	5			5.00
		Rm		Total Qty.			3025.50
4	KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. II. By Mechanical Means. A. Cement Concrete Grade M-15 & M-20. MORTH Specification No. 202 (KPWD SOR 18-19,S.I.18.20)						
	SWD						
1	Road No.1-GHS Road						
	SWD-Base	Cum	1	370.00	1.30	0.15	72.15
	SWD-Wall	Cum	2	370.00	0.20	0.90	133.20
	SWD-Slab	Cum	1	370.00	1.10	0.15	61.05
2	Road No.2-P.M.Rao Road						
	SWD-Base	Cum	2	178.00	1.35	0.15	72.09
	SWD-Wall	Cum	4	178.00	0.20	1.10	156.64
	SWD-Slab	Cum	2	178.00	1.15	0.15	61.41
3	Road No.3-Sharavu Temple Road						
	SWD-Base	Cum	2	194.00	0.90	0.15	52.38
	SWD-Wall	Cum	4	194.00	0.20	1.10	170.72
	SWD-Slab	Cum	2	194.00	0.70	0.15	40.74
4	Road No.4-G.H.S. Cross Road						
	SWD-Base	Cum	1	180.00	1.10	0.15	29.70
	SWD-Wall	Cum	2	482.00	0.20	1.00	192.80
	SWD-Slab	Cum	1	482.00	0.90	0.15	65.07
5	Road No.5-Vithoba Temple Road						
	SWD-Base	Cum	2	482.00	1.10	0.15	159.06
	SWD-Wall	Cum	4	482.00	0.20	1.00	385.60
	SWD-Slab	Cum	2	482.00	0.90	0.15	130.14
7	Road No.7-Maidan 1st Cross Road						
	SWD-Base	Cum	1	90.00	1.10	0.15	14.85
	SWD-Wall	Cum	2	90.00	0.20	1.00	36.00
	SWD-Slab	Cum	1	90.00	0.90	0.15	12.15
8	Road No.8-Maidan 3rd Cross Road						
	SWD-Base	Cum	2	186.00	1.10	0.15	61.38
	SWD-Wall	Cum	4	186.00	0.20	1.00	148.80
	SWD-Slab	Cum	2	186.00	0.90	0.15	50.22
9	Road No.9-Bibi Alabi Road						
	SWD-Base	Cum	2	440.00	1.10	0.15	145.20
	SWD-Wall	Cum	4	440.00	0.20	1.00	352.00
	SWD-Slab	Cum	2	440.00	0.90	0.15	118.80
10	Road 10-Bibi Alabi-Kandak Road						
	SWD-Base	Cum	1	460.00	1.10	0.15	75.90
	SWD-Wall	Cum	2	460.00	0.20	1.00	184.00
	SWD-Slab	Cum	1	460.00	0.90	0.15	62.10
11	Road 11-Maidan 4th Cross Road-Extn						
	SWD-Base	Cum	1	195.00	1.10	0.15	32.18
	SWD-Wall	Cum	2	195.00	0.20	1.00	78.00
	SWD-Slab	Cum	1	195.00	0.90	0.15	26.33
12	Road 13-J.M 1st Cross Road						
	SWD-Base	Cum	1	238.00	1.10	0.15	39.27
	SWD-Wall	Cum	2	238.00	0.20	1.00	95.20
	SWD-Slab	Cum	1	238.00	0.90	0.15	32.13
13	Road 15-Mission Street Road						
	SWD-Base	Cum	1	200.00	1.10	0.15	33.00
	SWD-Wall	Cum	2	200.00	0.20	1.00	80.00
	SWD-Slab	Cum	1	200.00	0.90	0.15	27.00
	Cross Drain						
	Box Culvert						
1	Road No.1-GHS Road						
	Box Culvert-Slab	Cum	6	25.2	1.00	0.20	30.24
	Box Culvert-Wall	Cum	6	25.2	1.00	0.20	30.24
2	Road No.2-P.M.Rao Road						
	Box Culvert-Slab	Cum	4	16.6	1.00	0.20	13.28
	Box Culvert-Wall	Cum	4	16.6	1.00	0.20	13.28
3	Road No.3-Sharavu Temple Road						
	Box Culvert-Slab	Cum	4	18.8	1.50	0.20	22.56
	Box Culvert-Wall	Cum	4	18.8	1.50	0.20	22.56
4	Road No.4-G.H.S. Cross Road						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Box Culvert-Slab	Cum	4	14.8	1.50	0.20	17.76
	Box Culvert-Wall	Cum	4	14.8	1.50	0.20	17.76
5	Road No.5-Vithoba Temple Road						
	Box Culvert-Slab	Cum	4	8.1	1.50	0.20	9.72
	Box Culvert-Wall	Cum	4	8.1	1.50	0.20	9.72
5	Road No.7-Maidan 1st Cross Road						
	Box Culvert-Slab	Cum	2	14.5	1.50	0.20	8.70
	Box Culvert-Wall	Cum	2	14.5	1.50	0.20	8.70
6	Road No.8-Maidan 3rd Cross Road						
	Box Culvert-Slab	Cum	4	15.9	1.50	0.20	19.08
	Box Culvert-Wall	Cum	4	15.9	1.50	0.20	19.08
7	Road No.9-Bibi Alabi Road						
	Box Culvert-Slab	Cum	8	28.4	1.50	0.20	68.16
	Box Culvert-Wall	Cum	8	28.4	1.50	0.20	68.16
8	Road 10-Bibi Alabi-Kandak Road						
	Box Culvert-Slab	Cum	8	20.4	1.50	0.20	48.96
	Box Culvert-Wall	Cum	8	20.4	1.50	0.20	48.96
9	Road 11-Maidan 4th Cross Road-Extn						
	Box Culvert-Slab	Cum	4	21.5	1.50	0.20	25.80
	Box Culvert-Wall	Cum	4	21.5	1.50	0.20	25.80
10	Road 13-J.M 1st Cross Road						
	Box Culvert-Slab	Cum	6	10.3	1.50	0.20	18.54
	Box Culvert-Wall	Cum	6	10.3	1.50	0.20	18.54
11	Road 15-Mission Street Road						
	Box Culvert-Slab	Cum	4	21.4	1.50	0.20	25.68
	Box Culvert-Wall	Cum	4	21.4	1.50	0.20	25.68
		Cum			Total Qty.		4104.22
5	KSRRB M200-17.2. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. v)Steel work in all types of Sections upto a Height of 5 m above plinth level excluding Cutting of Rivet- B. Excluding dismembering. (KPWD SOR 18-19,18.33)						
	Footpath Railing		Rm	Kg/Rm	Kg		
			100	50	5000		5.00
			Nos.	Mt/Nos			
	Bus Shelter		2	1.1			2.20
		MT				Total	7.2
6	KSRRB 300-50. Scarifying bituminous course 50mm to 75mm thick along with premix carpet / surface dressing by road roller attached with scarifier without disturbing the base and stacking the debris including cost of all labour charges, HOM of machineries complete as per specifications. MORTH / Section 5.(KSRRB SI No.19.56)						
1	GHS Road	Sqm	1	370	11		4070.00
2	P.M.Rao Road	Sqm	1	178	12		2136.00
3	Sharavu Temple Road	Sqm	1	194	8.2		1590.80
4	GHS Cross Road	Sqm	1	180	10.2		1836.00
5	Vithoba Temple Road	Sqm	1	482	5.2		2506.40
6	Maidan 1st Cross Road	Sqm	1	90	14.1		1269.00
7	Maidan 3rd Cross Road	Sqm	1	186	11		2046.00
8	Bibi Alabi Road	Sqm	0	440	23		0.00
9	Bibi Alabi - Kanadak Road	Sqm	1	460	6.6		3036.00
10	Maidan 4th Cross Road-Extn.	Sqm	1	195	9.6		1872.00
11	J.M.1st Cross Road	Sqm	1	238	5.2		1237.60
12	Mission Street Road-Extn.	Sqm	1	200	6.2		1240.00
		Sqm		Total Qty.			22839.80
7	KSRRB 300-46. Scarifying stone metal crust 50mm to 100mm thick by road roller with scarifier along with 20mm premix carpet / surface dressing and stacking of old serviceable materials including cost of all labour charges, HOM of machineries complete as per specifications. MORTH / Section 5. (KSRRB SI No.19.52)						
1	GHS Road	Sqm	2	370	11		8140.00
2	P.M.Rao Road	Sqm	2	178	12		4272.00
3	Sharavu Temple Road	Sqm	2	194	8.2		3181.60
4	GHS Cross Road	Sqm	2	180	10.2		3672.00
5	Vithoba Temple Road	Sqm	2	482	5.2		5012.80
6	Maidan 1st Cross Road	Sqm	2	90	14.1		2538.00
7	Maidan 3rd Cross Road	Sqm	2	186	11		4092.00
8	Bibi Alabi Road	Sqm	0	440	23		0.00
9	Bibi Alabi - Kanadak Road	Sqm	2	460	6.6		6072.00
10	Maidan 4th Cross Road-Extn.	Sqm	2	195	9.6		3744.00
11	J.M.1st Cross Road	Sqm	2	238	5.2		2475.20
12	Mission Street Road-Extn.	Sqm	2	200	6.2		2480.00
		Sqm		Total Qty.			45679.60

Sr. No.	Description	Unit	No's	L	B	H	Qty.
8	KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. i)Dismantaling Brick/Tile work B.In Cement mortar (SI No : 18.23)						
	Provisional Qty	Cum	1	10	0.23	1.00	2.30
		Cum		Total Qty.			2.30
9	Removing B.S slab of drain and stacking.(PWD 18-19,5.32,Page No.32)						
1	GHS Road	Sqm	1	370	1.2		444.00
2	P.M.Rao Road	Sqm	2	178	1.2		427.20
3	Sharavu Temple Road	Sqm	2	194	1.2		465.60
4	GHS Cross Road	Sqm	1	180	1.2		216.00
5	Vithoba Temple Road	Sqm	2	482	1.2		1156.80
7	Maidan 1st Cross Road	Sqm	1	90	1.2		108.00
8	Maidan 3rd Cross Road	Sqm	2	186	1.2		446.40
9	Bibi Alabi Road	Sqm	2	440	1.2		1056.00
10	Bibi Alabi - Kanadak Road	Sqm	1	460	1.2		552.00
11	Maidan 4th Cross Road-Extn.	Sqm	1	195	1.2		234.00
13	J.M.1st Cross Road	Sqm	1	238	1.2		285.60
15	Mission Street Road-Extn.	Sqm	1	200	1.2		240.00
		Sqm		Total Qty.			5631.60
10	KSRRB M800-Permanent type barricade in construction zone KSRRB M800-44.1. Construction of a permanent type barricade made of steel components, 1.5 m high from road level, fitted with 3 horizontal rails 200 mm wide and 4 m long on 50 x 50 x 5 mm angle iron vertical support, painted with yellow and white strips, 150 mm in width at an angle of 45°, complete as per IRC:SP:55-2014 complete as per specifications . A. With steel components (SI No : 24.45)						
	Length of Road						
	Considered 250m length at 3 locations work will be in progress	Rm	4	250.00			1000.00
						Total Length	1000.00
	No. of Barricade = Length of Road / Length of one barricade (4.0m)	Nos.				Total Qty.	250.00
11	KSRRB M300-14. Excavation for roadwork in all types of soil with hydraulic excavator of 0.9 bucket capacity including cutting and loading in tippers,trimming bottom and side slopes,in accordance with requirements of lines and grades and cross sections,and transporting disposal location up to a lead of 5.00Km and complete as per specifications. MORTH specification No.301 (SI No : 19.14)						
	Road No.1-GHS Road						
	Road No.1						
	Ch.0 to Ch.10.00	Cum	1	10	5.7	0.65	37.05
	Ch.10.0 to Ch.60.00	Cum	1	50	5.7	0.65	185.25
	Ch.60.00 to Ch.110.00	Cum	1	50	5.7	0.65	185.25
	Ch.110.0 to Ch.160.00	Cum	1	50	5.7	0.65	185.25
	Road No.2-P.M.Rao Road						
	Ch.0.0 to Ch.50.0	Cum	1	50	7.165	0.65	232.86
	Ch.50.0 to Ch.100.00	Cum	1	50	7.33	0.65	238.23
	Ch.100.0 to Ch.145.0.0	Cum	1	45	7.165	0.65	209.58
	Road No.3-Sharavu Temple Road						
	Ch.0.0 to Ch.30.0	Cum	1	30	6.22	0.65	121.29
	Ch.30.0 to Ch.80.0	Cum	1	50	6.2	0.65	201.50
	Ch.80.0 to Ch.130.0	Cum	1	50	6.365	0.65	206.86
	Ch.130.0 to Ch.185.0	Cum	1	55	4.55	0.65	162.66
	Road No.4-G.H.S. Cross Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	6.6	0.65	85.80
	Ch.20.0 to Ch.70.0	Cum	1	50	6.33	0.65	205.73
	Ch.70.0 to Ch.120.0	Cum	1	50	6.6	0.65	214.50
	Ch.120.0 to Ch.180.0	Cum	1	60	6.6	0.65	257.40
	Road No.5-Vithoba Temple Road						
	Ch.0.00 to Ch.50.0	Cum	1	50	2.46	0.65	79.95
	Ch.50.0 to Ch.100.0	Cum	1	50	2.66	0.65	86.45
	Ch.100.00 to Ch.150.0	Cum	1	50	2.86	0.65	92.95
	Ch.150.0 to Ch.200.0	Cum	1	50	2.06	0.65	66.95
	Ch.200.0 to Ch.240.0	Cum	1	40	3.931	0.65	102.21
	Ch.240.0 to Ch.290.0	Cum	1	50	2.56	0.65	83.20
	Ch.290.0 to Ch.340.0	Cum	1	50	2.56	0.65	83.20
	Ch.340.0 to Ch.390.0	Cum	1	50	1.86	0.65	60.45
	Ch.390.0 to Ch. 440.0	Cum	1	50	2.36	0.65	76.70
	Ch.440.0 to Ch.490.0	Cum	1	50	3.031	0.65	98.51
	Road No.7-Maidan 1st Cross Road						
	Ch.0.0 to Ch.50.00	Cum	1	50	7.12	0.65	231.40
	Ch.50.00 to Ch.90.0	Cum	1	40	7.33	0.65	190.58

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Road No.8-Maidan 3rd Cross Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	5.191	0.65	67.48
	Ch.20.0 to Ch.60.0	Cum	1	40	6.099	0.65	158.57
	Ch.60.0 to Ch.120.0	Cum	1	60	7.33	0.65	285.87
	Ch.120.0 to Ch.186.0	Cum	1	66	7.33	0.65	314.46
	Road 10-Bibi Alabi-Kandak Road						
	Ch.0.0 to Ch.10.00	Cum	1	10	3.47	0.65	22.56
	Ch.10.0 to Ch.50.0	Cum	1	40	5.1	0.65	132.60
	Ch.50.0 to Ch.110.0	Cum	1	60	5.1	0.65	198.90
	Ch.110.0 to Ch.160.0	Cum	1	50	4.83	0.65	156.98
	Ch.160.0 to Ch.200.00	Cum	1	40	3.83	0.65	99.58
	Ch.200.0 to Ch.250.0	Cum	1	50	3.41	0.65	110.83
	Ch.250.0 to Ch.310.0	Cum	1	60	4.6	0.65	179.40
	Ch.310.0 to ch.350.0	Cum	1	40	5.1	0.65	132.60
	Ch.350.0 to Ch.400.00	Cum	1	50	6	0.65	195.00
	Ch.400.00 to Ch.460.0	Cum	1	60	5.1	0.65	198.90
	Road 11-Maidan 4th Cross Road-Extn						
	Ch.0.00 to Ch.10.0	Cum	1	10	4.93	0.65	32.05
	Ch.10.0 to Ch.40.00	Cum	1	30	4.93	0.65	96.14
	Ch.40.0 to Ch.90.00	Cum	1	50	7	0.65	227.50
	Ch.90.0 to Ch.140.0	Cum	1	50	6.1	0.65	198.25
	Ch.140.0 to Ch195.0	Cum	1	55	5.2	0.65	185.90
	Road 13-J.M 1st Cross Road						
	Ch.0.0 to Ch.10.0	Cum	1	10	2.16	0.65	14.04
	Ch.10.0 to Ch.50.0	Cum	1	40	2.36	0.65	61.36
	Ch.50.0 to Ch.100.00	Cum	1	50	1.66	0.65	53.95
	Ch.100.0 to Ch.170.0	Cum	1	70	3.43	0.65	156.07
	Ch.170.0 to Ch.200.0	Cum	1	40	2.53	0.65	65.78
	Ch.200.0 to Ch.238.0	Cum	1	38	2.36	0.65	58.29
	Road 15-Mission Street Road						
	Ch.0.0 to Ch.10.0	Cum	1	10	5.3	0.65	34.45
	Ch.10.0 to Ch.60.0	Cum	1	50	7.23	0.65	234.98
	Ch.60.0 to Ch.130.0	Cum	1	70	3.058	0.65	139.14
	Ch.130.0 to Ch.160.0	Cum	1	30	2.558	0.65	49.88
	Ch.160.0 to Ch.200.0	Cum	1	40	3.03	0.65	78.78
	Patch Work For CC Road						
	Road No.1						
	RHS						
	Ch.275.0 to Ch.288.0	Cum	1	13	0.603846	0.65	5.10
	Road No.4-G.H.S. Cross Road						
	LHS						
	Ch.15.0 to Ch.68.0	Cum	1	53	1.783774	0.65	61.45
	RHS						
	Ch.30.0 to Ch.68.0	Cum	1	53	0.229811	0.65	7.92
	Flush Footpath with Carriageway						
	Road No.1-GHS Road						
	RHS						
	Level Footpath-Ch.270.00 to Ch.288.00	Cum	1	18	0.21	0.505	1.91
	LHS						
	Level Footpath-Ch.260.0 to Ch.268.00	Cum	1	8	0.4	0.505	1.62
	Parking-Ch.180.0 to Ch.260.0	Cum	1	82	2.5	0.505	103.53
	Parking-Ch.320.0 to Ch.350.0	Cum	1	30	2.5	0.505	37.88
	Road No.2-P.M.Rao Road						
	Parking-LHS-Ch.10.00 to Ch.50.00	Cum	1	36.2	2.5	0.505	45.70
	Parking-RHS-Ch.50.00 to Ch.75.00	Cum	1	29	2.5	0.505	36.61
	Road No.3-Sharavu Temple Road						
	RHS						
	Level Footpath-Ch.165.00 to Ch.185.0	Cum	1	20	0.73	0.505	7.37
	Parking-Ch.15.00 to Ch.33.0	Cum	1	18	2.5	0.505	22.73
	Parking-Ch.68.00 to Ch.82.0	Cum	1	16.4	2.5	0.505	20.71
	LHS						
	Level Footpath-Ch.140.00 to Ch.180.0	Cum	1	40	1.18	0.505	23.84
	Parking-Ch.15.0 to Ch.42.0	Cum	1	30	2.5	0.505	37.88
	Parking-Ch.65.0 to Ch.85.0	Cum	1	20	2.5	0.505	25.25
	Road No.4-G.H.S. Cross Road						
	RHS						
	Ch.35.00 to Ch.50.0	Cum	1	15	1.27	0.505	9.62
	LHS						
	Ch.65.0 to Ch.90.0	Cum	1	40	1.1	0.505	22.22
	Road No.5-Vithoba Temple Road						
	LHS						
	Ch.15.0 to Ch.212.0	Cum	1	197	1.41	0.505	140.27
	Ch.215.0 to Ch.485.0	Cum	1	270	1.44	0.505	196.34
		Cum					

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	RHS						
	Ch.15.0 to Ch.485.0	Cum	1	470	1.61	0.505	382.13
	Ch.380.0 to Ch.410.0	Cum					
	Road No.8-Maidan 3rd Cross Road						
	Parking	Cum	1	30.6	2.5	0.505	38.63
	Road No.9-Bibi Alabi Road						
	LHS						
	Level Footpath-Ch.0.0 to Ch.38.0	Cum	1	40	1.58	0.505	31.92
	Level Footpath-Ch.138.0 to Ch.218.0	Cum	1	80	1.5	0.505	60.6
	Level Footpath-Ch.248.0 to Ch.260.0	Cum	1	12	1.54	0.505	9.33
	Level Footpath-Ch.288.0 to Ch.308.0	Cum	1	20	1.29	0.505	13.03
	Parking-Ch.55.00 to Ch. 130.0	Cum	1	75	2.5	0.505	94.69
	Parking-Ch.140.0 to Ch.150.0	Cum	1	10.5	2.5	0.505	13.26
	RHS						
	Level Footpath-Ch.5.00to Ch.40.0	Cum	1	35	1.35	0.505	23.86
	Level Footpath-Ch.160.00 to Ch.210.0	Cum	1	50	1.21	0.505	30.55
	Level Footpath-Ch.240.0 to Ch.320.0	Cum	1	80	1.28	0.505	51.71
	Level Footpath-Ch.400.0 to Ch.430.0	Cum	1	30	1.11	0.505	16.82
	Level Footpath-Ch.455.0 to Ch.465.0	Cum	1	10	2.42	0.505	12.22
	Road 10-Bibi Alabi-Kandak Road						
	RHS						
	Ch.12.0 to Ch.38.0	Cum	1	26	0.41	0.505	5.38
	LHS						
	Ch.168.0 to Ch.188.0	Cum	1	20	0.46	0.505	4.65
	Ch.240.0 to Ch.260.0	Cum	1	20	0.31	0.505	3.13
	Ch.270.0 to Ch.300.0	Cum	1	30	0.52	0.505	7.88
	Ch.300.00 to Ch.320.0	Cum	1	20	0.73	0.505	7.37
	Ch.400.0 to Ch.425.0	Cum	1	25	1.11	0.505	14.01
	Road 11-Maidan 4th Cross Road-Extn						
	LHS						
	Ch.90.0 to Ch.180.0	Cum	1	90	0.8	0.505	36.36
	Ch.30.0 to Ch.50.0	Cum	1	20	1.07	0.505	10.81
	RHS						
	Ch.70.0 to Ch.80.0	Cum	1	10	0.23	0.505	1.16
	Ch.115.0 to Ch.185.0	Cum	1	70	1.31	0.505	46.31
	Parking-LHS	Cum	1	46.8	2.5	0.505	59.09
	Parking-RHS	Cum	1	60	2.5	0.505	75.75
	Parking-RHS	Cum	1	53.2	2.5	0.505	67.17
	Road 13-J.M 1st Cross Road						
	LHS						
	Ch.0.0 to Ch.90.0	Cum	1	90	1.1	0.505	50
	Ch.95.0 to Ch.130.0	Cum	1	40	0.56	0.505	11.31
	Ch.200.0 to Ch.220.0	Cum	1	20	0.24	0.505	2.42
	Ch.230.0 to Ch.235.0	Cum	1	5	4.37	0.505	11.03
	RHS						
	Ch.0.0 to Ch.130.0	Cum	1	130	1	0.505	65.65
	Ch.200.0 to Ch.240.0	Cum	1	40	0.5	0.505	10.1
	Road 15-Mission Street Road						
	LHS						
	Ch.20.0 to Ch.90.0	Cum	1	70	1.52	0.505	53.73
	Ch.120.0 to Ch.190.0	Cum	1	70	1.08	0.505	38.18
	RHS						
	Ch.130.0 to Ch.180.0	Cum	1	50	1.05	0.505	26.51
	Two Wheeler Parking						
	Road No.2-PM Rao Road						
	LHS						
	Ch.55.0 to Ch.135.0	Sqm	1	80.00	1.40	0.505	56.56
	RHS						
	Ch.7.00 to Ch.42.00	Sqm	1	36.90	1.40	0.505	26.09
	Ch.109.0 to Ch.132.0	Sqm	1	24.60	1.40	0.505	17.39
	Road No.3 Sharavu Temple Road						
	RHS						
	Ch.42.0 to Ch.62.0	Sqm	1	17.50	1.40	0.505	12.37
	LHS						
	Ch.111.0 to Ch. 125.0	Sqm	1	13.50	1.40	0.505	9.54
	Road No.4 GHS Cross Road						
	RHS						
	Ch.80.0 to Ch.94.0	Sqm	1	13.40	1.40	0.505	9.47
	Ch.117.0 to Ch.154	Sqm	1	36.80	1.40	0.505	26.02
	LHS						
	Ch.22.0 to Ch.40.0	Sqm	1	17.00	1.40	0.505	12.02
	Ch.112.0 to Ch.40.0	Sqm	1	17.30	1.40	0.505	12.23
	Ch.134.0 to Ch.159.0	Sqm	1	25.50	1.40	0.505	18.03
	Road No.8-Maidan 3rd Cross Road						
	RHS						
	Ch.155.0 to Ch.170.0	Sqm	1	15.80	1.40	0.505	11.17
	LHS						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.120.0 to Ch.173.0	Sqm	1	52.20	1.40	0.505	36.91
	Road No.9-Bibi Alabi Road						
	Ch.277.0 to Ch.288.0	Sqm	1	12.50	1.40	0.505	8.84
	Footpath						
	Road No.1-GHS Road						
	LHS						
	Ch.0.0 to Ch.95.00	Cum	1	95	2.73	0.25	64.84
	Ch.100.0 to Ch.260.00	Cum	1	160	3.23	0.25	129.2
	Ch.270.0 to Ch.370.00	Cum	1	100	2.97	0.25	74.25
	RHS						
	Ch.0.0 to Ch.140.00	Cum	1	140	2.3	0.25	80.5
	Ch.150.0 to Ch.280.0	Cum	1	130	3.18	0.25	103.35
	Ch.290.0 to Ch.390.0	Cum	1	100	3.68	0.25	92
	Road No.2-P.M.Rao Road						
	LHS						
	Ch.00.0 to Ch.170.0	Cum	1	170	2.83	0.25	120.28
	RHS						
	Ch.00.0 to Ch.170.0	Cum	1	170	3.76	0.25	159.8
	Road No.3-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.170.0	Cum	1	170	2.82	0.25	119.85
	RHS						
	Ch.0.0 to Ch.50.0	Cum	1	50	4.23	0.25	52.88
	Ch.55.0 to Ch.90.0	Cum	1	35	2.84	0.25	24.85
	Ch.100.0 to Ch.142.0	Cum	1	42	3.55	0.25	37.28
	Road No.4-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.50.0	Cum	1	50	3.55	0.25	44.38
	Ch.90.0 to Ch.185.00	Cum	1	95	2.68	0.25	63.65
	RHS						
	Ch.0.0 to Ch.35.0	Cum	1	35	1.9	0.25	16.63
	Ch.50.0 to Ch.180.0	Cum	1	130	2.34	0.25	76.05
	Road No.7-Maidan 1st Cross Road						
	LHS						
	Ch.0.0 to Ch.92.00	Cum	1	92	3.45	0.25	79.35
	RHS						
	At Ch.0.00	Cum	1	20	2.61	0.25	13.05
	Ch.0.0 to Ch.92.00	Cum	1	92	2.7	0.25	62.1
	Road No.8-Maidan 3rd Cross Road						
	LHS						
	Ch.20.0 to Ch.180.0	Cum	1	160	2.8	0.25	112
	RHS						
	Ch.0.0 to Ch.180.0	Cum	1	180	3.11	0.25	139.95
	Road No.9 Bibi Alabi Road						
	LHS						
	Ch.0.0 to Ch.200.00	Cum	1	200	5.38	0.25	269
	Ch.210.00 to Ch.320.00	Cum	1	110	5.61	0.25	154.28
	Ch.330.0 to Ch.430.00	Cum	1	100	6.75	0.25	168.75
	RHS						
	Ch.30.00 to Ch.160.00	Cum	1	130	4.48	0.25	145.6
	Ch.170.00 to Ch.340.00	Cum	1	170	4.75	0.25	201.88
	Ch.345.00 to Ch.430.00	Cum	1	85	4.41	0.25	93.71
	Road No.10-Bibi Alabi - Kandak Road						
	LHS						
	Ch.0.0 to Ch.145.0	Cum	1	145	1.49	0.25	54.01
	Ch.55.00 to Ch.165.0	Cum	1	110	0.15	0.25	4.13
	Ch.185.00 to Ch.230.0	Cum	1	45	1.58	0.25	17.78
	Ch.320.00 to Ch.405.00	Cum	1	85	3.87	0.25	82.24
	Ch.425.00 to Ch.460.0	Cum	1	35	3.54	0.25	30.98
	RHS						
	Ch.40.0 to Ch.260.0	Cum	1	220	1.5	0.25	82.5
	Ch.270.0 to Ch.290.0	Cum	1	20	3.45	0.25	17.25
	Ch.305.0 to Ch.460.0	Cum	1	155	3.11	0.25	120.51
	Road No.11-Maidan 4th Cross Road-Extn.						
	LHS						
	Ch.25.0 to Ch.200.00	Cum	1	175	3.11	0.25	136.06
	RHS						
	Ch.0.0 to Ch.200.00	Cum	1	175	3.18	0.25	139.13
	Road No.13-J.M.1st Cross Road						
	LHS						
	Ch.160.0 to Ch.170.0	Cum	1	10	1.91	0.25	4.78
	Ch.175.0 to Ch.200.0	Cum	1	25	2.51	0.25	15.69
	Ch.218.0 to Ch.227	Cum	1	9	1.31	0.25	2.95
	RHS						0
	Ch.160.0 to Ch.190.0	Cum	1	30	2.27	0.25	17.03
	Road No.15-Mission Street Road Extn.						
	LHS						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.0.0 to Ch.20.00	Cum	1	20	1.1	0.25	5.5
	RHS						
	Ch.20.0 to Ch.90.0	Cum	1	70	1.8	0.25	31.5
	Ch.180.0 to Ch.200	Cum	1	20	1.85	0.25	9.25
	Electrical Trench						
1	Road No.1-GHS Road						
	RHS	Cum	1	370	1.2	1.50	666
	LHS	Cum	1	370	1.2	1.50	666
2	Road No.2-P.M.Rao Road						
	RHS	Cum	1	178	1.2	1.50	320.4
	LHS	Cum	1	178	1.2	1.50	320.4
3	Road No.3-Sharavu Temple Road						
	RHS	Cum	1	194	1.2	1.50	349.2
	LHS	Cum	1	194	1.2	1.50	349.2
4	Road No.4-G.H.S. Cross Road						
	RHS	Cum	1	180	1.2	1.50	324
	LHS	Cum	1	180	1.2	1.50	324
5	Road No.5-Vithoba Temple Road						
	RHS	Cum	1	482	1.2	1.50	867.6
	LHS	Cum	1	482	1.2	1.50	867.6
7	Road No.7-Maidan 1st Cross Road						
	RHS	Cum	1	90	1.2	1.50	162
	LHS	Cum	1	90	1.2	1.50	162
8	Road No.8-Maidan 3rd Cross Road						
	RHS	Cum	1	186	1.2	1.50	334.8
	LHS	Cum	1	186	1.2	1.50	334.8
9	Road No.9-Bibi Alabi Road						
	RHS	Cum	1	440	1.2	1.50	792
	LHS	Cum	1	440	1.2	1.50	792
10	Road 10-Bibi Alabi-Kandak Road						
	RHS	Cum	1	460	1.2	1.50	828
	LHS	Cum	1	460	1.2	1.50	828
11	Road 11-Maidan 4th Cross Road-Extn						
	RHS	Cum	1	195	1.2	1.50	351
	LHS	Cum	1	195	1.2	1.50	351
12	Road 13-J.M 1st Cross Road						
	RHS	Cum	1	238	1.2	1.50	428.4
	LHS	Cum	1	238	1.2	1.50	428.4
13	Road 15-Mission Street Road						
	RHS	Cum	1	200	1.2	1.50	360
	LHS	Cum	1	200	1.2	1.50	360
	SWD						
	Road No.1 G.H.S.Road			Sides	1		
	Node-MH-633 to MH-634			Width	0.75		
	Base	Cum	1.00	39.90	1.95	1.64	127.6
	Node-MH-634 to MH-635			Width	0.75		
	Base	Cum	1.00	49.40	1.95	1.47	141.12
	Node-MH-635 to MH-636			Width	0.75		
	Base	Cum	1.00	24.10	1.95	1.63	76.6
	Node-MH-636 to MH-637			Width	0.75		
	Base	Cum	1.00	54.40	1.95	1.48	156.47
	Node-MH-637 to MH-638			Width	0.75		
	Base	Cum	1.00	52.40	1.95	1.49	152.25
	Node-MH-638 to MH-639			Width	0.75		
	Base	Cum	1.00	31.90	1.95	1.52	94.24
	Node-MH-639 to MH-640			Width	0.75		
	Base	Cum	1.00	16.40	1.95	1.51	48.29
	Node-MH-640 to MH-641			Width	1.20		
	Base	Cum	1.00	29.00	2.40	1.63	113.45
	Node-MH-641 to MH-642			Width	1.20		
	Base	Cum	1.00	61.20	2.40	1.50	220.32
	Node-MH-797 to MH-798			Sides	1.00		
	Base	Cum	1.00	40.20	2.10	1.92	161.66
	Node-MH-798 to MH-799			Width	0.90		
	Base	Cum	1.00	27.00	2.10	1.75	99.23
	Node-MH-799 to MH-800			Width	0.90		
	Base	Cum	1.00	21.90	2.10	1.75	80.48
	Node-MH-800 to MH-802			Width	0.90		
	Base	Cum	1.00	79.60	2.10	1.67	279.16
	Node-MH-802 to MH-654			Width	0.90		
	Base	Cum	1.00	47.80	2.10	1.57	157.6
				Sides	1.00		

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Node-MH-803 to MH-804			Width	0.75		
	Base	Cum	1.00	50.10	1.95	1.61	156.8
	Node-MH-804 to MH-805			Width	0.75		
	Base	Cum	1.00	33.70	1.95	1.58	103.5
	Node-MH-805 to O-85			Width	0.75		
	Base	Cum	1.00	44.37	1.95	1.51	130.21
		Total Length=		703.37			
	Road No.2-P.M.Rao Road			Sides	1.00		
	Node-MH-644			Width	0.90		
	Base	Cum	1.00	38.10	2.10	1.74	138.82
	Node-MH-645			Width	0.90		
	Base	Cum	1.00	26.80	2.10	1.91	107.49
	Node-MH-646			Width	0.90		
	Base	Cum	1.00	32.50	2.10	1.80	122.51
	Node-MH-647			Width	0.90		
	Base	Cum	1.00	46.40	2.10	1.48	144.21
	Node-MH-648			Width	0.90		
	Base	Cum	1.00	27.60	2.10	1.48	85.49
	Node-MH-639			Width	0.90		
	Base	Cum	1.00	11.30	2.10	1.49	35.36
		Total Length=		182.70			
	Road No.3-Sharavu Temple Road			Sides	1.00		
	Node-MH-649 to MH-650			Width	0.75		
	Base	Cum	1.00	42.80	1.95	1.54	128.11
	Node-MH-650 to MH-651			Width	0.75		
	Base	Cum	1.00	51.30	1.95	1.64	163.56
	Node-MH-651 to MH-652			Width	0.75		
	Base	Cum	1.00	23.80	1.95	1.47	67.99
	Node-MH-652 to MH-653			Width	0.75		
	Base	Cum	1.00	25.10	1.95	1.47	71.95
	Node-MH-653 to O-76			Width	0.75		
	Base	Cum	1.00	38.80	1.95	1.47	111.22
		Total Length=		181.80			
	Road No.4-G.H.S. Cross Road			Sides	1.00		
	Node-MH-654 to MH-655			Width	0.75		
	Base	Cum	1.00	12.80	1.95	1.51	37.56
	Node-MH-655 to MH-656			Width	0.75		
	Base	Cum	1.00	24.80	1.95	1.74	83.9
	Node-MH-656 to MH-657			Width	0.75		
	Base	Cum	1.00	24.70	1.95	1.48	71.04
	Node-MH-657 to MH-658			Width	0.75		
	Base	Cum	1.00	17.60	1.95	1.47	50.28
	Node-MH-658 to MH-659			Width	0.75		
	Base	Cum	1.00	45.50	1.95	1.68	149.06
	Node-MH-659 to MH-660			Width	0.75		
	Base	Cum	1.00	30.10	1.95	1.54	90.1
	Node-MH-660 to O-77			Width	0.75		
	Base	Cum	1.00	24.10	1.95	1.46	68.61
		Total Length=		179.60			
	Road No.5-Vithoba Temple Road			Sides	1.00		
	Node-MH-796 to MH-662			Width	0.90		
	Base	Cum	1.00	14.70	5.70	1.55	129.46
	Node-MH-662 to MH-663			Width	0.90		
	Base	Cum	1.00	126.10	2.10	1.74	459.45
	Node-MH-663 to MH-664			Width	0.90		
	Base	Cum	1.00	36.70	0.80	1.80	52.85
	Node-MH-664 to MH-665			Width	0.90		
	Base	Cum	1.00	26.70	2.10	1.78	99.52
	Node-MH-665 to MH-666			Width	0.90		

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Cum	1.00	16.20	2.10	1.78	60.56
	Node-MH-666 to MH-667			Width	0.90		
	Base	Cum	1.00	87.90	2.10	1.78	328.57
	Node-MH-667 to MH-668			Width	0.90		
	Base	Cum	1.00	18.30	2.10	1.92	73.59
	Node-MH-668 to MH-669			Width	1.20		
	Base	Cum	1.00	64.50	2.60	2.64	441.89
	Node-MH-669 to MH-670			Width	1.20		
	Base	Cum	1.00	37.10	2.60	3.18	306.26
	Node-MH-670 to MH-671			Width	1.20		
	Base	Cum	1.00	21.10	2.60	3.03	166.23
	Node-MH-671 to O-78			Width	1.20		
	Base	Cum	1.00	27.40	2.60	2.80	199.12
			Total Length=	476.70			
	Road No.7-Maidan 1st Cross Road						
				Sides	1.00		
	Node-MH-680 to O-81			Width	0.60		
	Base	Cum	1.00	103.10	1.80	1.69	312.7
	Node-MH-678 to O-80			Width	0.60		
	Base	Cum	1.00	96.20	1.80	1.57	271
			Total Length=	199.30			
	Road No.8-Maidan 3rd Cross Road						
				Sides	1.00		
	Node-MH-682 to MH-683			Width	0.90		
	Base	Cum	1.00	29.90	2.10	1.77	110.82
	Node-MH-683 to MH-684			Width	0.90		
	Base	Cum	1.00	44.80	2.10	1.76	165.58
	Node-MH-684 to MH-685			Width	1.20		
	Base	Cum	1.00	65.70	2.40	2.06	324.82
	Node-MH-685 to MH-686			Width	1.20		
	Base	Cum	1.00	32.60	2.40	2.26	176.43
	Node-MH-686 to MH-691			Width	1.20		
	Base	Cum	1.00	8.10	2.40	2.17	42.09
	Node-MH-687 to MH-688		0.00	Width	0.60	0.00	
	Base	Cum	1.00	31.20	1.80	1.47	82.56
	Node-MH-688 to MH-689			Width	0.60		
	Base	Cum	1.00	55.30	1.80	1.57	156.28
	Node-MH-689 to MH-690			Width	0.60		
	Base	Cum	1.00	37.50	1.80	1.81	121.84
	Node-MH-690 to MH-691			Width	0.60		
	Base	Cum	1.00	51.00	1.80	1.89	173.5
			Total Length=	356.10			
	Road No.9-Bibi Alabi Road						
				Sides	1.00		
	Node-MH-692 to MH-693			Width	0.60		
	Base	Cum	1.00	47.90	1.80	1.99	171.15
	Node-MH-693 to MH-680			Width	0.60		
	Base	Cum	1.00	6.00	1.80	1.96	21.17
	Node-MH-694 to MH-695			Width	0.60		
	Base	Cum	1.00	12.60	1.80	1.62	36.63
	Node-MH-695 to MH-696			Width	0.60		
	Base	Cum	1.00	77.30	1.80	1.72	239.32
	Node-MH-696 to MH-697			Width	0.60		
	Base	Cum	1.00	32.10	1.80	1.59	91.87
	Node-MH-697 to MH-698			Width	0.60		
	Base	Cum	1.00	100.20	1.80	1.52	274.15
	Node-MH-698 to MH-699			Width	0.60		
	Base	Cum	1.00	36.40	1.80	1.65	108.11
	Node-MH-699 to MH-700			Width	0.60		
	Base	Cum	1.00	60.30	1.80	1.78	192.66
	Node-MH-700 to MH-701			Width	0.60		
	Base	Cum	1.00	53.40	1.80	1.73	165.81

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Node-MH-701 to O-83			Width	0.60		
	Base	Cum	1.00	27.40	1.80	1.67	82.12
	Node-MH-703 to MH-704			Width	0.90		
	Base	Cum	1.00	223.40	2.10	1.72	804.58
	Node-MH-704 to MH-705			Width	0.90		
	Base	Cum	1.00	19.10	2.10	1.66	66.58
	Node-MH-705 to MH-706			Width	0.90		
	Base	Cum	1.00	48.30	2.10	1.65	166.85
	Node-MH-706 to MH-707			Width	0.90		
	Base	Cum	1.00	94.80	2.10	1.56	309.57
	Node-MH-707 to O-87			Width	0.90		
	Base	Cum	1.00	66.90	2.10	1.47	205.82
			Total Length=	906.10			
	Road 10-Bibi Alabi-Kandak Road						
				Sides	1.00		
	Node-MH-709 to MH-710			Width	0.60		
	Base	Cum	1.00	62.30	1.80	1.78	199.61
	Node-MH-710 to MH-686			Width	0.60		
	Base	Cum	1.00	75.30	1.80	1.79	241.94
	Node-MH-686 to MH-691			Width	1.20		
	Base	Cum	1.00	8.10	2.40	2.17	42.09
	Node-MH-691 to MH-711			Width	1.20		
	Base	Cum	1.00	28.90	2.40	2.11	146
	Node-MH-711 to MH-712			Width	1.20		
	Base	Cum	1.00	43.80	2.40	1.90	199.73
	Node-MH-712 to MH-713			Width	1.20		
	Base	Cum	1.00	10.80	2.40	1.80	46.66
	Node-MH-713 to MH-714			Width	1.20		
	Base	Cum	1.00	25.20	2.40	1.79	107.96
	Node-MH-714 to MH-715			Width	1.20		
	Base	Cum	1.00	54.20	2.40	1.77	229.59
	Node-MH-715 to MH-716			Width	1.20		
	Base	Cum	1.00	28.60	2.40	1.77	121.15
	Node-MH-716 to MH-717			Width	1.20		
	Base	Cum	1.00	20.30	2.40	1.76	85.75
	Node-MH-717 to MH-718			Width	1.20		
	Base	Cum	1.00	11.30	2.40	1.77	47.87
	Node-MH-718 to MH-719			Width	1.20		
	Base	Cum	1.00	50.70	2.40	1.77	214.77
	Node-MH-719 to MH-720			Width	1.20		
	Base	Cum	1.00	34.50	2.40	1.76	145.73
			Total Length=	454.00			
	Road 11-Maidan 4th Cross Road-Extn						
				Sides	1.00		
	Node-MH-721 to MH-722			Width	0.60		
	Base	Cum	1.00	43.80	1.80	1.47	115.89
	Node-MH-722 to MH-723			Width	0.60		
	Base	Cum	1.00	31.00	1.80	1.47	81.75
	Node-MH-723 to MH-724			Width	0.60		
	Base	Cum	1.00	25.50	1.80	1.49	68.39
	Node-MH-724 to MH-725			Width	0.60		
	Base	Cum	1.00	59.00	1.80	1.71	181.6
	Node-MH-725 to MH-713			Width	0.60		
	Base	Cum	1.00	33.80	1.80	2.03	123.2
	Node-MH-726 to MH-727			Width	0.60		
	Base	Cum	1.00	39.70	1.70	1.47	99.21
	Node-MH-727 to MH-728			Width	0.60		
	Base	Cum	1.00	41.70	1.80	1.48	110.71
	Node-MH-728 to MH-729			Width	0.90		
	Base	Cum	1.00	91.70	2.10	1.69	324.48

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Node-MH-729 to MH-712			Width	0.90		
	Base	Cum	1.00	21.80	2.10	2.02	92.48
	Node-MH-712 to MH-713			Width	1.20		
	Base	Cum	1.00	10.80	2.40	2.14	55.47
			Total Length=	398.80			
	Road 13-J.M 1st Cross Road						
				Sides	1.00		
1	Node-MH-781 to MH-787			Width	0.60		
	Base	Cum	1.00	57.60	1.80	1.40	144.63
2	Node-MH-782 to MH-783			Width	0.60		
	Base	Cum	1.00	30.60	1.80	1.16	63.89
3	Node-MH-783 to MH-784			Width	0.60		
	Base	Cum	1.00	40.80	1.80	0.86	63.16
4	Node-MH-785 to MH-786			Width	0.60		
	Base	Cum	1.00	21.20	1.80	1.50	57.24
5	Node-MH-786 to MH-787			Width	0.90		
	Base	Cum	1.00	21.80	2.10	1.47	67.07
6	Node-MH-787 to MH-788			Width	0.90		
	Base	Cum	1.00	25.00	2.10	1.47	76.91
7	Node-MH-788 to MH-518			Width	1.20		
	Base	Cum	1.00	14.80	2.40	1.78	63.23
			Total Length=	211.80			
	Road 15-Mission Street Road						
				Sides	1.00		
1	Node-MH-789 to MH-790			Width	0.60		
	Base	Cum	1.00	32.40	1.80	1.73	100.89
2	Node-MH-790 to MH-791			Width	0.60		
	Base	Cum	1.00	23.20	1.80	1.58	65.77
				0.00			
3	Node-MH-791 to MH-792			Width	0.60		
	Base	Cum	1.00	32.40	1.80	1.58	91.85
4	Node-MH-792 to MH-793			Width	0.60		
	Base	Cum	1.00	27.10	1.80	1.55	75.37
5	Node-MH-793 to MH-794			Width	0.60		
	Base	Cum	1.00	41.70	1.80	1.49	111.84
6	Node-MH-794 to MH-795			Width	0.60		
	Base	Cum	1.00	51.20	1.80	1.47	135.01
7	Node-MH-795 to MH-475			Width	0.60		
	Base	Cum	1.00	51.90	1.80	1.56	145.27
			Total Length=	259.90	0.00		
	RCC Pipe Crossing-						
1	GHS Road	Cum	4	25.1	1.1	0.5	55.22
2	P.M.Rao Road	Cum	2	16.6	1.1	0.5	18.26
3	Sharavu Temple Road	Cum	2	18.8	1.1	0.5	20.68
4	GHS Cross Road	Cum	2	14.8	1.1	0.5	16.28
5	Vithoba Temple Road	Cum	17	8.1	1.1	0.5	75.74
6	Maidan 1st Cross Road	Cum	1	14.5	1.1	0.5	7.98
7	Maidan 3rd Cross Road	Cum	2	15.9	1.1	0.5	17.49
8	Bibi Alabi Road	Cum	5	28.4	1.1	0.5	78.1
9	Bibi Alabi - Kanadak Road	Cum	5	20.4	1.1	0.5	56.1
10	Maidan 4th Cross Road-Extn.	Cum	2	21.5	1.1	0.5	23.65
11	J.M.1st Cross Road	Cum	8	10.3	1.1	0.5	45.32
12	Mission Street Road-Extn.	Cum	2	21.4	1.1	0.5	23.54
		Cum		Total Qty.			41411.21
12	KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.						
	Total Excavation	Cum					41411.21
	Pipe Volume-Dia 225mm	Cum		Length	C/s Area		
1	GHS Road	Cum	-12	370	0.039		-174.88
2	P.M.Rao Road	Cum	-8	178	0.039		-56.09
3	Sharavu Temple Road	Cum	-8	194	0.039		-61.13
4	GHS Cross Road	Cum	-8	180	0.039		-56.72
5	Vithoba Temple Road	Cum	-12	482	0.039		-227.82
6	Maidan 1st Cross Road	Cum	0	90	0.039		0.00
7	Maidan 3rd Cross Road	Cum	-12	186	0.039		-87.91
8	Bibi Alabi Road	Cum	-12	440	0.039		-207.97
9	Bibi Alabi - Kanadak Road	Cum	-12	460	0.039		-217.42
10	Maidan 4th Cross Road-Extn.	Cum	-8	195	0.039		-61.45
11	J.M.1st Cross Road	Cum	-8	238	0.039		-75.00
12	Mission Street Road-Extn.	Cum	-4	200	0.039		-31.51

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Pipe Volume-Dia 160mm						
1	GHS Road	Cum	-4	370	0.020		-29.74
2	P.M.Rao Road	Cum	-4	178	0.020		-14.31
3	Sharavu Temple Road	Cum	-4	194	0.020		-15.59
4	GHS Cross Road	Cum	-4	180	0.020		-14.47
5	Vithoba Temple Road	Cum	-4	482	0.020		-38.75
6	Maidan 1st Cross Road	Cum	-2	90	0.020		-3.62
7	Maidan 3rd Cross Road	Cum	-4	186	0.020		-14.95
8	Bibi Alabi Road	Cum	-4	440	0.020		-35.37
9	Bibi Alabi - Kanadak Road	Cum	-4	460	0.020		-36.98
10	Maidan 4th Cross Road-Extn.	Cum	-4	195	0.020		-15.67
11	J.M.1st Cross Road	Cum	-4	238	0.020		-19.13
12	Mission Street Road-Extn.	Cum	-2	200	0.020		-8.04
	Elctrical Chamber Volume	Cum	-214	2	0.9		-385.20
	Concrete Volume of SWD	Cum	-1	4352.45			-4352.45
	PCC Volume of SWD	Cum	-1	479.58			-479.58
	Void Area of SWD						
	Road No.1 G.H.S.Road			Sides	1.00		
	Node-MH-633 to MH-634			Width	0.75		
	Base	Cum	1.00	39.90	0.75	1.39	41.60
	Node-MH-634 to MH-635			Width	0.75		
	Base	Cum	1.00	49.40	0.75	1.22	45.02
	Node-MH-635 to MH-636			Width	0.75		
	Base	Cum	1.00	24.10	0.75	1.38	24.94
	Node-MH-636 to MH-637			Width	0.75		
	Base	Cum	1.00	54.40	0.75	1.23	49.98
	Node-MH-637 to MH-638			Width	0.75		
	Base	Cum	1.00	52.40	0.75	1.24	48.73
	Node-MH-638 to MH-639			Width	0.75		
	Base	Cum	1.00	31.90	0.75	1.27	30.27
	Node-MH-639 to MH-640			Width	0.75		
	Base	Cum	1.00	16.40	0.75	1.26	15.50
	Node-MH-640 to MH-641			Width	1.20		
	Base	Cum	1.00	29.00	1.20	1.38	48.02
	Node-MH-641 to MH-642			Width	1.20		
	Base	Cum	1.00	61.20	1.20	1.25	91.80
	Node-MH-797 to MH-798			Sides	1.00		
	Base	Cum	1.00	40.20	0.90	1.67	60.24
	Node-MH-798 to MH-799			Width	0.90		
	Base	Cum	1.00	27.00	0.90	1.50	36.45
	Node-MH-799 to MH-800			Width	0.90		
	Base	Cum	1.00	21.90	0.90	1.50	29.57
	Node-MH-800 to MH-802			Width	0.90		
	Base	Cum	1.00	79.60	0.90	1.42	101.73
	Node-MH-802 to MH-654			Width	0.90		
	Base	Cum	1.00	47.80	0.90	1.32	56.79
	Node-MH-803 to MH-804			Sides	1.00		
	Base	Cum	1.00	50.10	0.75	1.36	50.91
	Node-MH-804 to MH-805			Width	0.75		
	Base	Cum	1.00	33.70	0.75	1.33	33.49
	Node-MH-805 to O-85			Width	0.75		
	Base	Cum	1.00	44.37	0.75	1.26	41.76
			Total Length=	703.37			
	Road No.2-P.M.Rao Road			Sides	1.00		
	Node-MH-644			Width	0.90		
	Base	Cum	1.00	38.10	0.90	1.49	50.92
	Node-MH-645			Width	0.90		
	Base	Cum	1.00	26.80	0.90	1.66	40.04
	Node-MH-646			Width	0.90		
	Base	Cum	1.00	32.50	0.90	1.55	45.19
	Node-MH-647			Width	0.90		
	Base	Cum	1.00	46.40	0.90	1.23	51.36
	Node-MH-648			Width	0.90		
	Base	Cum	1.00	27.60	0.90	1.23	30.43
	Node-MH-639			Width	0.90		

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Cum	1.00	11.30	0.90	1.24	12.61
		Total Length=		182.70			
	Road No.3-Sharavu Temple Road						
				Sides	1.00		
	Node-MH-649 to MH-650			Width	0.75		
	Base	Cum	1.00	42.80	0.75	1.29	41.25
	Node-MH-650 to MH-651			Width	0.75		
	Base	Cum	1.00	51.30	0.75	1.39	53.29
	Node-MH-651 to MH-652			Width	0.75		
	Base	Cum	1.00	23.80	0.75	1.22	21.69
	Node-MH-652 to MH-653			Width	0.75		
	Base	Cum	1.00	25.10	0.75	1.22	22.97
	Node-MH-653 to O-76			Width	0.75		
	Base	Cum	1.00	38.80	0.75	1.22	35.50
		Total Length=		181.80			
	Road No.4-G.H.S. Cross Road						
				Sides	1.00		
	Node-MH-654 to MH-655			Width	0.75		
	Base	Cum	1.00	12.80	0.75	1.26	12.05
	Node-MH-655 to MH-656			Width	0.75		
	Base	Cum	1.00	24.80	0.75	1.49	27.62
	Node-MH-656 to MH-657			Width	0.75		
	Base	Cum	1.00	24.70	0.75	1.23	22.69
	Node-MH-657 to MH-658			Width	0.75		
	Base	Cum	1.00	17.60	0.75	1.22	16.04
	Node-MH-658to MH-659			Width	0.75		
	Base	Cum	1.00	45.50	0.75	1.43	48.80
	Node-MH-659 to MH-660			Width	0.75		
	Base	Cum	1.00	30.10	0.75	1.29	29.01
	Node-MH-660 to O-77			Width	0.75		
	Base	Cum	1.00	24.10	0.75	1.21	21.87
		Total Length=		179.60			
	Road No.5-Vithoba Temple Road						
				Sides	1.00		
	Node-MH-796 to MH-662			Width	0.90		
	Base	Cum	1.00	14.70	0.90	1.30	17.13
	Node-MH-662 to MH-663			Width	0.90		
	Base	Cum	1.00	126.10	0.90	1.49	168.53
	Node-MH-663 to MH-664			Width	0.90		
	Base	Cum	1.00	36.70	0.90	1.55	51.20
	Node-MH-664 to MH-665			Width	0.90		
	Base	Cum	1.00	26.70	0.90	1.53	36.65
	Node-MH-665 to MH-666			Width	0.90		
	Base	Cum	1.00	16.20	0.90	1.53	22.31
	Node-MH-666 to MH-667			Width	0.90		
	Base	Cum	1.00	87.90	0.90	1.53	121.04
	Node-MH-667 to MH-668			Width	0.90		
	Base	Cum	1.00	18.30	0.90	1.67	27.42
	Node-MH-668 to MH-669			Width	1.20		
	Base	Cum	1.00	64.50	1.20	2.39	184.60
	Node-MH-669 to MH-670			Width	1.20		
	Base	Cum	1.00	37.10	1.20	2.93	130.22
	Node-MH-670 to MH-671			Width	1.20		
	Base	Cum	1.00	21.10	1.20	2.78	70.39
	Node-MH-671 to O-78			Width	1.20		
	Base	Cum	1.00	27.40	1.20	2.55	83.68
		Total Length=		476.70			
	Road No.7-Maidan 1st Cross Road						
				Sides	1.00		
	Node-MH-680 to O-81			Width	0.60		
	Base	Cum	1.00	103.10	0.60	1.44	88.77
	Node-MH-678 to O-80			Width	0.60		
	Base	Cum	1.00	96.20	0.60	1.32	75.90

Sr. No.	Description	Unit	No's	L	B	H	Qty.
		Total Length=		199.30			
	Road No.8-Maidan 3rd Cross Road						
				Sides	1.00		
	Node-MH-682 to MH-683			Width	0.90		
	Base	Cum	1.00	29.90	0.90	1.52	40.77
	Node-MH-683 to MH-684			Width	0.90		
	Base	Cum	1.00	44.80	0.90	1.51	60.88
	Node-MH-684 to MH-685			Width	1.20		
	Base	Cum	1.00	65.70	1.20	1.81	142.70
	Node-MH-685 to MH-686			Width	1.20		
	Base	Cum	1.00	32.60	1.20	2.01	78.44
	Node-MH-686 to MH-691			Width	1.20		
	Base	Cum	1.00	8.10	1.20	1.92	18.61
	Node-MH-687 to MH-688			Width	0.60		
	Base	Cum	1.00	31.20	0.60	1.22	22.84
	Node-MH-688 to MH-689			Width	0.60		
	Base	Cum	1.00	55.30	0.60	1.32	43.80
	Node-MH-689 to MH-690			Width	0.60		
	Base	Cum	1.00	37.50	0.60	1.56	34.99
	Node-MH-690 to MH-691			Width	0.60		
	Base	Cum	1.00	51.00	0.60	1.64	50.18
		Total Length=		356.10			
	Road No.9-Bibi Alabi Road						
				Sides	1.00		
	Node-MH-692 to MH-693			Width	0.60		
	Base	Cum	1.00	47.90	0.60	1.74	49.86
	Node-MH-693 to MH-680			Width	0.60		
	Base	Cum	1.00	6.00	0.60	1.71	6.16
	Node-MH-694 to MH-695			Width	0.60		
	Base	Cum	1.00	12.60	0.60	1.37	10.32
	Node-MH-695 to MH-696			Width	0.60		
	Base	Cum	1.00	77.30	0.60	1.47	68.18
	Node-MH-696 to MH-697			Width	0.60		
	Base	Cum	1.00	32.10	0.60	1.34	25.81
	Node-MH-697 to MH-698			Width	0.60		
	Base	Cum	1.00	100.20	0.60	1.27	76.35
	Node-MH-698 to MH-699			Width	0.60		
	Base	Cum	1.00	36.40	0.60	1.40	30.58
	Node-MH-699 to MH-700			Width	0.60		
	Base	Cum	1.00	60.30	0.60	1.53	55.17
	Node-MH-700 to MH-701			Width	0.60		
	Base	Cum	1.00	53.40	0.60	1.48	47.26
	Node-MH-701 to O-83			Width	0.60		
	Base	Cum	1.00	27.40	0.60	1.42	23.26
	Node-MH-703 to MH-704			Width	0.90		
	Base	Cum	1.00	223.40	0.90	1.47	294.55
	Node-MH-704 to MH-705			Width	0.90		
	Base	Cum	1.00	19.10	0.90	1.41	24.24
	Node-MH-705 to MH-706			Width	0.90		
	Base	Cum	1.00	48.30	0.90	1.40	60.64
	Node-MH-706 to MH-707			Width	0.90		
	Base	Cum	1.00	94.80	0.90	1.31	111.34
	Node-MH-707 to O-87			Width	0.90		
	Base	Cum	1.00	66.90	0.90	1.22	73.16
		Total Length=		906.10			
	Road 10-Bibi Alabi-Kandak Road						
				Sides	1.00		
	Node-MH-709 to MH-710			Width	0.60		
	Base	Cum	1.00	62.30	0.60	1.53	57.19
	Node-MH-710 to MH-686			Width	0.60		
	Base	Cum	1.00	75.30	0.60	1.54	69.35

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Node-MH-686 to MH-691			Width	1.20		
	Base	Cum	1.00	8.10	1.20	1.92	18.61
	Node-MH-691 to MH-711			Width	1.20		
	Base	Cum	1.00	28.90	1.20	1.86	64.33
	Node-MH-711 to MH-712			Width	1.20		
	Base	Cum	1.00	43.80	1.20	1.65	86.72
	Node-MH-712 to MH-713			Width	1.20		
	Base	Cum	1.00	10.80	1.20	1.55	20.09
	Node-MH-713 to MH-714			Width	1.20		
	Base	Cum	1.00	25.20	1.20	1.54	46.42
	Node-MH-714 to MH-715			Width	1.20		
	Base	Cum	1.00	54.20	1.20	1.52	98.54
	Node-MH-715 to MH-716			Width	1.20		
	Base	Cum	1.00	28.60	1.20	1.52	51.99
	Node-MH-716 to MH-717			Width	1.20		
	Base	Cum	1.00	20.30	1.20	1.51	36.78
	Node-MH-717 to MH-718			Width	1.20		
	Base	Cum	1.00	11.30	1.20	1.52	20.54
	Node-MH-718 to MH-719			Width	1.20		
	Base	Cum	1.00	50.70	1.20	1.52	92.17
	Node-MH-719 to MH-720			Width	1.20		
	Base	Cum	1.00	34.50	1.20	1.51	62.51
			Total Length=	454.00			
	Road 11-Maidan 4th Cross Road-Extn						
				Sides	1.00		
	Node-MH-721 to MH-722			Width	0.60		
	Base	Cum	1.00	43.80	0.60	1.22	32.06
	Node-MH-722 to MH-723			Width	0.60		
	Base	Cum	1.00	31.00	0.60	1.22	22.60
	Node-MH-723 to MH-724			Width	0.60		
	Base	Cum	1.00	25.50	0.60	1.24	18.97
	Node-MH-724 to MH-725			Width	0.60		
	Base	Cum	1.00	59.00	0.60	1.46	51.68
	Node-MH-725 to MH-713			Width	0.60		
	Base	Cum	1.00	33.80	0.60	1.78	36.00
	Node-MH-726 to MH-727			Width	0.60		
	Base	Cum	1.00	39.70	0.60	1.22	29.06
	Node-MH-727 to MH-728			Width	0.60		
	Base	Cum	1.00	41.70	0.60	1.23	30.65
	Node-MH-728 to MH-729			Width	0.90		
	Base	Cum	1.00	91.70	0.90	1.44	118.43
	Node-MH-729 to MH-712			Width	0.90		
	Base	Cum	1.00	21.80	0.90	1.77	34.73
	Node-MH-712 to MH-713			Width	1.20		
	Base	Cum	1.00	10.80	1.20	1.89	24.49
			Total Length=	398.80			
	Road 13-J.M 1st Cross Road						
				Sides	1.00		
1	Node-MH-781 to MH-782			Width	0.6		
	Base	Cum	1.00	57.60	1.20	1.15	79.14
2	Node-MH-782 to MH-783			Width	0.60		
	Base	Cum	1.00	30.60	1.20	0.91	33.42
3	Node-MH-783 to MH-784			Width	0.60		
	Base	Cum	1.00	40.80	1.20	0.61	29.87
4	Node-MH-785 to MH-786			Width	0.60		
	Base	Cum	1.00	21.20	1.20	1.25	31.80
5	Node-MH-786 to MH-787			Width	0.90		
	Base	Cum	1.00	21.80	1.50	1.22	39.73
6	Node-MH-7787 to MH-788			Width	0.90		
	Base	Cum	1.00	25.00	1.50	1.22	45.56
7	Node-MH-788 to MH-518			Width	1.20		
	Base	Cum	1.00	14.80	1.80	1.53	40.76

Sr. No.	Description	Unit	No's	L	B	H	Qty.
		Total Length=		211.8			
	Road 15-Mission Street Road			Sides	1.00		
	Node-MH-781 to MH-782			Width	1.00	1.48	
	Base	Cum	1.00	32.40	1.20	1.48	57.54
	Node-MH-782 to MH-783			Width	0.60		
	Base	Cum	1.00	23.20	0.60	1.33	18.44
	Node-MH-783 to MH-784			Width	0.60		
	Base	Cum	1.00	32.40	0.60	1.33	25.76
	Node-MH-785 to MH-786			Width	0.60		
	Base	Cum	1.00	27.10	0.60	1.30	21.06
	Node-MH-786 to MH-787			Width	0.60		
	Base	Cum	1.00	41.70	0.60	1.24	31.02
	Node-MH-787 to MH-788			Width	0.60		
	Base	Cum	1.00	51.20	0.60	1.22	37.32
	Node-MH-788 to MH-518			Width	0.60		
	Base	Cum	1.00	51.90	0.60	1.31	40.64
		Total Length=		259.90			
		Cum		Total Qty.		Sub Total of Void Area	-5691.41
							28998.05
13	KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occurring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3						
	Pavement						
	Road No.1-GHS Road						
	Ch.0 to Ch.10.00	Sqm	1	10	5.70		57.00
	Ch.10.0 to Ch.60.00	Sqm	1	50	5.7		285.00
	Ch.60.00 to Ch.110.00	Sqm	1	50	5.7		285.00
	Ch.110.0 to Ch.160.00	Sqm	1	50	5.7		285.00
	Road No.2-P.M.Rao Road						
	Ch.0.0 to Ch.50.0	Sqm	1	50	7.17		358.25
	Ch.50.0 to Ch.100.00	Sqm	1	50	7.33		366.50
	Ch.100.0 to Ch.145.0.0	Sqm	1	45	7.17		322.43
	Road No.3-Sharavu Temple Road						
	Ch.0.0 to Ch.30.0	Sqm	1	30	6.22		186.60
	Ch.30.0 to Ch.80.0	Sqm	1	50	6.20		310.00
	Ch.80.0 to Ch.130.0	Sqm	1	50	6.37		318.25
	Ch.130.0 to Ch.185.0	Sqm	1	55	4.55		250.25
	Road No.4-G.H.S. Cross Road						
	Ch.0.0 to Ch.20.0	Sqm	1	20	6.60		132.00
	Ch.20.0 to Ch.70.0	Sqm	1	50	6.33		316.50
	Ch.70.0 to Ch.120.0	Sqm	1	50	6.60		330.00
	Ch.120.0 to Ch.180.0	Sqm	1	60	6.60		396.00
	Road No.5-Vithoba Temple Road						
	Ch.0.00 to Ch.50.0	Sqm	1	50	2.46		123.00
	Ch.50.0 to Ch.100.0	Sqm	1	50	2.66		133.00
	Ch.100.00 to Ch.150.0	Sqm	1	50	2.86		143.00
	Ch.150.0 to Ch.200.0	Sqm	1	50	2.06		103.00
	Ch.200.0 to Ch.240.0	Sqm	1	40	3.93		157.24
	Ch.240.0 to Ch.290.0	Sqm	1	50	2.56		128.00
	Ch.290.0 to Ch.340.0	Sqm	1	50	2.56		128.00
	Ch.340.0 to Ch.390.0	Sqm	1	50	1.86		93.00
	Ch.390.0 to Ch. 440.0	Sqm	1	50	2.36		118.00
	Ch.440.0 to Ch.490.0	Sqm	1	50	3.03		151.55
	Road No.7-Maidan 1st Cross Road						
	Ch.0.0 to Ch.50.00	Sqm	1	50	7.12		356.00
	Ch.50.00 to Ch.90.0	Sqm	1	40	7.33		293.20
	Road No.8-Maidan 3rd Cross Road						
	Ch.0.0 to Ch.20.0	Sqm	1	20	5.19		103.82
	Ch.20.0 to Ch.60.0	Sqm	1	40	6.10		243.96
	Ch.60.0 to Ch.120.0	Sqm	1	60	7.33		439.80
	Ch.120.0 to Ch.186.0	Sqm	1	66	7.33		483.78
	Road 10-Bibi Alabi-Kandak Road						
	Ch.0.0 to Ch.10.00	Sqm	1	10	3.47		34.70
	Ch.10.0 to Ch.50.0	Sqm	1	40	5.10		204.00
	Ch.50.0 to Ch.110.0	Sqm	1	60	5.10		306.00
	Ch.110.0 to Ch.160.0	Sqm	1	50	4.83		241.50
	Ch.160.0 to Ch.200.00	Sqm	1	40	3.83		153.20
	Ch.200.0 to Ch.250.0	Sqm	1	50	3.41		170.50
	Ch.250.0 to Ch.310.0	Sqm	1	60	4.60		276.00
	Ch.310.0 to ch.350.0	Sqm	1	40	5.10		204.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.350.0 to Ch.400.00	Sqm	1	50	6.00		300.00
	Ch.400.00 to Ch.460.0	Sqm	1	60	5.10		306.00
	Road 11-Maidan 4th Cross Road-Extn						
	Ch.0.00 to Ch.10.0	Sqm	1	10	4.93		49.30
	Ch.10.0 to Ch.40.00	Sqm	1	30	4.93		147.90
	Ch.40.0 to Ch.90.00	Sqm	1	50	7.00		350.00
	Ch.90.0 to Ch.140.0	Sqm	1	50	6.10		305.00
	Ch.140.0 to Ch195.0	Sqm	1	55	5.20		286.00
	Road 13-J.M 1st Cross Road						
	Ch.0.0 to Ch.10.0	Sqm	1	10	2.16		21.60
	Ch.10.0 to Ch.50.0	Sqm	1	40	2.36		94.40
	Ch.50.0 to Ch.100.00	Sqm	1	50	1.66		83.00
	Ch.100.0 to Ch.170.0	Sqm	1	70	3.43		240.10
	Ch.170.0 to Ch.200.0	Sqm	1	40	2.53		101.20
	Ch.200.0 to Ch.238.0	Sqm	1	38	2.36		89.68
	Road 15-Mission Street Road						
	Ch.0.0 to Ch.10.0	Sqm	1	10	5.30		53.00
	Ch.10.0 to Ch.60.0	Sqm	1	50	7.23		361.50
	Ch.60.0 to Ch.130.0	Sqm	1	70	3.06		214.06
	Ch.130.0 to Ch.160.0	Sqm	1	30	2.56		76.74
	Ch.160.0 to Ch.200.0	Sqm	1	40	3.03		121.20
	Patch Work For CC Road						
	Road No.1-GHS Road						
	RHS						
	Ch.275.0 to Ch.288.0	Sqm	1	13	0.60		7.85
	Road No.4-G.H.S. Cross Road						
	LHS						
	Ch.15.0 to Ch.68.0	Sqm	1	53	1.78		94.54
	RHS						
	Ch.30.0 to Ch.68.0	Sqm	1	53	0.23		12.18
	Flush Footpath with Carriageway						
	Road No.1-GHS Road						
	RHS						
	Level Footpath-Ch.270.00 to Ch.288.00	Sqm	1	18	0.21		3.78
	LHS						
	Level Footpath-Ch.260.0 to Ch.268.00	Sqm	1	8	0.4		3.2
	Parking-Ch.180.0 to Ch.260.0	Sqm	1	82	2.5		205
	Parking-Ch.320.0 to Ch.350.0	Sqm	1	30	2.5		75
	Road No.2-P.M.Rao Road						
	Parking-LHS-Ch.10.00 to Ch.50.00	Sqm	1	36.2	2.5		90.5
	Parking-RHS-Ch.50.00 to Ch.75.00	Sqm	1	29	2.5		72.5
	Road No.3-Sharavu Temple Road						
	RHS						
	Level Footpath-Ch.165.00 to Ch.185.0	Sqm	1	20	0.73		14.6
	Parking-Ch.15.00 to Ch.33.0	Sqm	1	18	2.5		45
	Parking-Ch.68.00 to Ch.82.0	Sqm	1	16.4	2.5		41
	LHS						
	Level Footpath-Ch.140.00 to Ch.180.0	Sqm	1	40	1.18		47.2
	Parking-Ch.15.0 to Ch.42.0	Sqm	1	30	2.5		75
	Parking-Ch.65.0 to Ch.85.0	Sqm	1	20	2.5		50
	Road No.4-G.H.S. Cross Road						
	RHS						
	Ch.35.00 to Ch.50.0	Sqm	1	15	1.27		19.05
	LHS						
	Ch.65.0 to Ch.90.0	Sqm	1	40	1.1		44
	Road No.5-Vithoba Temple Road						
	LHS						
	Ch.15.0 to Ch.212.0	Sqm	1	197	1.41		277.77
	Ch.215.0 to Ch.485.0	Sqm	1	270	1.44		388.8
		Sqm					0
	RHS						
	Ch.15.0 to Ch.485.0	Sqm	1	470	1.61		756.7
	Ch.380.0 to Ch.410.0	Sqm					0
	Road No.8-Maidan 3rd Cross Road						
	Parking	Sqm	1	30.6	2.5		76.5
	Road No.9-Bibi Alabi Road						
	LHS						
	Level Footpath-Ch.0.0 to Ch.38.0	Sqm	1	40	1.58		63.2
	Level Footpath-Ch.138.0 to Ch.218.0	Sqm	1	80	1.5		120
	Level Footpath-Ch.248.0 to Ch.260.0	Sqm	1	12	1.54		18.48
	Level Footpath-Ch.288.0 to Ch.308.0	Sqm	1	20	1.29		25.8
	Parking-Ch.55.00 to Ch. 130.0	Sqm	1	75	2.5		187.5
	Parking-Ch.140.0 to Ch.150.0	Sqm	1	10.5	2.5		26.25

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	RHS						
	Level Footpath-Ch.5.00to Ch.40.0	Sqm	1	35	1.35		47.25
	Level Footpath-Ch.160.00 to Ch.210.0	Sqm	1	50	1.21		60.5
	Level Footpath-Ch.240.0 to Ch.320.0	Sqm	1	80	1.28		102.4
	Level Footpath-Ch.400.0 to Ch.430.0	Sqm	1	30	1.11		33.3
	Level Footpath-Ch.455.0 to Ch.465.0	Sqm	1	10	2.42		24.2
	Road 10-Bibi Alabi-Kandak Road						
	RHS						
	Ch.12.0 to Ch.38.0	Sqm	1	26	0.41		10.66
	LHS						
	Ch.168.0 to Ch.188.0	Sqm	1	20	0.46		9.2
	Ch.240.0 to Ch.260.0	Sqm	1	20	0.31		6.2
	Ch.270.0 to Ch.300.0	Sqm	1	30	0.52		15.6
	Ch.300.00 to Ch.320.0	Sqm	1	20	0.73		14.6
	Ch.400.0 to Ch.425.0	Sqm	1	25	1.11		27.75
	Road 11-Maidan 4th Cross Road-Extn						
	LHS						
	Ch.90.0 to Ch.180.0	Sqm	1	90	0.8		72
	Ch.30.0 to Ch.50.0	Sqm	1	20	1.07		21.4
	RHS						
	Ch.70.0 to Ch.80.0	Sqm	1	10	0.23		2.3
	Ch.115.0 to Ch.185.0	Sqm	1	70	1.31		91.7
	Parking-LHS	Sqm	1	46.8	2.5		117
	Parking-RHS	Sqm	1	60	2.5		150
	Parking-RHS	Sqm	1	53.2	2.5		133
	Road 13-J.M 1st Cross Road						
	LHS						
	Ch.0.0 to Ch.90.0	Sqm	1	90	1.1		99
	Ch.95.0 to Ch.130.0	Sqm	1	40	0.56		22.4
	Ch.200.0 to Ch.220.0	Sqm	1	20	0.24		4.8
	Ch.230.0 to Ch.235.0	Sqm	1	5	4.37		21.85
	RHS						
	Ch.0.0 to Ch.130.0	Sqm	1	130	1		130
	Ch.200.0 to Ch.240.0	Sqm	1	40	0.5		20
	Road 15-Mission Street Road						
	LHS						
	Ch.20.0 to Ch.90.0	Sqm	1	70	1.52		106.4
	Ch.120.0 to Ch.190.0	Sqm	1	70	1.08		75.6
	RHS						
	Ch.130.0 to Ch.180.0	Sqm	1	50	1.05		52.5
		Sqm			Total Qty.		16500.72
14	KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (Sl.No. 4.6 of KPWD 18-19)						
	SWD						
	Road No.1 G.H.S.Road			Sides	1.00		
	Node-MH-633 to MH-634						
	Base	Cum	1.00	39.90	1.35	0.075	4.04
	Node-MH-634 to MH-635						
	Base	Cum	1.00	49.40	1.35	0.075	5.00
	Node-MH-635 to MH-636						
	Base	Cum	1.00	24.10	1.35	0.075	2.44
	Node-MH-636 to MH-637						
	Base	Cum	1.00	54.40	1.35	0.075	5.51
	Node-MH-637 to MH-638						
	Base	Cum	1.00	52.40	1.35	0.075	5.31
	Node-MH-638 to MH-639						
	Base	Cum	1.00	31.90	1.35	0.075	3.23
	Node-MH-639 to MH-640						
	Base	Cum	1.00	16.40	1.35	0.075	1.66
	Node-MH-640 to MH-641						
	Base	Cum	1.00	29.00	1.80	0.075	3.92
	Node-MH-641 to MH-642						
	Base	Cum	1.00	61.20	1.80	0.075	8.26
	Node-MH-797 to MH-798						
	Base	Cum	1.00	40.20	1.50	0.075	4.52
	Node-MH-798 to MH-799						
	Base	Cum	1.00	27.00	1.50	0.075	3.04
	Node-MH-799 to MH-800						
	Base	Cum	1.00	21.90	1.50	0.075	2.46
	Node-MH-800 to MH-802						
	Base	Cum	1.00	79.60	1.50	0.075	8.96
	Node-MH-802 to MH-654						
	Base	Cum	1.00	47.80	1.50	0.075	5.38

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Node-MH-803 to MH-804						
	Base	Cum	1.00	50.10	1.35	0.075	5.07
	Node-MH-804 to MH-805						
	Base	Cum	1.00	33.70	1.35	0.075	3.41
	Node-MH-805 to O-85						
	Base	Cum	1.00	44.37	1.35	0.075	4.49
	Road No.2-P.M.Rao Road						
	Node-MH-644						
	Base	Cum	1.00	38.10	1.50	0.075	4.29
	Node-MH-645						
	Base	Cum	1.00	26.80	1.50	0.075	3.02
	Node-MH-646						
	Base	Cum	1.00	32.50	1.50	0.075	3.66
	Node-MH-647						
	Base	Cum	1.00	46.40	1.50	0.075	5.22
	Node-MH-648						
	Base	Cum	1.00	27.60	1.50	0.075	3.11
	Node-MH-639						
	Base	Cum	1.00	11.30	1.50	0.075	1.27
	Road No.3-Sharavu Temple Road						
	Node-MH-649 to MH-650						
	Base	Cum	1.00	42.80	1.35	0.075	4.33
	Node-MH-650 to MH-651						
	Base	Cum	1.00	51.30	1.35	0.075	5.19
	Node-MH-651 to MH-652						
	Base	Cum	1.00	23.80	1.35	0.075	2.41
	Node-MH-652 to MH-653						
	Base	Cum	1.00	25.10	1.35	0.075	2.54
	Node-MH-653 to O-76						
	Base	Cum	1.00	38.80	1.35	0.075	3.93
	Road No.4-G.H.S. Cross Road						
	Node-MH-654 to MH-655						
	Base	Cum	1.00	12.80	1.35	0.075	1.30
	Node-MH-655 to MH-656						
	Base	Cum	1.00	24.80	1.35	0.075	2.51
	Node-MH-656 to MH-657						
	Base	Cum	1.00	24.70	1.35	0.075	2.50
	Node-MH-657 to MH-658						
	Base	Cum	1.00	17.60	1.35	0.075	1.78
	Node-MH-658to MH-659						
	Base	Cum	1.00	45.50	1.35	0.075	4.61
	Node-MH-659 to MH-660						
	Base	Cum	1.00	30.10	1.35	0.075	3.05
	Node-MH-660 to O-77						
	Base	Cum	1.00	24.10	1.35	0.075	2.44
	Road No.5-Vithoba Temple Road						
	Node-MH-796 to MH-662						
	Base	Cum	1.00	14.70	5.10	0.075	5.62
	Node-MH-662 to MH-663						
	Base	Cum	1.00	126.10	1.50	0.075	14.19
	Node-MH-663 to MH-664						
	Base	Cum	1.00	36.70	0.20	0.075	0.55
	Node-MH-664 to MH-665						
	Base	Cum	1.00	26.70	1.50	0.075	3.00
	Node-MH-665 to MH-666						
	Base	Cum	1.00	16.20	1.50	0.075	1.82
	Node-MH-666 to MH-667						
	Base	Cum	1.00	87.90	1.50	0.075	9.89
	Node-MH-667 to MH-668						
	Base	Cum	1.00	18.30	1.50	0.075	2.06
	Node-MH-668 to MH-669						
	Base	Cum	1.00	64.50	2.00	0.075	9.68
	Node-MH-669 to MH-670						
	Base	Cum	1.00	37.10	2.00	0.075	5.57
	Node-MH-670 to MH-671						
	Base	Cum	1.00	21.10	2.00	0.075	3.17
	Node-MH-671 to O-78						
	Base	Cum	1.00	27.40	2.00	0.075	4.11
	Road No.7-Maidan 1st Cross Road						
	Node-MH-680 to O-81						
	Base	Cum	1.00	103.10	1.20	0.075	9.28
	Node-MH-678 to O-80						
	Base	Cum	1.00	96.20	1.20	0.075	8.66
	Road No.8-Maidan 3rd Cross Road						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Node-MH-682 to MH-683						
	Base	Cum	1.00	29.90	1.50	0.075	3.36
	Node-MH-683 to MH-684						
	Base	Cum	1.00	44.80	1.50	0.075	5.04
	Node-MH-684 to MH-685						
	Base	Cum	1.00	65.70	1.80	0.075	8.87
	Node-MH-685 to MH-686						
	Base	Cum	1.00	32.60	1.80	0.075	4.40
	Node-MH-686 to MH-691						
	Base	Cum	1.00	8.10	1.80	0.075	1.09
	Node-MH-687 to MH-688						
	Base	Cum	1.00	31.20	1.20	0.075	2.81
	Node-MH-688 to MH-689						
	Base	Cum	1.00	55.30	1.20	0.075	4.98
	Node-MH-689 to MH-690						
	Base	Cum	1.00	37.50	1.20	0.075	3.38
	Node-MH-690 to MH-691						
	Base	Cum	1.00	51.00	1.20	0.075	4.59
	Road No.9-Bibi Alabi Road						
	Node-MH-692 to MH-693						
	Base	Cum	1.00	47.90	1.20	0.075	4.31
	Node-MH-693 to MH-680						
	Base	Cum	1.00	6.00	1.20	0.075	0.54
	Node-MH-694 to MH-695						
	Base	Cum	1.00	12.60	1.20	0.075	1.13
	Node-MH-695 to MH-696						
	Base	Cum	1.00	77.30	1.20	0.075	6.96
	Node-MH-696 to MH-697						
	Base	Cum	1.00	32.10	1.20	0.075	2.89
	Node-MH-697 to MH-698						
	Base	Cum	1.00	100.20	1.20	0.075	9.02
	Node-MH-698 to MH-699						
	Base	Cum	1.00	36.40	1.20	0.075	3.28
	Node-MH-699 to MH-700						
	Base	Cum	1.00	60.30	1.20	0.075	5.43
	Node-MH-700 to MH-701						
	Base	Cum	1.00	53.40	1.20	0.075	4.81
	Node-MH-701 to O-83						
	Base	Cum	1.00	27.40	1.20	0.075	2.47
	Node-MH-703 to MH-704						
	Base	Cum	1.00	223.40	1.50	0.075	25.13
	Node-MH-704 to MH-705						
	Base	Cum	1.00	19.10	1.50	0.075	2.15
	Node-MH-705 to MH-706						
	Base	Cum	1.00	48.30	1.50	0.075	5.43
	Node-MH-706 to MH-707						
	Base	Cum	1.00	94.80	1.50	0.075	10.67
	Node-MH-707 to O-87						
	Base	Cum	1.00	66.90	1.50	0.075	7.53
	Road 10-Bibi Alabi-Kandak Road						
	Node-MH-709 to MH-710						
	Base	Cum	1.00	62.30	1.20	0.075	5.61
	Node-MH-710 to MH-686						
	Base	Cum	1.00	75.30	1.20	0.075	6.78
	Node-MH-686 to MH-691						
	Base	Cum	1.00	8.10	1.80	0.075	1.09
	Node-MH-691 to MH-711						
	Base	Cum	1.00	28.90	1.80	0.075	3.90
	Node-MH-711 to MH-712						
	Base	Cum	1.00	43.80	1.80	0.075	5.91
	Node-MH-712 to MH-713						
	Base	Cum	1.00	10.80	1.80	0.075	1.46
	Node-MH-713 to MH-714						
	Base	Cum	1.00	25.20	1.80	0.075	3.40
	Node-MH-714 to MH-715						
	Base	Cum	1.00	54.20	1.80	0.075	7.32
	Node-MH-715 to MH-716						
	Base	Cum	1.00	28.60	1.80	0.075	3.86
	Node-MH-716 to MH-717						
	Base	Cum	1.00	20.30	1.80	0.075	2.74
	Node-MH-717 to MH-718						
	Base	Cum	1.00	11.30	1.80	0.075	1.53
	Node-MH-718 to MH-719						
	Base	Cum	1.00	50.70	1.80	0.075	6.84
	Node-MH-719 to MH-720						
	Base	Cum	1.00	34.50	1.80	0.075	4.66
	Road 11-Maidan 4th Cross Road-Extn						
	Node-MH-721 to MH-722						
	Base	Cum	1.00	43.80	1.20	0.075	3.94
	Node-MH-722 to MH-723						
	Base	Cum	1.00	31.00	1.20	0.075	2.79
	Node-MH-723 to MH-724						
	Base	Cum	1.00	25.50	1.20	0.075	2.30
	Node-MH-724 to MH-725						
	Base	Cum	1.00	59.00	1.20	0.075	5.31
	Node-MH-725 to MH-713						
	Base	Cum	1.00	33.80	1.20	0.075	3.04
	Node-MH-726 to MH-727						
	Base	Cum	1.00	39.70	1.10	0.075	3.28

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Node-MH-727 to MH-728						
	Base	Cum	1.00	41.70	1.20	0.075	3.75
	Node-MH-728 to MH-729						
	Base	Cum	1.00	91.70	1.50	0.075	10.32
	Node-MH-729 to MH-712						
	Base	Cum	1.00	21.80	1.50	0.075	2.45
	Node-MH-712 to MH-713						
	Base	Cum	1.00	10.80	1.80	0.075	1.46
	Road 13-J.M 1st Cross Road						
1	Node-MH-736 to MH-737						
	Base	Cum	1.00	57.60	1.20	0.075	5.18
2	Node-MH-737 to MH-738						
	Base	Cum	1.00	30.60	1.20	0.075	2.75
3	Node-MH-738 to O-88						
	Base	Cum	1.00	40.80	1.20	0.075	3.67
4	Node-MH-740 to MH-741						
	Base	Cum	1.00	21.20	1.20	0.075	1.91
5	Node-MH-741 to MH-742						
	Base	Cum	1.00	21.80	1.50	0.075	2.45
6	Node-MH-742 to O-89						
	Base	Cum	1.00	25.00	1.50	0.075	2.81
7	Node-MH-744 to MH-745						
	Base	Cum	1.00	14.80	1.80	0.075	2.00
	Road 15-Mission Street Road						
1	Node-MH-789 to MH-790						
	Base	Cum	1.00	32.40	1.20	0.075	2.92
2	Node-MH-790 to MH-791						
	Base	Cum	1.00	23.20	1.20	0.075	2.09
3	Node-MH-791 to MH-792						
	Base	Cum	1.00	32.40	1.20	0.075	2.92
4	Node-MH-792 to MH-793						
	Base	Cum	1.00	27.10	1.20	0.075	2.44
5	Node-MH-793 to MH-794						
	Base	Cum	1.00	41.70	1.20	0.075	3.75
6	Node-MH-794 to MH-795						
	Base	Cum	1.00	51.20	1.20	0.075	4.61
7	Node-MH-795 to MH-475						
	Base	Cum	1.00	51.90	1.20	0.075	4.67
	PCC Below Kerb Stone	Cum	1	4360.00	0.47	0.10	202.74
	PCC Below Water Table	Cum	1.00	4360.00	0.50	0.10	218.00
	Box Culvert						
	Road No.1-GHS Road						
	Box Culvert-Slab	Cum	3	23	1.5	0.10	10.35
	Road No.2-P.M.Rao Road						
	Box Culvert-Slab	Cum	1	12.2	1.5	0.2	3.66
	Road No.3-Sharavu Temple Road						
	Box Culvert-Slab	Cum	1	10	1.5	0.10	1.50
	Road No.4-G.H.S. Cross Road						
	Box Culvert-Slab	Cum	1	8.8	1.5	0.10	1.32
	Road No.5-Vithoba Temple Road						
	Box Culvert-Slab	Cum	4	11.4	1.5	0.10	6.84
	Road No.7-Maidan 1st Cross Road						
	Box Culvert-Slab	Cum	1	18.05	1.5	0.10	2.71
	Road No.8-Maidan 3rd Cross Road						
	Box Culvert-Slab	Cum	1	13.1	1.5	0.10	1.97
	Road No.9-Bibi Alabi Road						
	Box Culvert-Slab	Cum	0	8.3	1.5	0.10	0.00
	Road 10-Bibi Alabi-Kandak Road						
	Box Culvert-Slab	Cum	4	8.3	1.5	0.10	4.98
	Road 11-Maidan 4th Cross Road-Extn						
	Box Culvert-Slab	Cum	1	8.3	1.5	0.10	1.25
	Road 13-J.M 1st Cross Road						
	Box Culvert-Slab	Cum	2	8.3	1.5	0.10	2.49
	Road 15-Mission Street Road						
	Box Culvert-Slab	Cum	7	8.3	1.5	0.10	8.72
		Cum		Total Qty.			946.09
15	KSRRB 400 Granular Sub-Base with Coarse Graded Material (table 400-1) KSRRB M400-7. Construction of granular sub-base by providing Coarse graded crushed stone aggregates of granite / trap / basalt material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per MORTH specifications clause 401 and Table 400-1 Grading VI. (SI.No.20.4 of KPWD SR 2018-19)						
	Pavement						
	Pavement						
	Road No.1-GHS Road						
	Ch.0 to Ch.10.00	Cum	1.0	10.0	5.7	0.15	8.55
	Ch.10.0 to Ch.60.00	Cum	1.0	50.0	5.7	0.15	42.75
	Ch.60.00 to Ch.110.00	Cum	1.0	50.0	5.7	0.15	42.75
	Ch.110.0 to Ch.160.00	Cum	1.0	50.0	5.7	0.15	42.75
	Road No.2-P.M.Rao Road						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.0.0 to Ch.50.0	Cum	1.0	50.0	7.2	0.15	53.74
	Ch.50.0 to Ch.100.00	Cum	1.0	50.0	7.3	0.15	54.98
	Ch.100.0 to Ch.145.0.0	Cum	1.0	45.0	7.2	0.15	48.36
	Road No.3-Sharavu Temple Road						
	Ch.0.0 to Ch.30.0	Cum	1.0	30.0	6.2	0.15	27.99
	Ch.30.0 to Ch.80.0	Cum	1.0	50.0	6.2	0.15	46.50
	Ch.80.0 to Ch.130.0	Cum	1.0	50.0	6.4	0.15	47.74
	Ch.130.0 to Ch.185.0	Cum	1.0	55.0	4.6	0.15	37.54
	Road No.4-G.H.S. Cross Road						
	Ch.0.0 to Ch.20.0	Cum	1.0	20.0	6.6	0.15	19.80
	Ch.20.0 to Ch.70.0	Cum	1.0	50.0	6.3	0.15	47.48
	Ch.70.0 to Ch.120.0	Cum	1.0	50.0	6.6	0.15	49.50
	Ch.120.0 to Ch.180.0	Cum	1.0	60.0	6.6	0.15	59.40
	Road No.5-Vithoba Temple Road						
	Ch.0.00 to Ch.50.0	Cum	1.0	50.0	2.5	0.15	18.45
	Ch.50.0 to Ch.100.0	Cum	1.0	50.0	2.7	0.15	19.95
	Ch.100.00 to Ch.150.0	Cum	1.0	50.0	2.9	0.15	21.45
	Ch.150.0 to Ch.200.0	Cum	1.0	50.0	2.1	0.15	15.45
	Ch.200.0 to Ch.240.0	Cum	1.0	40.0	3.9	0.15	23.59
	Ch.240.0 to Ch.290.0	Cum	1.0	50.0	2.6	0.15	19.20
	Ch.290.0 to Ch.340.0	Cum	1.0	50.0	2.6	0.15	19.20
	Ch.340.0 to Ch.390.0	Cum	1.0	50.0	1.9	0.15	13.95
	Ch.390.0 to Ch. 440.0	Cum	1.0	50.0	2.4	0.15	17.70
	Ch.440.0 to Ch.490.0	Cum	1.0	50.0	3.0	0.15	22.73
	Road No.7-Maidan 1st Cross Road						
	Ch.0.0 to Ch.50.00	Cum	1.0	50.0	7.1	0.15	53.40
	Ch.50.00 to Ch.90.0	Cum	1.0	40.0	7.3	0.15	43.98
	Road No.8-Maidan 3rd Cross Road						
	Ch.0.0 to Ch.20.0	Cum	1.0	20.0	5.2	0.15	15.57
	Ch.20.0 to Ch.60.0	Cum	1.0	40.0	6.1	0.15	36.59
	Ch.60.0 to Ch.120.0	Cum	1.0	60.0	7.3	0.15	65.97
	Ch.120.0 to Ch.186.0	Cum	1.0	66.0	7.3	0.15	72.57
	Road 10-Bibi Alabi-Kandak Road						
	Ch.0.0 to Ch.10.00	Cum	1.0	10.0	3.5	0.15	5.21
	Ch.10.0 to Ch.50.0	Cum	1.0	40.0	5.1	0.15	30.60
	Ch.50.0 to Ch.110.0	Cum	1.0	60.0	5.1	0.15	45.90
	Ch.110.0 to Ch.160.0	Cum	1.0	50.0	4.8	0.15	36.23
	Ch.160.0 to Ch.200.00	Cum	1.0	40.0	3.8	0.15	22.98
	Ch.200.0 to Ch.250.0	Cum	1.0	50.0	3.4	0.15	25.58
	Ch.250.0 to Ch.310.0	Cum	1.0	60.0	4.6	0.15	41.40
	Ch.310.0 to ch.350.0	Cum	1.0	40.0	5.1	0.15	30.60
	Ch.350.0 to Ch.400.00	Cum	1.0	50.0	6.0	0.15	45.00
	Ch.400.00 to Ch.460.0	Cum	1.0	60.0	5.1	0.15	45.90
	Road 11-Maidan 4th Cross Road-Extn						
	Ch.0.00 to Ch.10.0	Cum	1.0	10.0	4.9	0.15	7.40
	Ch.10.0 to Ch.40.00	Cum	1.0	30.0	4.9	0.15	22.19
	Ch.40.0 to Ch.90.00	Cum	1.0	50.0	7.0	0.15	52.50
	Ch.90.0 to Ch.140.0	Cum	1.0	50.0	6.1	0.15	45.75
	Ch.140.0 to Ch195.0	Cum	1.0	55.0	5.2	0.15	42.90
	Road 13-J.M 1st Cross Road						
	Ch.0.0 to Ch.10.0	Cum	1.0	10.0	2.2	0.15	3.24
	Ch.10.0 to Ch.50.0	Cum	1.0	40.0	2.4	0.15	14.16
	Ch.50.0 to Ch.100.00	Cum	1.0	50.0	1.7	0.15	12.45
	Ch.100.0 to Ch.170.0	Cum	1.0	70.0	3.4	0.15	36.02
	Ch.170.0 to Ch.200.0	Cum	1.0	40.0	2.5	0.15	15.18
	Ch.200.0 to Ch.238.0	Cum	1.0	38.0	2.4	0.15	13.45
	Road 15-Mission Street Road						
	Ch.0.0 to Ch.10.0	Cum	1.0	10.0	5.3	0.15	7.95
	Ch.10.0 to Ch.60.0	Cum	1.0	50.0	7.2	0.15	54.23
	Ch.60.0 to Ch.130.0	Cum	1.0	70.0	3.1	0.15	32.11
	Ch.130.0 to Ch.160.0	Cum	1.0	30.0	2.6	0.15	11.51
	Ch.160.0 to Ch.200.0	Cum	1.0	40.0	3.0	0.15	18.18
	Patch Work For CC Road						
	Road No.1-GHS Road						
	RHS						
	Ch.275.0 to Ch.288.0	Cum	1.0	13.0	0.6	0.15	1.18
	Road No.4-G.H.S. Cross Road						
	LHS						
	Ch.15.0 to Ch.68.0	Cum	1.0	53.0	1.8	0.15	14.18
	RHS						
	Ch.30.0 to Ch.68.0	Cum	1.0	53.0	0.2	0.15	1.83
	Flush Footpath with Carriageway						
	Road No.1-GHS Road						
	RHS						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Level Footpath-Ch.270.00 to Ch.288.00	Cum	1	18	0.21	0.15	0.567
	LHS						
	Level Footpath-Ch.260.0 to Ch.268.00	Cum	1	8	0.4	0.15	0.48
	Parking-Ch.180.0 to Ch.260.0	Cum	1	82	2.5	0.15	30.75
	Parking-Ch.320.0 to Ch.350.0	Cum	1	30	2.5	0.15	11.25
	Road No.2-P.M.Rao Road						
	Parking-LHS-Ch.10.00 to Ch.50.00	Cum	1	36.2	2.5	0.15	13.575
	Parking-RHS-Ch.50.00 to Ch.75.00	Cum	1	29	2.5	0.15	10.875
	Road No.3-Sharavu Temple Road						
	RHS						
	Level Footpath-Ch.165.00 to Ch.185.0	Cum	1	20	0.73	0.15	2.19
	Parking-Ch.15.00 to Ch.33.0	Cum	1	18	2.5	0.15	6.75
	Parking-Ch.68.00 to Ch.82.0	Cum	1	16.4	2.5	0.15	6.15
	LHS						
	Level Footpath-Ch.140.00 to Ch.180.0	Cum	1	40	1.18	0.15	7.08
	Parking-Ch.15.0 to Ch.42.0	Cum	1	30	2.5	0.15	11.25
	Parking-Ch.65.0 to Ch.85.0	Cum	1	20	2.5	0.15	7.5
	Road No.4-G.H.S. Cross Road						
	RHS						
	Ch.35.00 to Ch.50.0	Cum	1	15	1.27	0.15	2.8575
	LHS						
	Ch.65.0 to Ch.90.0	Cum	1	40	1.1	0.15	6.6
	Road No.5-Vithoba Temple Road						
	LHS						
	Ch.15.0 to Ch.212.0	Cum	1	197	1.41	0.15	41.6655
	Ch.215.0 to Ch.485.0	Cum	1	270	1.44	0.15	58.32
	RHS						
	Ch.15.0 to Ch.485.0	Cum	1	470	1.61	0.15	113.505
	Ch.380.0 to Ch.410.0	Cum					0
	Road No.8-Maidan 3rd Cross Road						
	Parking	Cum	1	30.6	2.5	0.15	11.475
	Road No.9-Bibi Alabi Road						
	LHS						
	Level Footpath-Ch.0.0 to Ch.38.0	Cum	1	40	1.58	0.15	9.48
	Level Footpath-Ch.138.0 to Ch.218.0	Cum	1	80	1.5	0.15	18
	Level Footpath-Ch.248.0 to Ch.260.0	Cum	1	12	1.54	0.15	2.772
	Level Footpath-Ch.288.0 to Ch.308.0	Cum	1	20	1.29	0.15	3.87
	Parking-Ch.55.00 to Ch. 130.0	Cum	1	75	2.5	0.15	28.125
	Parking-Ch.140.0 to Ch.150.0	Cum	1	10.5	2.5	0.15	3.9375
	RHS						
	Level Footpath-Ch.5.00to Ch.40.0	Cum	1	35	1.35	0.15	7.0875
	Level Footpath-Ch.160.00 to Ch.210.0	Cum	1	50	1.21	0.15	9.075
	Level Footpath-Ch.240.0 to Ch.320.0	Cum	1	80	1.28	0.15	15.36
	Level Footpath-Ch.400.0 to Ch.430.0	Cum	1	30	1.11	0.15	4.995
	Level Footpath-Ch.455.0 to Ch.465.0	Cum	1	10	2.42	0.15	3.63
	Road 10-Bibi Alabi-Kandak Road						
	RHS						
	Ch.12.0 to Ch.38.0	Cum	1	26	0.41	0.15	1.599
	LHS						
	Ch.168.0 to Ch.188.0	Cum	1	20	0.46	0.15	1.38
	Ch.240.0 to Ch.260.0	Cum	1	20	0.31	0.15	0.93
	Ch.270.0 to Ch.300.0	Cum	1	30	0.52	0.15	2.34
	Ch.300.00 to Ch.320.0	Cum	1	20	0.73	0.15	2.19
	Ch.400.0 to Ch.425.0	Cum	1	25	1.11	0.15	4.1625
	Road 11-Maidan 4th Cross Road-Extn						
	LHS						
	Ch.90.0 to Ch.180.0	Cum	1	90	0.8	0.15	10.8
	Ch.30.0 to Ch.50.0	Cum	1	20	1.07	0.15	3.21
	RHS						
	Ch.70.0 to Ch.80.0	Cum	1	10	0.23	0.15	0.345
	Ch.115.0 to Ch.185.0	Cum	1	70	1.31	0.15	13.755
	Parking-LHS	Cum	1	46.8	2.5	0.15	17.55
	Parking-RHS	Cum	1	60	2.5	0.15	22.5
	Parking-RHS	Cum	1	53.2	2.5	0.15	19.95
	Road 13-J.M 1st Cross Road						
	LHS						
	Ch.0.0 to Ch.90.0	Cum	1	90	1.1	0.15	14.85
	Ch.95.0 to Ch.130.0	Cum	1	40	0.56	0.15	3.36
	Ch.200.0 to Ch.220.0	Cum	1	20	0.24	0.15	0.72
	Ch.230.0 to Ch.235.0	Cum	1	5	4.37	0.15	3.2775
	RHS						
	Ch.0.0 to Ch.130.0	Cum	1	130	1	0.15	19.5
	Ch.200.0 to Ch.240.0	Cum	1	40	0.5	0.15	3
	Road 15-Mission Street Road						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	LHS						
	Ch.20.0 to Ch.90.0	Cum	1	70	1.52	0.15	15.96
	Ch.120.0 to Ch.190.0	Cum	1	70	1.08	0.15	11.34
	RHS						
	Ch.130.0 to Ch.180.0	Cum	1	50	1.05	0.15	7.875
	Two Wheeler Parking						
	Road No.2-PM Rao Road						
	LHS						
	Ch.55.0 to Ch.135.0	Sqm	1	80	1.4	0.15	16.8
	RHS						
	Ch.7.00 to Ch.42.00	Sqm	1	36.9	1.4	0.15	7.75
	Ch.109.0 to Ch.132.0	Sqm	1	24.6	1.4	0.15	5.17
	Road No.3 Sharavu Temple Road						
	RHS						
	Ch.42.0 to Ch.62.0	Sqm	1	17.5	1.4	0.15	3.68
	LHS						
	Ch.111.0 to Ch. 125.0	Sqm	1	13.5	1.4	0.15	2.84
	Road No.4 GHS Cross Road						
	RHS						
	Ch.80.0 to Ch.94.0	Sqm	1	13.4	1.4	0.15	2.81
	Ch.117.0 to Ch.154	Sqm	1	36.8	1.4	0.15	7.73
	LHS						
	Ch.22.0 to Ch.40.0	Sqm	1	17	1.4	0.15	3.57
	Ch.112.0 to Ch.40.0	Sqm	1	17.3	1.4	0.15	3.63
	Ch.134.0 to Ch.159.0	Sqm	1	25.5	1.4	0.15	5.36
	Road No.8-Maidan 3rd Cross Road						
	RHS						
	Ch.155.0 to Ch.170.0	Sqm	1	15.8	1.4	0.15	3.32
	LHS						
	Ch.120.0 to Ch.173.0	Sqm	1	52.2	1.4	0.15	10.96
	Road No.9-Bibi Alabi Road						
	Ch.277.0 to Ch.288.0	Sqm	1	12.5	1.4	0.15	2.63
		Cum		Total Qty.			2551.36
16	KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material (RA Attached)						
	Footpath						
	Road No.1-GHS Road						
	LHS						
	Ch.0.0 to Ch.95.00	Cum	1	95	2.73	0.15	38.9
	Ch.100.0 to Ch.260.00	Cum	1	160	3.23	0.15	77.52
	Ch.270.0 to Ch.370.00	Cum	1	100	2.97	0.15	44.55
	RHS						
	Ch.0.0 to Ch.140.00	Cum	1	140	2.3	0.15	48.3
	Ch.150.0 to Ch.280.0	Cum	1	130	3.18	0.15	62.01
	Ch.290.0 to Ch.390.0	Cum	1	100	3.68	0.15	55.2
	Road No.2-P.M.Rao Road						
	LHS						
	Ch.00.0 to Ch.170.0	Cum	1	170	2.83	0.15	72.17
	RHS						
	Ch.00.0 to Ch.170.0	Cum	1	170	3.76	0.15	95.88
	Road No.3-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.170.0	Cum	1	170	2.82	0.15	71.91
	RHS						
	Ch.0.0 to Ch.50.0	Cum	1	50	4.23	0.15	31.73
	Ch.55.0 to Ch.90.0	Cum	1	35	2.84	0.15	14.91
	Ch.100.0 to Ch.142.0	Cum	1	42	3.55	0.15	22.37
	Road No.4-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.50.0	Cum	1	50	3.55	0.15	26.63
	Ch.90.0 to Ch.185.00	Cum	1	95	2.68	0.15	38.19
	RHS						
	Ch.0.0 to Ch.35.0	Cum	1	35	1.9	0.15	9.98
	Ch.50.0 to Ch.180.0	Cum	1	130	2.34	0.15	45.63
	Road No.7-Maidan 1st Cross Road						
	LHS						
	Ch.0.0 to Ch.92.00	Cum	1	92	3.45	0.15	47.61
	RHS						
	At Ch.0.00	Cum	1	20	2.61	0.15	7.83
	Ch.0.0 to Ch.92.00	Cum	1	92	2.7	0.15	37.26

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Road No.8-Maidan 3rd Cross Road						
	LHS						
	Ch.20.0 to Ch.180.0	Cum	1	160	2.8	0.15	67.2
	RHS						
	Ch.0.0 to Ch.180.0	Cum	1	180	3.11	0.15	83.97
	Road No.9 Bibi Alabi Road						
	LHS						
	Ch.0.0 to Ch.200.00	Cum	1	200	5.38	0.15	161.4
	Ch.210.00 to Ch.320.00	Cum	1	110	5.61	0.15	92.57
	Ch.330.0 to Ch.430.00	Cum	1	100	6.75	0.15	101.25
	RHS						
	Ch.30.00 to Ch.160.00	Cum	1	130	4.48	0.15	87.36
	Ch.170.00 to Ch.340.00	Cum	1	170	4.75	0.15	121.13
	Ch.345.00 to Ch.430.00	Cum	1	85	4.41	0.15	56.23
	Road No.10-Bibi Alabi - Kandak Road						
	LHS						
	Ch.0.0 to Ch.145.0	Cum	1	145	1.49	0.15	32.41
	Ch.55.00 to Ch.165.0	Cum	1	110	0.15	0.15	2.48
	Ch.185.00 to Ch.230.0	Cum	1	45	1.58	0.15	10.67
	Ch.320.00 to Ch.405.00	Cum	1	85	3.87	0.15	49.34
	Ch.425.00 to Ch.460.0	Cum	1	35	3.54	0.15	18.59
	RHS						
	Ch.40.0 to Ch.260.0	Cum	1	220	1.5	0.15	49.5
	Ch.270.0 to Ch.290.0	Cum	1	20	3.45	0.15	10.35
	Ch.305.0 to Ch.460.0	Cum	1	155	3.11	0.15	72.31
	Road No.11-Maidan 4th Cross Road-Extn.						
	LHS						
	Ch.25.0 to Ch.200.00	Cum	1	175	3.11	0.15	81.64
	RHS						
	Ch.0.0 to Ch.200.00	Cum	1	175	3.18	0.15	83.48
	Road No.13-J.M.1st Cross Road						
	LHS						
	Ch.160.0 to Ch.170.0	Cum	1	10	1.91	0.15	2.87
	Ch.175.0 to Ch.200.0	Cum	1	25	2.51	0.15	9.41
	Ch.218.0 to Ch.227	Cum	1	9	1.31	0.15	1.77
	RHS						
	Ch.160.0 to Ch.190.0	Cum	1	30	2.27	0.15	10.22
	Road No.15-Mission Street Road Extn.						
	LHS						
	Ch.0.0 to Ch.20.00	Cum	1	20	1.1	0.15	3.3
	RHS						
	Ch.20.0 to Ch.90.0	Cum	1	70	1.8	0.15	18.9
	Ch.180.0 to Ch.200	Cum	1	20	1.85	0.15	5.55
	Road No.9-Bibi Alabi Road						
	Median	Cum	1	355	1.1	0.15	58.58
	Box Culvert						
	Road No.1-GHS Road						
	Box Culvert-Slab	Cum	3	23	1.5	0.15	15.53
	Road No.2-P.M.Rao Road						
	Box Culvert-Slab	Cum	1	12.2	1.5	0.15	2.75
	Road No.3-Sharavu Temple Road						
	Box Culvert-Slab	Cum	1	10	1.5	0.15	2.25
	Road No.4-G.H.S. Cross Road						
	Box Culvert-Slab	Cum	1	8.8	1.5	0.15	1.98
	Road No.5-Vithoba Temple Road						
	Box Culvert-Slab	Cum	4	11.4	1.5	0.15	10.26
	Road No.7-Maidan 1st Cross Road						
	Box Culvert-Slab	Cum	1	18.05	1.5	0.15	4.06
	Road No.8-Maidan 3rd Cross Road						
	Box Culvert-Slab	Cum	1	13.1	1.5	0.15	2.95
	Road No.9-Bibi Alabi Road						
	Box Culvert-Slab	Cum	0	8.3	1.5	0.15	0.00
	Road 10-Bibi Alabi-Kandak Road						
	Box Culvert-Slab	Cum	4	8.3	1.5	0.15	7.47
	Road 11-Maidan 4th Cross Road-Extn						
	Box Culvert-Slab	Cum	1	8.3	1.5	0.15	1.87
	Road 13-J.M 1st Cross Road						
	Box Culvert-Slab	Cum	2	8.3	1.5	0.15	3.74
	Road 15-Mission Street Road						
	Box Culvert-Slab	Cum	7	8.3	1.5	0.15	13.07
		Cum		Total Qty.			2206.98

Sr. No.	Description	Unit	No's	L	B	H	Qty.
17	KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters conforming to IS 9103-1999 reaffirmed -2008 at machine mixed,concrete laid in layers not exceeding 15cms thick, vibrated for all works in foundation for footings, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnspillers, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (SI No : 4.10 of KPWD 18-19)						
	SWD						
	Road No.1 G.H.S.Road			Sides	1.00		
	Node-MH-633 to MH-634			Width	0.75		
	Base	Cum	1.00	39.9	1.35	0.13	6.73
	Wall	Cum	2	39.9	0.2	1.39	22.18
	Slab	Cum	1.00	39.9	1.15	0.15	6.88
	Node-MH-634 to MH-635			Width	0.75		
	Base	Cum	1.00	49.4	1.35	0.13	8.34
	Wall	Cum	2	49.4	0.2	1.22	24.01
	Slab	Cum	1.00	49.4	1.15	0.15	8.52
	Node-MH-635 to MH-636			Width	0.75		
	Base	Cum	1.00	24.1	1.35	0.13	4.07
	Wall	Cum	2	24.1	0.2	1.38	13.30
	Slab	Cum	1.00	24.1	1.15	0.15	4.16
	Node-MH-636 to MH-637			Width	0.75		
	Base	Cum	1.00	54.4	1.35	0.13	9.18
	Wall	Cum	2	54.4	0.2	1.23	26.66
	Slab	Cum	1.00	54.4	1.15	0.15	9.38
	Node-MH-637 to MH-638			Width	0.75		
	Base	Cum	1.00	52.4	1.35	0.13	8.84
	Wall	Cum	2	52.4	0.2	1.24	25.99
	Slab	Cum	1.00	52.4	1.15	0.15	9.04
	Node-MH-638 to MH-639			Width	0.75		
	Base	Cum	1.00	31.9	1.35	0.13	5.38
	Wall	Cum	2	31.9	0.2	1.27	16.14
	Slab	Cum	1.00	31.9	1.15	0.15	5.50
	Node-MH-639 to MH-640			Width	0.75		
	Base	Cum	1.00	16.4	1.35	0.13	2.77
	Wall	Cum	2	16.4	0.2	1.26	8.27
	Slab	Cum	1.00	16.4	1.15	0.15	2.83
	Node-MH-640 to MH-641			Width	1.2		
	Base	Cum	1.00	29	1.8	0.13	6.53
	Wall	Cum	2	29	0.2	1.38	16.01
	Slab	Cum	1.00	29	1.6	0.15	6.96
	Node-MH-641 to MH-642			Width	1.2		
	Base	Cum	1.00	61.2	1.8	0.13	13.77
	Wall	Cum	2	61.2	0.2	1.25	30.60
	Slab	Cum	1.00	61.2	1.6	0.15	14.69
	Node-MH-797 to MH-798			Sides	1.00		
				Width	0.9		
	Base	Cum	1.00	40.2	1.5	0.13	7.54
	Wall	Cum	2	40.2	0.2	1.67	26.77
	Slab	Cum	1.00	40.2	1.3	0.15	7.84
	Node-MH-798 to MH-799			Width	0.9		
	Base	Cum	1.00	27	1.5	0.13	5.06
	Wall	Cum	2	27	0.2	1.50	16.20
	Slab	Cum	1.00	27	1.3	0.15	5.27
	Node-MH-799 to MH-800			Width	0.9		
	Base	Cum	1.00	21.9	1.5	0.13	4.11
	Wall	Cum	2	21.9	0.2	1.50	13.14
	Slab	Cum	1.00	21.9	1.3	0.15	4.27
	Node-MH-800 to MH-802			Width	0.9		
	Base	Cum	1.00	79.6	1.5	0.13	14.93
	Wall	Cum	2	79.6	0.2	1.42	45.21
	Slab	Cum	1.00	79.6	1.3	0.15	15.52
	Node-MH-802 to MH-654			Width	0.9		
	Base	Cum	1.00	47.8	1.5	0.13	8.96
	Wall	Cum	2	47.8	0.2	1.32	25.24
	Slab	Cum	1.00	47.8	1.3	0.15	9.32
	Node-MH-803 to MH-804			Sides	1.00		
				Width	0.75		
	Base	Cum	1.00	50.1	1.35	0.13	8.45
	Wall	Cum	2.00	50.1	0.2	1.36	27.15
	Slab	Cum	1.00	50.1	1.15	0.15	8.64

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Node-MH-804 to MH-805			Width	0.75		
	Base	Cum	1.00	33.7	1.35	0.13	5.69
	Wall	Cum	2.00	33.7	0.2	1.33	17.86
	Slab	Cum	1.00	33.7	1.15	0.15	5.81
	Node-MH-805 to O-85			Width	0.75		
	Base	Cum	1.00	44.37	1.35	0.13	7.49
	Wall	Cum	2.00	44.37	0.2	1.26	22.27
	Slab	Cum	1.00	44.37	1.15	0.15	7.65
			Total Length=	703.37			
	Road No.2-P.M.Rao Road						
				Sides	1.00		
	Node-MH-644			Width	0.9		
	Base	Cum	1.00	38.1	1.5	0.13	7.14
	Wall	Cum	2.00	38.1	0.2	1.49	22.63
	Slab	Cum	1.00	38.1	1.3	0.15	7.43
	Node-MH-645			Width	0.9		
	Base	Cum	1.00	26.8	1.5	0.13	5.03
	Wall	Cum	2.00	26.8	0.2	1.66	17.80
	Slab	Cum	1.00	26.8	1.3	0.15	5.23
	Node-MH-646			Width	0.9		
	Base	Cum	1.00	32.5	1.5	0.13	6.09
	Wall	Cum	2.00	32.5	0.2	1.55	20.09
	Slab	Cum	1.00	32.5	1.3	0.15	6.34
	Node-MH-647			Width	0.9		
	Base	Cum	1.00	46.4	1.5	0.13	8.70
	Wall	Cum	2.00	46.4	0.2	1.23	22.83
	Slab	Cum	1.00	46.4	1.3	0.15	9.05
	Node-MH-648			Width	0.9		
	Base	Cum	1.00	27.6	1.5	0.13	5.18
	Wall	Cum	2.00	27.6	0.2	1.23	13.52
	Slab	Cum	1.00	27.6	1.3	0.15	5.38
	Node-MH-639			Width	0.9		
	Base	Cum	1.00	11.3	1.5	0.13	2.12
	Wall	Cum	2.00	11.3	0.2	1.24	5.60
	Slab	Cum	1.00	11.3	1.3	0.15	2.20
			Total Length=	182.7			
	Road No.3-Sharavu Temple Road						
				Sides	1.00		
	Node-MH-649 to MH-650			Width	0.75		
	Base	Cum	1.00	42.8	1.35	0.13	7.22
	Wall	Cum	2.00	42.8	0.2	1.29	22.00
	Slab	Cum	1.00	42.8	1.15	0.15	7.38
	Node-MH-650 to MH-651			Width	0.75		
	Base	Cum	1.00	51.3	1.35	0.13	8.66
	Wall	Cum	2.00	51.3	0.2	1.39	28.42
	Slab	Cum	1.00	51.3	1.15	0.15	8.85
	Node-MH-651 to MH-652			Width	0.75		
	Base	Cum	1.00	23.8	1.35	0.13	4.02
	Wall	Cum	2.00	23.8	0.2	1.22	11.57
	Slab	Cum	1.00	23.8	1.15	0.15	4.11
	Node-MH-652 to MH-653			Width	0.75		
	Base	Cum	1.00	25.1	1.35	0.13	4.24
	Wall	Cum	2.00	25.1	0.2	1.22	12.25
	Slab	Cum	1.00	25.1	1.15	0.15	4.33
	Node-MH-653 to O-76			Width	0.75		
	Base	Cum	1.00	38.8	1.35	0.13	6.55
	Wall	Cum	2.00	38.8	0.2	1.22	18.93
	Slab	Cum	1.00	38.8	1.15	0.15	6.69
			Total Length=	181.8			
	Road No.4-G.H.S. Cross Road						
				Sides	1.00		
	Node-MH-654 to MH-655			Width	0.75		
	Base	Cum	1.00	12.8	1.35	0.13	2.16
	Wall	Cum	2.00	12.8	0.2	1.26	6.43
	Slab	Cum	1.00	12.8	1.15	0.15	2.21
	Node-MH-655 to MH-656			Width	0.75		
	Base	Cum	1.00	24.8	1.35	0.13	4.19
	Wall	Cum	2.00	24.8	0.2	1.49	14.73
	Slab	Cum	1.00	24.8	1.15	0.15	4.28
	Node-MH-656 to MH-657			Width	0.75		
	Base	Cum	1.00	24.7	1.35	0.13	4.17
	Wall	Cum	2.00	24.7	0.2	1.23	12.10
	Slab	Cum	1.00	24.7	1.15	0.15	4.26

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Node-MH-657 to MH-658			Width	0.75		
	Base	Cum	1.00	17.6	1.35	0.13	2.97
	Wall	Cum	2.00	17.6	0.2	1.22	8.55
	Slab	Cum	1.00	17.6	1.15	0.15	3.04
	Node-MH-658to MH-659			Width	0.75		
	Base	Cum	1.00	45.5	1.35	0.13	7.68
	Wall	Cum	2.00	45.5	0.2	1.43	26.03
	Slab	Cum	1.00	45.5	1.15	0.15	7.85
	Node-MH-659 to MH-660			Width	0.75		
	Base	Cum	1.00	30.1	1.35	0.13	5.08
	Wall	Cum	2.00	30.1	0.2	1.29	15.47
	Slab	Cum	1.00	30.1	1.15	0.15	5.19
	Node-MH-660 to O-77			Width	0.75		
	Base	Cum	1.00	24.1	1.35	0.13	4.07
	Wall	Cum	2.00	24.1	0.2	1.21	11.66
	Slab	Cum	1.00	24.1	1.15	0.15	4.16
				Total Length=	179.6		
	Road No.5-Vithoba Temple Road			Sides	1.00		
	Node-MH-796 to MH-662			Width	0.9		
	Base	Cum	1.00	14.7	5.1	0.13	9.37
	Wall	Cum	2.00	14.7	2	1.30	76.15
	Slab	Cum	1.00	14.7	4.9	0.15	10.80
	Node-MH-662 to MH-663			Width	0.9		
	Base	Cum	1.00	126.1	1.5	0.13	23.64
	Wall	Cum	2.00	126.1	0.2	1.49	74.90
	Slab	Cum	1.00	126.1	1.3	0.15	24.59
	Node-MH-663 to MH-664			Width	0.9		
	Base	Cum	1.00	36.7	0.2	0.13	0.92
	Wall	Cum	2.00	36.7	0.2	1.55	22.75
	Slab	Cum	1.00	36.7	0	0.15	0.00
	Node-MH-664 to MH-665			Width	0.9		
	Base	Cum	1.00	26.7	1.5	0.13	5.01
	Wall	Cum	2.00	26.7	0.2	1.53	16.29
	Slab	Cum	1.00	26.7	1.3	0.15	5.21
	Node-MH-665 to MH-666			Width	0.9		
	Base	Cum	1.00	16.2	1.5	0.13	3.04
	Wall	Cum	2.00	16.2	0.2	1.53	9.91
	Slab	Cum	1.00	16.2	1.3	0.15	3.16
	Node-MH-666 to MH-667			Width	0.9		
	Base	Cum	1.00	87.9	1.5	0.13	16.48
	Wall	Cum	2.00	87.9	0.2	1.53	53.79
	Slab	Cum	1.00	87.9	1.3	0.15	17.14
	Node-MH-667 to MH-668			Width	0.9		
	Base	Cum	1.00	18.3	1.5	0.13	3.43
	Wall	Cum	2.00	18.3	0.2	1.67	12.19
	Slab	Cum	1.00	18.3	1.3	0.15	3.57
	Node-MH-668 to MH-669			Width	1.2		
	Base	Cum	1.00	64.5	2	0.13	16.13
	Wall	Cum	2.00	64.5	0.3	2.39	92.30
	Slab	Cum	1.00	64.5	1.8	0.15	17.42
	Node-MH-669 to MH-670			Width	1.2		
	Base	Cum	1.00	37.1	2	0.13	9.28
	Wall	Cum	2.00	37.1	0.3	2.93	65.11
	Slab	Cum	1.00	37.1	1.8	0.15	10.02
	Node-MH-670 to MH-671			Width	1.2		
	Base	Cum	1.00	21.1	2	0.13	5.28
	Wall	Cum	2.00	21.1	0.3	2.78	35.19
	Slab	Cum	1.00	21.1	1.8	0.15	5.70
	Node-MH-671 to O-78			Width	1.2		
	Base	Cum	1.00	27.4	2	0.13	6.85
	Wall	Cum	2.00	27.4	0.3	2.55	41.84
	Slab	Cum	1.00	27.4	1.8	0.15	7.40
				Total Length=	476.7		
	Road No.7-Maidan 1st Cross Road			Sides	1.00		
	Node-MH-680 to O-81			Width	0.6		
	Base	Cum	1.00	103.1	1.2	0.13	15.47
	Wall	Cum	2.00	103.1	0.2	1.44	59.18
	Slab	Cum	1.00	103.1	1	0.15	15.47

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Node-MH-678 to O-80			Width	0.6		
	Base	Cum	1.00	96.2	1.2	0.13	14.43
	Wall	Cum	2.00	96.2	0.2	1.32	50.60
	Slab	Cum	1.00	96.2	1	0.15	14.43
				Total Length=	199.3		
	Road No.8-Maidan 3rd Cross Road			Sides	1.00		
	Node-MH-682 to MH-683			Width	0.9		
	Base	Cum	1.00	29.9	1.5	0.13	5.61
	Wall	Cum	2.00	29.9	0.2	1.52	18.12
	Slab	Cum	1.00	29.9	1.3	0.15	5.83
	Node-MH-683 to MH-684			Width	0.9		
	Base	Cum	1.00	44.8	1.5	0.13	8.40
	Wall	Cum	2.00	44.8	0.2	1.51	27.06
	Slab	Cum	1.00	44.8	1.3	0.15	8.74
	Node-MH-684 to MH-685			Width	1.2		
	Base	Cum	1.00	65.7	1.8	0.13	14.78
	Wall	Cum	2.00	65.7	0.2	1.81	47.57
	Slab	Cum	1.00	65.7	1.6	0.15	15.77
	Node-MH-685 to MH-686			Width	1.2		
	Base	Cum	1.00	32.6	1.8	0.13	7.34
	Wall	Cum	2.00	32.6	0.2	2.01	26.15
	Slab	Cum	1.00	32.6	1.6	0.15	7.82
	Node-MH-686 to MH-691			Width	1.2		
	Base	Cum	1.00	8.1	1.8	0.13	1.82
	Wall	Cum	2.00	8.1	0.2	1.92	6.20
	Slab	Cum	1.00	8.1	1.6	0.15	1.94
	Node-MH-687 to MH-688			Width	0.6		
	Base	Cum	1.00	31.2	1.2	0.13	4.68
	Wall	Cum	2.00	31.2	0.2	1.22	15.23
	Slab	Cum	1.00	31.2	1	0.15	4.68
	Node-MH-688 to MH-689			Width	0.6		
	Base	Cum	1.00	55.3	1.2	0.13	8.30
	Wall	Cum	2.00	55.3	0.2	1.32	29.20
	Slab	Cum	1.00	55.3	1	0.15	8.30
	Node-MH-689 to MH-690			Width	0.6		
	Base	Cum	1.00	37.5	1.2	0.13	5.63
	Wall	Cum	2.00	37.5	0.2	1.56	23.33
	Slab	Cum	1.00	37.5	1	0.15	5.63
	Node-MH-690 to MH-691			Width	0.6		
	Base	Cum	1.00	51	1.2	0.13	7.65
	Wall	Cum	2.00	51	0.2	1.64	33.46
	Slab	Cum	1.00	51	1	0.15	7.65
				Total Length=	356.1		
	Road No.9-Bibi Alabi Road			Sides	1.00		
	Node-MH-692 to MH-693			Width	0.6		
	Base	Cum	1.00	47.9	1.2	0.13	7.19
	Wall	Cum	2.00	47.9	0.2	1.74	33.24
	Slab	Cum	1.00	47.9	1	0.15	7.19
	Node-MH-693 to MH-680			Width	0.6		
	Base	Cum	1.00	6	1.2	0.13	0.90
	Wall	Cum	2.00	6	0.2	1.71	4.10
	Slab	Cum	1.00	6	1	0.15	0.90
	Node-MH-694 to MH-695			Width	0.6		
	Base	Cum	1.00	12.6	1.2	0.13	1.89
	Wall	Cum	2.00	12.6	0.2	1.37	6.88
	Slab	Cum	1.00	12.6	1	0.15	1.89
	Node-MH-695 to MH-696			Width	0.6		
	Base	Cum	1.00	77.3	1.2	0.13	11.60
	Wall	Cum	2.00	77.3	0.2	1.47	45.45
	Slab	Cum	1.00	77.3	1	0.15	11.60
	Node-MH-696 to MH-697			Width	0.6		
	Base	Cum	1.00	32.1	1.2	0.13	4.82
	Wall	Cum	2.00	32.1	0.2	1.34	17.21
	Slab	Cum	1.00	32.1	1	0.15	4.82
	Node-MH-697 to MH-698			Width	0.6		
	Base	Cum	1.00	100.2	1.2	0.13	15.03
	Wall	Cum	2.00	100.2	0.2	1.27	50.90
	Slab	Cum	1.00	100.2	1	0.15	15.03
	Node-MH-698 to MH-699			Width	0.6		
	Base	Cum	1.00	36.4	1.2	0.13	5.46
	Wall	Cum	2.00	36.4	0.2	1.40	20.38

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Slab	Cum	1.00	36.4	1	0.15	5.46
	Node-MH-699 to MH-700			Width	0.6		
	Base	Cum	1.00	60.3	1.2	0.13	9.05
	Wall	Cum	2.00	60.3	0.2	1.53	36.78
	Slab	Cum	1.00	60.3	1	0.15	9.05
	Node-MH-700 to MH-701			Width	0.6		
	Base	Cum	1.00	53.4	1.2	0.13	8.01
	Wall	Cum	2.00	53.4	0.2	1.48	31.51
	Slab	Cum	1.00	53.4	1	0.15	8.01
	Node-MH-701 to O-83			Width	0.6		
	Base	Cum	1.00	27.4	1.2	0.13	4.11
	Wall	Cum	2.00	27.4	0.2	1.42	15.51
	Slab	Cum	1.00	27.4	1	0.15	4.11
	Node-MH-703 to MH-704			Width	0.9		
	Base	Cum	1.00	223.4	1.5	0.13	41.89
	Wall	Cum	2.00	223.4	0.2	1.47	130.91
	Slab	Cum	1.00	223.4	1.3	0.15	43.56
	Node-MH-704 to MH-705			Width	0.9		
	Base	Cum	1.00	19.1	1.5	0.13	3.58
	Wall	Cum	2.00	19.1	0.2	1.41	10.77
	Slab	Cum	1.00	19.1	1.3	0.15	3.72
	Node-MH-705 to MH-706			Width	0.9		
	Base	Cum	1.00	48.3	1.5	0.13	9.06
	Wall	Cum	2.00	48.3	0.2	1.40	26.95
	Slab	Cum	1.00	48.3	1.3	0.15	9.42
	Node-MH-706 to MH-707			Width	0.9		
	Base	Cum	1.00	94.8	1.5	0.13	17.78
	Wall	Cum	2.00	94.8	0.2	1.31	49.49
	Slab	Cum	1.00	94.8	1.3	0.15	18.49
	Node-MH-707 to O-87			Width	0.9		
	Base	Cum	1.00	66.9	1.5	0.13	12.54
	Wall	Cum	2.00	66.9	0.2	1.22	32.51
	Slab	Cum	1.00	66.9	1.3	0.15	13.05
			Total Length=	906.1			
	Road 10-Bibi Alabi-Kandak Road			Sides	1.00		
	Node-MH-709 to MH-710			Width	0.6		
	Base	Cum	1.00	62.3	1.2	0.13	9.35
	Wall	Cum	2.00	62.3	0.2	1.53	38.13
	Slab	Cum	1.00	62.3	1	0.15	9.35
	Node-MH-710 to MH-686			Width	0.6		
	Base	Cum	1.00	75.3	1.2	0.13	11.30
	Wall	Cum	2.00	75.3	0.2	1.54	46.23
	Slab	Cum	1.00	75.3	1	0.15	11.30
	Node-MH-686 to MH-691			Width	1.2		
	Base	Cum	1.00	8.1	1.8	0.13	1.82
	Wall	Cum	2.00	8.1	0.2	1.92	6.20
	Slab	Cum	1.00	8.1	1.6	0.15	1.94
	Node-MH-691 to MH-711			Width	1.2		
	Base	Cum	1.00	28.9	1.8	0.13	6.50
	Wall	Cum	2.00	28.9	0.2	1.86	21.44
	Slab	Cum	1.00	28.9	1.6	0.15	6.94
	Node-MH-711 to MH-712			Width	1.2		
	Base	Cum	1.00	43.8	1.8	0.13	9.86
	Wall	Cum	2.00	43.8	0.2	1.65	28.91
	Slab	Cum	1.00	43.8	1.6	0.15	10.51
	Node-MH-712 to MH-713			Width	1.2		
	Base	Cum	1.00	10.8	1.8	0.13	2.43
	Wall	Cum	2.00	10.8	0.2	1.55	6.70
	Slab	Cum	1.00	10.8	1.6	0.15	2.59
	Node-MH-713 to MH-714			Width	1.2		
	Base	Cum	1.00	25.2	1.8	0.13	5.67
	Wall	Cum	2.00	25.2	0.2	1.54	15.47
	Slab	Cum	1.00	25.2	1.6	0.15	6.05
	Node-MH-714 to MH-715			Width	1.2		
	Base	Cum	1.00	54.2	1.8	0.13	12.20
	Wall	Cum	2.00	54.2	0.2	1.52	32.85
	Slab	Cum	1.00	54.2	1.6	0.15	13.01
	Node-MH-715 to MH-716			Width	1.2		
	Base	Cum	1.00	28.6	1.8	0.13	6.44
	Wall	Cum	2.00	28.6	0.2	1.52	17.33

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Slab	Cum	1.00	28.6	1.6	0.15	6.86
	Node-MH-716 to MH-717			Width	1.2		
	Base	Cum	1.00	20.3	1.8	0.13	4.57
	Wall	Cum	2.00	20.3	0.2	1.51	12.26
	Slab	Cum	1.00	20.3	1.6	0.15	4.87
	Node-MH-717 to MH-718			Width	1.2		
	Base	Cum	1.00	11.3	1.8	0.13	2.54
	Wall	Cum	2.00	11.3	0.2	1.52	6.85
	Slab	Cum	1.00	11.3	1.6	0.15	2.71
	Node-MH-718 to MH-719			Width	1.2		
	Base	Cum	1.00	50.7	1.8	0.13	11.41
	Wall	Cum	2.00	50.7	0.2	1.52	30.72
	Slab	Cum	1.00	50.7	1.6	0.15	12.17
	Node-MH-719 to MH-720			Width	1.2		
	Base	Cum	1.00	34.5	1.8	0.13	7.76
	Wall	Cum	2.00	34.5	0.2	1.51	20.84
	Slab	Cum	1.00	34.5	1.6	0.15	8.28
			Total Length=	454			
	Road 11-Maidan 4th Cross Road-Extn						
				Sides	1.00		
	Node-MH-721 to MH-722			Width	0.6		
	Base	Cum	1.00	43.8	1.2	0.13	6.57
	Wall	Cum	2.00	43.8	0.2	1.22	21.37
	Slab	Cum	1.00	43.8	1	0.15	6.57
	Node-MH-722 to MH-723			Width	0.6		
	Base	Cum	1.00	31	1.2	0.13	4.65
	Wall	Cum	2.00	31	0.2	1.22	15.07
	Slab	Cum	1.00	31	1	0.15	4.65
	Node-MH-723 to MH-724			Width	0.6		
	Base	Cum	1.00	25.5	1.2	0.13	3.83
	Wall	Cum	2.00	25.5	0.2	1.24	12.65
	Slab	Cum	1.00	25.5	1	0.15	3.83
	Node-MH-724 to MH-725			Width	0.6		
	Base	Cum	1.00	59	1.2	0.13	8.85
	Wall	Cum	2.00	59	0.2	1.46	34.46
	Slab	Cum	1.00	59	1	0.15	8.85
	Node-MH-725 to MH-713			Width	0.6		
	Base	Cum	1.00	33.8	1.2	0.13	5.07
	Wall	Cum	2.00	33.8	0.2	1.78	24.00
	Slab	Cum	1.00	33.8	1	0.15	5.07
	Node-MH-726 to MH-727			Width	0.6		
	Base	Cum	1.00	39.7	1.1	0.13	5.46
	Wall	Cum	2.00	39.7	0.15	1.22	14.53
	Slab	Cum	1.00	39.7	0.9	0.15	5.36
	Node-MH-727 to MH-728			Width	0.6		
	Base	Cum	1.00	41.7	1.2	0.13	6.26
	Wall	Cum	2.00	41.7	0.2	1.23	20.43
	Slab	Cum	1.00	41.7	1	0.15	6.26
	Node-MH-728 to MH-729			Width	0.9		
	Base	Cum	1.00	91.7	1.5	0.13	17.19
	Wall	Cum	2.00	91.7	0.2	1.44	52.64
	Slab	Cum	1.00	91.7	1.3	0.15	17.88
	Node-MH-729 to MH-712			Width	0.9		
	Base	Cum	1.00	21.8	1.5	0.13	4.09
	Wall	Cum	2.00	21.8	0.2	1.77	15.43
	Slab	Cum	1.00	21.8	1.3	0.15	4.25
	Node-MH-712 to MH-713			Width	1.2		
	Base	Cum	1.00	10.8	1.8	0.13	2.43
	Wall	Cum	2.00	10.8	0.2	1.89	8.16
	Slab	Cum	1.00	10.8	1.6	0.15	2.59
			Total Length=	398.8			
	Road 13-J.M 1st Cross Road						
				Sides	1.00		
1	Node-MH-781 to MH-782			Width	0.6		
	Base	Cum	1.00	57.6	1.2	0.13	8.64
	Wall	Cum	2.00	57.6	0.2	1.15	26.38
	Slab	Cum	1.00	57.6	1	0.15	8.64
2	Node-MH-782 to MH-783			Width	0.6		
	Base	Cum	1.00	30.6	1.2	0.13	4.59
	Wall	Cum	2.00	30.6	0.2	0.91	11.14
	Slab	Cum	1.00	30.6	1	0.15	4.59
3	Node-MH-783 to MH-784			Width	0.6		

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Cum	1.00	40.8	1.2	0.13	6.12
	Wall	Cum	2.00	21.2	0.2	0.61	5.17
	Slab	Cum	1.00	21.2	1	0.15	3.18
4	Node-MH-785 to MH-786			Width	0.6		
	Base	Cum	1.00	21.2	1.2	0.13	3.18
	Wall	Cum	2.00	21.2	0.2	1.25	10.60
	Slab	Cum	1.00	21.2	1	0.15	3.18
5	Node-MH-786 to MH-787			Width	0.9		
	Base	Cum	1.00	21.8	1.5	0.13	4.09
	Wall	Cum	2.00	21.8	0.2	1.22	10.59
	Slab	Cum	1.00	21.8	1.3	0.15	4.25
6	Node-MH-7787 to MH-788			Width	0.9		
	Base	Cum	1.00	25	1.5	0.13	4.69
	Wall	Cum	2.00	25	0.2	1.22	12.15
	Slab	Cum	1.00	25	1.3	0.15	4.88
7	Node-MH-788 to MH-518			Width	1.2		
	Base	Cum	1.00	14.8	1.8	0.13	3.33
	Wall	Cum	2.00	14.8	0.2	1.53	9.06
	Slab	Cum	1.00	14.8	1.6	0.15	3.55
			Total Length=	211.8			
	Road 15-Mission Street Road						
				Sides	1.00		
1	Node-MH-789 to MH-790			Width	0.6		
	Base	Cum	1.00	32.4	1.2	0.13	4.86
	Wall	Cum	2.00	32.4	0.2	1.48	19.18
	Slab	Cum	1.00	32.4	1	0.15	4.86
2	Node-MH-790 to MH-791			Width	0.6		
	Base	Cum	1.00	23.2	1.2	0.13	3.48
	Wall	Cum	2.00	23.2	0.2	1.33	12.30
	Slab	Cum	1.00	23.2	1	0.15	3.48
3	Node-MH-791 to MH-792			Width	0.6		
	Base	Cum	1.00	32.4	1.2	0.13	4.86
	Wall	Cum	2.00	21.2	0.2	1.33	11.24
	Slab	Cum	1.00	21.2	1	0.15	3.18
4	Node-MH-792 to MH-793			Width	0.6		
	Base	Cum	1.00	27.1	1.2	0.13	4.07
	Wall	Cum	2.00	27.1	0.2	1.30	14.04
	Slab	Cum	1.00	27.1	1	0.15	4.07
5	Node-MH-793 to MH-794			Width	0.6		
	Base	Cum	1.00	41.7	1.2	0.13	6.26
	Wall	Cum	2.00	41.7	0.2	1.24	20.68
	Slab	Cum	1.00	41.7	1	0.15	6.26
6	Node-MH-794 to MH-795			Width	0.6		
	Base	Cum	1.00	51.2	1.2	0.13	7.68
	Wall	Cum	2.00	51.2	0.2	1.22	24.88
	Slab	Cum	1.00	51.2	1	0.15	7.68
7	Node-MH-795 to MH-475			Width	0.6		
	Base	Cum	1.00	51.9	1.2	0.13	7.79
	Wall	Cum	2.00	51.9	0.2	1.31	27.09
	Slab	Cum	1.00	51.9	1	0.15	7.79
			Total Length=	259.9			
	Ded. Of Covers-0.6m x 0.45m	Cum	-451.00	0.6	0.45	0.15	-18.27
	Box Culvert						
	Road No.1-GHS Road						
	Box Culvert-Slab	Cum	6	23	1.50	0.20	41.40
	Box Culvert-Wall	Cum	6	23	1.50	0.20	41.40
	Road No.2-P.M.Rao Road						
	Box Culvert-Slab	Cum	2	12.2	1.50	0.20	7.32
	Box Culvert-Wall	Cum	2	12.2	1.50	0.20	7.32
	Road No.3-Sharavu Temple Road						
	Box Culvert-Slab	Cum	2	10	1.50	0.20	6.00
	Box Culvert-Wall	Cum	2	10	1.50	0.20	6.00
	Road No.4-G.H.S. Cross Road						
	Box Culvert-Slab	Cum	2	8.8	1.50	0.20	5.28
	Box Culvert-Wall	Cum	2	8.8	1.50	0.20	5.28
	Road No.5-Vithoba Temple Road						
	Box Culvert-Slab	Cum	8	11.4	1.50	0.20	27.36
	Box Culvert-Wall	Cum	8	11.4	1.50	0.20	27.36
	Road No.7-Maidan 1st Cross Road						
	Box Culvert-Slab	Cum	2	18.05	1.50	0.20	10.83
	Box Culvert-Wall	Cum	2	18.05	1.50	0.20	10.83
	Road No.8-Maidan 3rd Cross Road						
	Box Culvert-Slab	Cum	2	13.1	1.50	0.20	7.86
	Box Culvert-Wall	Cum	2	13.1	1.50	0.20	7.86
	Road No.9-Bibi Alabi Road						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Box Culvert-Slab	Cum	0	8.3	1.50	0.20	0.00
	Box Culvert-Wall	Cum	0	8.3	1.50	0.20	0.00
	Road 10-Bibi Alabi-Kandak Road						
	Box Culvert-Slab	Cum	8	8.3	1.50	0.20	19.92
	Box Culvert-Wall	Cum	8	8.3	1.50	0.20	19.92
	Road 11-Maidan 4th Cross Road-Extn						
	Box Culvert-Slab	Cum	2	8.3	1.50	0.20	4.98
	Box Culvert-Wall	Cum	2	8.3	1.50	0.20	4.98
	Road 13-J.M 1st Cross Road						
	Box Culvert-Slab	Cum	4	8.3	1.50	0.20	9.96
	Box Culvert-Wall	Cum	4	8.3	1.50	0.20	9.96
	Road 15-Mission Street Road						
	Box Culvert-Slab	Cum	14	8.3	1.50	0.20	34.86
	Box Culvert-Wall	Cum	14	8.3	1.50	0.20	34.86
	Footpath Edge Beam	Cum	1	3989.00	0.15	0.105	62.83
	Electrical Chamber						0.00
	Foundation	Cum	214	2.70	1.80	0.15	156.01
	Long Wall	Cum	428	2.40	0.15	2.10	323.57
	Short Wall	Cum	428	1.10	0.15	2.10	148.30
		Cum		Total Qty.			5376.43
18	KSRB 4.6.1 Providing and removing centering, shuttering, strutting, propping etc.,and removal of formwork for foundations, footings, bases of columns for mass concrete including cost of all materials,labour complete as per specifications. Specification No. KSB 4.6.2 (SI No : 4.28 of KPWD 18-19)						
	SWD						
	Road No.1 G.H.S.Road			Sides	1.00		
	Node-MH-633 to MH-634			Width	0.75		
	Base	Sqm	2.00	39.9		0.125	9.98
	Wall	Sqm	4	39.9		1.39	221.84
	Slab	Sqm	1.00	39.9	1.15		45.89
	Node-MH-634 to MH-635			Width	0.75		
	Base	Sqm	2.00	49.4		0.125	12.35
	Wall	Sqm	4	49.4		1.215	240.08
	Slab	Sqm	1.00	49.4	1.15		56.81
	Node-MH-635 to MH-636			Width	0.75		
	Base	Sqm	2.00	24.1		0.125	6.03
	Wall	Sqm	4	24.1		1.38	133.03
	Slab	Sqm	1.00	24.1	1.15		27.72
	Node-MH-636 to MH-637			Width	0.75		
	Base	Sqm	2.00	54.4		0.125	13.60
	Wall	Sqm	4	54.4		1.225	266.56
	Slab	Sqm	1.00	54.4	1.15		62.56
	Node-MH-637 to MH-638			Width	0.75		
	Base	Sqm	2.00	52.4		0.125	13.10
	Wall	Sqm	4	52.4		1.24	259.90
	Slab	Sqm	1.00	52.4	1.15		60.26
	Node-MH-638 to MH-639			Width	0.75		
	Base	Sqm	2.00	31.9		0.125	7.98
	Wall	Sqm	4	31.9		1.265	161.41
	Slab	Sqm	1.00	31.9	1.15		36.69
	Node-MH-639 to MH-640			Width	0.75		
	Base	Sqm	2.00	16.4		0.125	4.10
	Wall	Sqm	4	16.4		1.26	82.66
	Slab	Sqm	1.00	16.4	1.15		18.86
	Node-MH-640 to MH-641			Width	1.2	0	
	Base	Sqm	2.00	29		0.125	7.25
	Wall	Sqm	4	29		1.38	160.08
	Slab	Sqm	1.00	29	1.6		46.40
	Node-MH-641 to MH-642			Width	1.2		
	Base	Sqm	2.00	61.2		0.125	15.30
	Wall	Sqm	4	61.2		1.25	306.00
	Slab	Sqm	1.00	61.2	1.6		97.92
	Node-MH-797 to MH-798			Sides	1		
				Width	0.9		
	Base	Sqm	2.00	40.2		0.125	10.05
	Wall	Sqm	4	40.2		1.665	267.73
	Slab	Sqm	1.00	40.2	1.3		52.26
	Node-MH-798 to MH-799			Width	0.9		
	Base	Sqm	2.00	27		0.125	6.75
	Wall	Sqm	4	27		1.5	162.00
	Slab	Sqm	1.00	27	1.3		35.10

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Node-MH-799 to MH-800			Width	0.9		
	Base	Sqm	2.00	21.9		0.125	5.48
	Wall	Sqm	4	21.9		1.5	131.40
	Slab	Sqm	1.00	21.9	1.3		28.47
	Node-MH-800 to MH-802			Width	0.9		
	Base	Sqm	2.00	79.6		0.125	19.90
	Wall	Sqm	4	79.6		1.42	452.13
	Slab	Sqm	1.00	79.6	1.3		103.48
	Node-MH-802 to MH-654			Width	0.9		
	Base	Sqm	2.00	47.8		0.125	11.95
	Wall	Sqm	4	47.8		1.32	252.38
	Slab	Sqm	1.00	47.8	1.3		62.14
	Node-MH-803 to MH-804			Sides	1		
				Width	0.75		
	Base	Sqm	2.00	50.1		0.125	12.53
	Wall	Sqm	4	50.1		1.355	271.54
	Slab	Sqm	1.00	50.1	1.15		57.62
	Node-MH-804 to MH-805			Width	0.75		
	Base	Sqm	2.00	33.7		0.125	8.43
	Wall	Sqm	4	33.7		1.325	178.61
	Slab	Sqm	1.00	33.7	1.15		38.76
	Node-MH-805 to O-85			Width	0.75		
	Base	Sqm	2.00	44.37		0.125	11.09
	Wall	Sqm	4	44.37		1.255	222.74
	Slab	Sqm	1.00	44.37	1.15		51.03
			Total Length=	703.37			
	Road No.2-P.M.Rao Road						
				Sides	1		
	Node-MH-644			Width	0.9		
	Base	Sqm	2.00	38.1		0.125	9.53
	Wall	Sqm	4.00	38.1		1.485	226.31
	Slab	Sqm	1.00	38.1	1.3		49.53
	Node-MH-645			Width	0.9		
	Base	Sqm	2.00	26.8		0.125	6.70
	Wall	Sqm	4.00	26.8		1.66	177.95
	Slab	Sqm	1.00	26.8	1.3		34.84
	Node-MH-646			Width	0.9		
	Base	Sqm	2.00	32.5		0.125	8.13
	Wall	Sqm	4.00	32.5		1.545	200.85
	Slab	Sqm	1.00	32.5	1.3		42.25
	Node-MH-647			Width	0.9		
	Base	Sqm	2.00	46.4		0.125	11.60
	Wall	Sqm	4.00	46.4		1.23	228.29
	Slab	Sqm	1.00	46.4	1.3		60.32
	Node-MH-648			Width	0.9		
	Base	Sqm	2.00	27.6		0.125	6.90
	Wall	Sqm	4.00	27.6		1.225	135.24
	Slab	Sqm	1.00	27.6	1.3		35.88
	Node-MH-639			Width	0.9		
	Base	Sqm	2.00	11.3		0.125	2.83
	Wall	Sqm	4.00	11.3		1.24	56.05
	Slab	Sqm	1.00	11.3	1.3		14.69
			Total Length=	182.7			
	Road No.3-Sharavu Temple Road						
				Sides	1		
	Node-MH-649 to MH-650			Width	0.75		
	Base	Sqm	2.00	42.8		0.125	10.70
	Wall	Sqm	4.00	42.8		1.285	219.99
	Slab	Sqm	1.00	42.8	1.15		49.22
	Node-MH-650 to MH-651			Width	0.75		
	Base	Sqm	2.00	51.3		0.125	12.83
	Wall	Sqm	4.00	51.3		1.385	284.20
	Slab	Sqm	1.00	51.3	1.15		59.00
	Node-MH-651 to MH-652			Width	0.75		
	Base	Sqm	2.00	23.8		0.125	5.95
	Wall	Sqm	4.00	23.8		1.215	115.67
	Slab	Sqm	1.00	23.8	1.15		27.37
	Node-MH-652 to MH-653			Width	0.75		
	Base	Sqm	2.00	25.1		0.125	6.28
	Wall	Sqm	4.00	25.1		1.22	122.49
	Slab	Sqm	1.00	25.1	1.15		28.87
	Node-MH-653 to O-76			Width	0.75		
	Base	Sqm	2.00	38.8		0.125	9.70

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Wall	Sqm	4.00	38.8		1.22	189.34
	Slab	Sqm	1.00	38.8	1.15		44.62
		Total Length=		181.8			
	Road No.4-G.H.S. Cross Road						
				Sides	1		
				Width	0.75		
	Node-MH-654 to MH-655						
	Base	Sqm	2.00	12.8		0.125	3.20
	Wall	Sqm	4.00	12.8		1.255	64.26
	Slab	Sqm	1.00	12.8	1.15		14.72
				Width	0.75		
	Node-MH-655 to MH-656						
	Base	Sqm	2.00	24.8		0.125	6.20
	Wall	Sqm	4.00	24.8		1.485	147.31
	Slab	Sqm	1.00	24.8	1.15		28.52
				Width	0.75		
	Node-MH-656 to MH-657						
	Base	Sqm	2.00	24.7		0.125	6.18
	Wall	Sqm	4.00	24.7		1.225	121.03
	Slab	Sqm	1.00	24.7	1.15		28.41
				Width	0.75		
	Node-MH-657 to MH-658						
	Base	Sqm	2.00	17.6		0.125	4.40
	Wall	Sqm	4.00	17.6		1.215	85.54
	Slab	Sqm	1.00	17.6	1.15		20.24
				Width	0.75		
	Node-MH-658to MH-659					0	
	Base	Sqm	2.00	45.5		0.125	11.38
	Wall	Sqm	4.00	45.5		1.43	260.26
	Slab	Sqm	1.00	45.5	1.15		52.33
				Width	0.75		
	Node-MH-659 to MH-660						
	Base	Sqm	2.00	30.1		0.125	7.53
	Wall	Sqm	4.00	30.1		1.285	154.71
	Slab	Sqm	1.00	30.1	1.15		34.62
				Width	0.75		
	Node-MH-660 to O-77						
	Base	Sqm	2.00	24.1		0.125	6.03
	Wall	Sqm	4.00	24.1		1.21	116.64
	Slab	Sqm	1.00	24.1	1.15		27.72
				Width	0.75		
		Total Length=		179.6			
	Road No.5-Vithoba Temple Road						
				Sides	1		
				Width	0.9		
	Node-MH-796 to MH-662						
	Base	Sqm	2.00	14.7		0.125	3.68
	Wall	Sqm	4.00	14.7		1.295	76.15
	Slab	Sqm	1.00	14.7	4.9		72.03
				Width	0.9		
	Node-MH-662 to MH-663						
	Base	Sqm	2.00	126.1		0.125	31.53
	Wall	Sqm	4.00	126.1		1.485	749.03
	Slab	Sqm	1.00	126.1	1.3		163.93
				Width	0.9		
	Node-MH-663 to MH-664						
	Base	Sqm	2.00	36.7		0.125	9.18
	Wall	Sqm	4.00	36.7		1.55	227.54
	Slab	Sqm	1.00	36.7	0		0.00
				Width	0.9		
	Node-MH-664 to MH-665						
	Base	Sqm	2.00	26.7		0.125	6.68
	Wall	Sqm	4.00	26.7		1.525	162.87
	Slab	Sqm	1.00	26.7	1.3		34.71
				Width	0.9		
	Node-MH-665 to MH-666						
	Base	Sqm	2.00	16.2		0.125	4.05
	Wall	Sqm	4.00	16.2		1.53	99.14
	Slab	Sqm	1.00	16.2	1.3		21.06
				Width	0.9		
	Node-MH-666 to MH-667						
	Base	Sqm	2.00	87.9		0.125	21.98
	Wall	Sqm	4.00	87.9		1.53	537.95
	Slab	Sqm	1.00	87.9	1.3		114.27
				Width	0.9		
	Node-MH-667 to MH-668						
	Base	Sqm	2.00	18.3	1.5	0.125	6.86
	Wall	Sqm	4.00	18.3	0.2	1.665	24.38
	Slab	Sqm	1.00	18.3	1.3	0.15	3.57
				Width	1.2		
	Node-MH-668 to MH-669						
	Base	Sqm	2.00	64.5		0.125	16.13
	Wall	Sqm	4.00	64.5		2.385	615.33
	Slab	Sqm	1.00	64.5	1.8		116.10
				Width	1.2		
	Node-MH-669 to MH-670						
	Base	Sqm	2.00	37.1		0.125	9.28
	Wall	Sqm	4.00	37.1		2.925	434.07
	Slab	Sqm	1.00	37.1	1.8		66.78

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Node-MH-670 to MH-671			Width	1.2		
	Base	Sqm	2.00	21.1		0.125	5.28
	Wall	Sqm	4.00	21.1		2.78	234.63
	Slab	Sqm	1.00	21.1	1.8		37.98
	Node-MH-671 to O-78			Width	1.2		
	Base	Sqm	2.00	27.4		0.125	6.85
	Wall	Sqm	4.00	27.4		2.545	278.93
	Slab	Sqm	1.00	27.4	1.8		49.32
			Total Length=	476.7			
	Road No.7-Maidan 1st Cross Road						
				Sides	1		
	Node-MH-680 to O-81			Width	0.6		
	Base	Sqm	2.00	103.1		0.125	25.78
	Wall	Sqm	4.00	103.1		1.435	591.79
	Slab	Sqm	1.00	103.1	1		103.10
	Node-MH-678 to O-80			Width	0.6		
	Base	Sqm	2.00	96.2		0.125	24.05
	Wall	Sqm	4.00	96.2		1.315	506.01
	Slab	Sqm	1.00	96.2	1		96.20
			Total Length=	199.3			
	Road No.8-Maidan 3rd Cross Road						
				Sides	1		
	Node-MH-682 to MH-683			Width	0.9		
	Base	Sqm	2.00	29.9		0.125	7.48
	Wall	Sqm	4.00	29.9		1.515	181.19
	Slab	Sqm	1.00	29.9	1.3		38.87
	Node-MH-683 to MH-684			Width	0.9		
	Base	Sqm	2.00	44.8		0.125	11.20
	Wall	Sqm	4.00	44.8		1.51	270.59
	Slab	Sqm	1.00	44.8	1.3		58.24
	Node-MH-684 to MH-685			Width	1.2		
	Base	Sqm	2.00	65.7		0.125	16.43
	Wall	Sqm	4.00	65.7		1.81	475.67
	Slab	Sqm	1.00	65.7	1.6		105.12
	Node-MH-685 to MH-686			Width	1.2		
	Base	Sqm	2.00	32.6		0.125	8.15
	Wall	Sqm	4.00	32.6		2.005	261.45
	Slab	Sqm	1.00	32.6	1.6		52.16
	Node-MH-686 to MH-691			Width	1.2		
	Base	Sqm	2.00	8.1		0.125	2.03
	Wall	Sqm	4.00	8.1		1.915	62.05
	Slab	Sqm	1.00	8.1	1.6		12.96
	Node-MH-687 to MH-688			Width	0.6		
	Base	Sqm	2.00	31.2		0.125	7.80
	Wall	Sqm	4.00	31.2		1.22	152.26
	Slab	Sqm	1.00	31.2	1		31.20
	Node-MH-688 to MH-689			Width			
	Base	Sqm	2.00	55.3		0.125	13.83
	Wall	Sqm	4.00	55.3		1.32	291.98
	Slab	Sqm	1.00	55.3	1		55.30
	Node-MH-689 to MH-690			Width	0.6		
	Base	Sqm	2.00	37.5		0.125	9.38
	Wall	Sqm	4.00	37.5		1.555	233.25
	Slab	Sqm	1.00	37.5	1		37.50
	Node-MH-690 to MH-691			Width	0.6		
	Base	Sqm	2.00	51		0.125	12.75
	Wall	Sqm	4.00	51		1.64	334.56
	Slab	Sqm	1.00	51	1		51.00
			Total Length=	356.1			
	Road No.9-Bibi Alabi Road						
				Sides	1		
	Node-MH-692 to MH-693			Width	0.6		
	Base	Sqm	2.00	47.9		0.125	11.98
	Wall	Sqm	4.00	47.9		1.735	332.43
	Slab	Sqm	1.00	47.9	1		47.90
	Node-MH-693 to MH-680			Width	0.6		
	Base	Sqm	2.00	6		0.125	1.50
	Wall	Sqm	4.00	6		1.71	41.04
	Slab	Sqm	1.00	6	1		6.00
	Node-MH-694 to MH-695			Width	0.6		
	Base	Sqm	2.00	12.6		0.125	3.15
	Wall	Sqm	4.00	12.6	0.2	1.365	13.76
	Slab	Sqm	1.00	12.6	1		12.60

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Node-MH-695 to MH-696			Width	0.6		
	Base	Sqm	2.00	77.3		0.125	19.33
	Wall	Sqm	4.00	77.3		1.47	454.52
	Slab	Sqm	1.00	77.3	1		77.30
	Node-MH-696 to MH-697			Width	0.6		
	Base	Sqm	2.00	32.1		0.125	8.03
	Wall	Sqm	4.00	32.1		1.34	172.06
	Slab	Sqm	1.00	32.1	1		32.10
	Node-MH-697 to MH-698			Width	0.6		
	Base	Sqm	2.00	100.2		0.125	25.05
	Wall	Sqm	4.00	100.2		1.27	509.02
	Slab	Sqm	1.00	100.2	1		100.20
	Node-MH-698 to MH-699			Width	0.6		
	Base	Sqm	2.00	36.4		0.125	9.10
	Wall	Sqm	4.00	36.4		1.4	203.84
	Slab	Sqm	1.00	36.4	1		36.40
	Node-MH-699 to MH-700			Width	0.6		
	Base	Sqm	2.00	60.3		0.125	15.08
	Wall	Sqm	4.00	60.3		1.525	367.83
	Slab	Sqm	1.00	60.3	1		60.30
	Node-MH-700 to MH-701			Width	0.6		
	Base	Sqm	2.00	53.4		0.125	13.35
	Wall	Sqm	4.00	53.4		1.475	315.06
	Slab	Sqm	1.00	53.4	1		53.40
	Node-MH-701 to O-83			Width	0.6		
	Base	Sqm	2.00	27.4		0.125	6.85
	Wall	Sqm	4.00	27.4		1.415	155.08
	Slab	Sqm	1.00	27.4	1		27.40
				0			
	Node-MH-703 to MH-704			Width	0.9		
	Base	Sqm	2.00	223.4		0.125	55.85
	Wall	Sqm	4.00	223.4		1.465	1309.12
	Slab	Sqm	1.00	223.4	1.3		290.42
	Node-MH-704 to MH-705			Width	0.9		
	Base	Sqm	2.00	19.1		0.125	4.78
	Wall	Sqm	4.00	19.1		1.41	107.72
	Slab	Sqm	1.00	19.1	1.3		24.83
	Node-MH-705 to MH-706			Width	0.9		
	Base	Sqm	2.00	48.3		0.125	12.08
	Wall	Sqm	4.00	48.3		1.395	269.51
	Slab	Sqm	1.00	48.3	1.3		62.79
	Node-MH-706 to MH-707			Width	0.9		
	Base	Sqm	2.00	94.8		0.125	23.70
	Wall	Sqm	4.00	94.8		1.305	494.86
	Slab	Sqm	1.00	94.8	1.3		123.24
	Node-MH-707 to O-87			Width	0.9		
	Base	Sqm	2.00	66.9		0.125	16.73
	Wall	Sqm	4.00	66.9		1.215	325.13
	Slab	Sqm	1.00	66.9	1.3		86.97
			Total Length=	906.1			
	Road 10-Bibi Alabi-Kandak Road						
				Sides	1		
	Node-MH-709 to MH-710			Width	0.6		
	Base	Sqm	2.00	62.3		0.125	15.58
	Wall	Sqm	4.00	62.3		1.53	381.28
	Slab	Sqm	1.00	62.3	1		62.30
	Node-MH-710 to MH-686			Width	0.6		
	Base	Sqm	2.00	75.3		0.125	18.83
	Wall	Sqm	4.00	75.3		1.535	462.34
	Slab	Sqm	1.00	75.3	1		75.30
	Node-MH-686 to MH-691			Width	1.2		
	Base	Sqm	2.00	8.1		0.125	2.03
	Wall	Sqm	4.00	8.1		1.915	62.05
	Slab	Sqm	1.00	8.1	1.6		12.96
	Node-MH-691 to MH-711			Width	1.2		
	Base	Sqm	2.00	28.9		0.125	7.23
	Wall	Sqm	4.00	28.9		1.855	214.44
	Slab	Sqm	1.00	28.9	1.6		46.24
	Node-MH-711 to MH-712			Width	1.2		
	Base	Sqm	2.00	43.8		0.125	10.95
	Wall	Sqm	4.00	43.8		1.65	289.08
	Slab	Sqm	1.00	43.8	1.6		70.08

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Node-MH-712 to MH-713			Width	1.2		
	Base	Sqm	2.00	10.8		0.125	2.70
	Wall	Sqm	4.00	10.8		1.55	66.96
	Slab	Sqm	1.00	10.8	1.6		17.28
	Node-MH-713 to MH-714			Width	1.2		
	Base	Sqm	2.00	25.2		0.125	6.30
	Wall	Sqm	4.00	25.2		1.535	154.73
	Slab	Sqm	1.00	25.2	1.6		40.32
	Node-MH-714 to MH-715			Width	1.2		
	Base	Sqm	2.00	54.2		0.125	13.55
	Wall	Sqm	4.00	54.2		1.515	328.45
	Slab	Sqm	1.00	54.2	1.6		86.72
	Node-MH-715 to MH-716			Width	1.2		
	Base	Sqm	2.00	28.6		0.125	7.15
	Wall	Sqm	4.00	28.6		1.515	173.32
	Slab	Sqm	1.00	28.6	1.6		45.76
	Node-MH-716 to MH-717			Width	1.2		
	Base	Sqm	2.00	20.3		0.125	5.08
	Wall	Sqm	4.00	20.3		1.51	122.61
	Slab	Sqm	1.00	20.3	1.6		32.48
	Node-MH-717 to MH-718			Width	1.2		
	Base	Sqm	2.00	11.3		0.125	2.83
	Wall	Sqm	4.00	11.3		1.515	68.48
	Slab	Sqm	1.00	11.3	1.6		18.08
	Node-MH-718 to MH-719			Width	1.2		
	Base	Sqm	2.00	50.7		0.125	12.68
	Wall	Sqm	4.00	50.7		1.515	307.24
	Slab	Sqm	1.00	50.7	1.6		81.12
	Node-MH-719 to MH-720			Width	1.2		
	Base	Sqm	2.00	34.5		0.125	8.63
	Wall	Sqm	4.00	34.5		1.51	208.38
	Slab	Sqm	1.00	34.5	1.6		55.20
			Total Length=	454			
	Road 11-Maidan 4th Cross Road-Extn			Sides	1		
	Node-MH-721 to MH-722			Width	0.6		
	Base	Sqm	2.00	43.8		0.125	10.95
	Wall	Sqm	4.00	43.8		1.22	213.74
	Slab	Sqm	1.00	43.8	1		43.80
	Node-MH-722 to MH-723			Width	0.6		
	Base	Sqm	2.00	31		0.125	7.75
	Wall	Sqm	4.00	31		1.215	150.66
	Slab	Sqm	1.00	31	1		31.00
	Node-MH-723 to MH-724			Width	0.6		
	Base	Sqm	2.00	25.5		0.125	6.38
	Wall	Sqm	4.00	25.5		1.24	126.48
	Slab	Sqm	1.00	25.5	1		25.50
	Node-MH-724 to MH-725			Width	0.6		
	Base	Sqm	2.00	59		0.125	14.75
	Wall	Sqm	4.00	59		1.46	344.56
	Slab	Sqm	1.00	59	1		59.00
	Node-MH-725 to MH-713			Width	0.6		
	Base	Sqm	2.00	33.8		0.125	8.45
	Wall	Sqm	4.00	33.8		1.775	239.98
	Slab	Sqm	1.00	33.8	1		33.80
	Node-MH-726 to MH-727			Width	0.6		
	Base	Sqm	2.00	39.7		0.125	9.93
	Wall	Sqm	4.00	39.7		1.22	193.74
	Slab	Sqm	1.00	39.7	0.9		35.73
	Node-MH-727 to MH-728			Width	0.6		
	Base	Sqm	2.00	41.7		0.125	10.43
	Wall	Sqm	4.00	41.7		1.225	204.33
	Slab	Sqm	1.00	41.7	1		41.70
	Node-MH-728 to MH-729			Width	0.9		
	Base	Sqm	2.00	91.7		0.125	22.93
	Wall	Sqm	4.00	91.7		1.435	526.36
	Slab	Sqm	1.00	91.7	1.3		119.21
	Node-MH-729 to MH-712			Width	0.9		
	Base	Sqm	2.00	21.8	1.5	0.125	8.18
	Wall	Sqm	4.00	21.8	0.2	1.77	30.87
	Slab	Sqm	1.00	21.8	1.3	0.15	4.25

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Node-MH-712 to MH-713			Width	1.2		
	Base	Sqm	2.00	10.8		0.125	2.70
	Wall	Sqm	4.00	10.8		1.89	81.65
	Slab	Sqm	1.00	10.8	1.6		17.28
			Total Length=	398.8			
	Road 13-J.M 1st Cross Road			Sides	1		
	Node-MH-781 to MH-782			Width	0.6		
	Base	Sqm	2.00	57.6		0.125	14.40
	Wall	Sqm	4.00	57.6		1.145	263.81
	Slab	Sqm	1.00	57.6	1		57.60
	Node-MH-782 to MH-783			Width	0.6		
	Base	Sqm	2.00	30.6		0.125	7.65
	Wall	Sqm	4.00	30.6		0.91	111.38
	Slab	Sqm	1.00	30.6	1		30.60
	Node-MH-783 to MH-784			Width	0.6		
	Base	Sqm	2.00	40.8		0.125	10.20
	Wall	Sqm	4.00	21.2		0.61	51.73
	Slab	Sqm	1.00	21.2	1		21.20
	Node-MH-785 to MH-786			Width	0.6		
	Base	Sqm	2.00	21.2		0.125	5.30
	Wall	Sqm	4.00	21.2		1.25	106.00
	Slab	Sqm	1.00	21.2	1		21.20
	Node-MH-786 to MH-787			Width	0.9		
	Base	Sqm	2.00	21.8		0.125	5.45
	Wall	Sqm	4.00	21.8		1.215	105.95
	Slab	Sqm	1.00	21.8	1.3		28.34
	Node-MH-787 to MH-788			Width	0.9		
	Base	Sqm	2.00	25		0.125	6.25
	Wall	Sqm	4.00	25		1.215	121.50
	Slab	Sqm	1.00	25	1.3		32.50
	Node-MH-788 to MH-518			Width	1.2		
	Base	Sqm	2.00	14.8		0.125	3.70
	Wall	Sqm	4.00	14.8		1.53	90.58
	Slab	Sqm	1.00	14.8	1.6		23.68
			Total Length=	211.8			
	Road 15-Mission Street Road			Sides	1		
	Node-MH-789 to MH-790			Width	0.6		
	Base	Sqm	2.00	32.4		0.125	8.10
	Wall	Sqm	4.00	32.4		1.48	191.81
	Slab	Sqm	1.00	32.4	1		32.40
	Node-MH-790 to MH-791			Width	0.6		
	Base	Sqm	2.00	23.2		0.125	5.80
	Wall	Sqm	4.00	23.2		1.325	122.96
	Slab	Sqm	1.00	23.2	1		23.20
	Node-MH-791 to MH-792			Width	0.6		
	Base	Sqm	2.00	32.4		0.125	8.10
	Wall	Sqm	4.00	21.2		1.325	112.36
	Slab	Sqm	1.00	21.2	1		21.20
	Node-MH-792 to MH-793			Width	0.6		
	Base	Sqm	2.00	27.1		0.125	6.78
	Wall	Sqm	4.00	27.1		1.295	140.38
	Slab	Sqm	1.00	27.1	1		27.10
	Node-MH-793 to MH-794			Width	0.6		
	Base	Sqm	2.00	41.7		0.125	10.43
	Wall	Sqm	4.00	41.7		1.24	206.83
	Slab	Sqm	1.00	41.7	1		41.70
	Node-MH-794 to MH-795			Width	0.6		
	Base	Sqm	2.00	51.2		0.125	12.80
	Wall	Sqm	4.00	51.2		1.215	248.83
	Slab	Sqm	1.00	51.2	1		51.20
	Node-MH-795 to MH-475			Width	0.6		
	Base	Sqm	2.00	51.9		0.125	12.98
	Wall	Sqm	4.00	51.9		1.305	270.92
	Slab	Sqm	1.00	51.9	1		51.90
			Total Length=	259.9			
	Box Culvert						
	Road No.1-GHS Road						
	Box Culvert-Slab	Sqm	3	23	1.5		103.50
	Box Culvert-Wall	Sqm	12	23	1.5		414.00
	Road No.2-P.M.Rao Road						
	Box Culvert-Slab	Sqm	1	12.2	1.5		18.30
	Box Culvert-Wall	Sqm	4	12.2	1.5		73.20

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Road No.3-Sharavu Temple Road						
	Box Culvert-Slab	Sqm	1	10	1.5		15.00
	Box Culvert-Wall	Sqm	4	10	1.5		60.00
	Road No.4-G.H.S. Cross Road						
	Box Culvert-Slab	Sqm	1	8.8	1.5		13.20
	Box Culvert-Wall	Sqm	4	8.8	1.5		52.80
	Road No.5-Vithoba Temple Road						
	Box Culvert-Slab	Sqm	4	11.4	1.5		68.40
	Box Culvert-Wall	Sqm	16	11.4	1.5		273.60
	Road No.7-Maidan 1st Cross Road						
	Box Culvert-Slab	Sqm	1	18.05	1.5		27.08
	Box Culvert-Wall	Sqm	4	18.05	1.5		108.30
	Road No.8-Maidan 3rd Cross Road						0.00
	Box Culvert-Slab	Sqm	1	13.1	1.5		19.65
	Box Culvert-Wall	Sqm	4	13.1	1.5		78.60
	Road No.9-Bibi Alabi Road						
	Box Culvert-Slab	Sqm	0	8.3	1.5		0.00
	Box Culvert-Wall	Sqm	0	8.3	1.5		0.00
	Road 10-Bibi Alabi-Kandak Road						
	Box Culvert-Slab	Sqm	4	8.3	1.5		49.80
	Box Culvert-Wall	Sqm	16	8.3	1.5		199.20
	Road 11-Maidan 4th Cross Road-Extn						
	Box Culvert-Slab	Sqm	1	8.3	1.5		12.45
	Box Culvert-Wall	Sqm	4	8.3	1.5		49.80
	Road 13-J.M 1st Cross Road						
	Box Culvert-Slab	Sqm	2	8.3	1.5		24.90
	Box Culvert-Wall	Sqm	8	8.3	1.5		99.60
	Road 15-Mission Street Road						
	Box Culvert-Slab	Sqm	7	8.3	1.5		87.15
	Box Culvert-Wall	Sqm	28	8.3	1.5		348.60
		Sqm		Total Qty.			34392.03
19	KSRB 4.9.2 :Providing T.M.T steel reinforcement for RCC work including straightening,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to thr adjoining members wherever necessary complete as per design (laps,hooks and wastage shall not be measured and paid) cost of materials,labour,HOM of machinary complete as per specifications.Specification No. KBS4.6.3. do with TMT bars Fe500 (SI No : 4.46.2 of KPWD 18-19)						
				Cum	Kg/Cum	Kg	MT
	SWD	MT	1	4334.18	100.00	433418.37	433.42
	Footpath Edge Beam	MT	1	62.83	80.00	5026.14	5.03
	Electrical Chamber	MT	1	627.88	100.00	62787.60	62.79
	Box Culvert	MT	1	351.54	120.00	42184.80	42.18
		MT		5376.43	0.00	Total	543.42
					Check	5376.43	
20	KSRRB M300-Construction of Subgrade. KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305IKPWD 18-19,19.62,17.1 and 17.4)						
	Footpath						
	Road No.1-GHS Road						
	LHS						
	Ch.0.0 to Ch.95.00	Cum	1	95	2.73	0.15	38.9
	Ch.100.0 to Ch.260.00	Cum	1	160	3.23	0.15	77.52
	Ch.270.0 to Ch.370.00	Cum	1	100	2.97	0.15	44.55
	RHS						
	Ch.0.0 to Ch.140.00	Cum	1	140	2.3	0.15	48.3
	Ch.150.0 to Ch.280.0	Cum	1	130	3.18	0.15	62.01
	Ch.290.0 to Ch.390.0	Cum	1	100	3.68	0.15	55.2
	Road No.2-P.M.Rao Road						
	LHS						
	Ch.00.0 to Ch.170.0	Cum	1	170	2.83	0.15	72.17
	RHS						
	Ch.00.0 to Ch.170.0	Cum	1	170	3.76	0.15	95.88
	Road No.3-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.170.0	Cum	1	170	2.82	0.15	71.91
	RHS						
	Ch.0.0 to Ch.50.0	Cum	1	50	4.23	0.15	31.73
	Ch.55.0 to Ch.90.0	Cum	1	35	2.84	0.15	14.91
	Ch.100.0 to Ch.142.0	Cum	1	42	3.55	0.15	22.37
	Road No.4-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.50.0	Cum	1	50	3.55	0.15	26.63
	Ch.90.0 to Ch.185.00	Cum	1	95	2.68	0.15	38.19
	RHS						
	Ch.0.0 to Ch.35.0	Cum	1	35	1.9	0.15	9.98
	Ch.50.0 to Ch.180.0	Cum	1	130	2.34	0.15	45.63

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Road No.7-Maidan 1st Cross Road						
	LHS						
	Ch.0.0 to Ch.92.00	Cum	1	92	3.45	0.15	47.61
	RHS						
	At Ch.0.00	Cum	1	20	2.61	0.15	7.83
	Ch.0.0 to Ch.92.00	Cum	1	92	2.7	0.15	37.26
	Road No.8-Maidan 3rd Cross Road						
	LHS						
	Ch.20.0 to Ch.180.0	Cum	1	160	2.8	0.15	67.2
	RHS						
	Ch.0.0 to Ch.180.0	Cum	1	180	3.11	0.15	83.97
	Road No.9 Bibi Alabi Road						
	LHS						
	Ch.0.0 to Ch.200.00	Cum	1	200	5.38	0.15	161.4
	Ch.210.00 to Ch.320.00	Cum	1	110	5.61	0.15	92.57
	Ch.330.0 to Ch.430.00	Cum	1	100	6.75	0.15	101.25
	RHS						
	Ch.30.00 to Ch.160.00	Cum	1	130	4.48	0.15	87.36
	Ch.170.00 to Ch.340.00	Cum	1	170	4.75	0.15	121.13
	Ch.345.00 to Ch.430.00	Cum	1	85	4.41	0.15	56.23
	Road No.10-Bibi Alabi - Kandak Road						
	LHS						
	Ch.0.0 to Ch.145.0	Cum	1	145	1.49	0.15	32.41
	Ch.55.00 to Ch.165.0	Cum	1	110	0.15	0.15	2.48
	Ch.185.00 to Ch.230.0	Cum	1	45	1.58	0.15	10.67
	Ch.320.00 to Ch.405.00	Cum	1	85	3.87	0.15	49.34
	Ch.425.00 to Ch.460.0	Cum	1	35	3.54	0.15	18.59
	RHS						
	Ch.40.0 to Ch.260.0	Cum	1	220	1.5	0.15	49.5
	Ch.270.0 to Ch.290.0	Cum	1	20	3.45	0.15	10.35
	Ch.305.0 to Ch.460.0	Cum	1	155	3.11	0.15	72.31
	Road No.11-Maidan 4th Cross Road-Extn.						
	LHS						
	Ch.25.0 to Ch.200.00	Cum	1	175	3.11	0.15	81.64
	RHS						
	Ch.0.0 to Ch.200.00	Cum	1	175	3.18	0.15	83.48
	Road No.13-J.M.1st Cross Road						
	LHS						
	Ch.160.0 to Ch.170.0	Cum	1	10	1.91	0.15	2.87
	Ch.175.0 to Ch.200.0	Cum	1	25	2.51	0.15	9.41
	Ch.218.0 to Ch.227	Cum	1	9	1.31	0.15	1.77
	RHS						
	Ch.160.0 to Ch.190.0	Cum	1	30	2.27	0.15	10.22
	Road No.15-Mission Street Road Extn.						
	LHS						
	Ch.0.0 to Ch.20.00	Cum	1	20	1.1	0.15	3.3
	RHS						
	Ch.20.0 to Ch.90.0	Cum	1	70	1.8	0.15	18.9
	Ch.180.0 to Ch.200	Cum	1	20	1.85	0.15	5.55
	Flush Footpath with Carriageway						
	Road No.1-GHS Road						
	RHS						
	Level Footpath-Ch.270.00 to Ch.288.00	Sqm	1	18	0.21	0.15	0.57
	LHS						
	Level Footpath-Ch.260.0 to Ch.268.00	Sqm	1	8	0.4	0.15	0.48
	Parking-Ch.180.0 to Ch.260.0	Sqm	1	82	2.5	0.15	30.75
	Parking-Ch.320.0 to Ch.350.0	Sqm	1	30	2.5	0.15	11.25
	Road No.2-P.M.Rao Road						
	Parking-LHS-Ch.10.00 to Ch.50.00	Sqm	1	36.2	2.5	0.15	13.58
	Parking-RHS-Ch.50.00 to Ch.75.00	Sqm	1	29	2.5	0.15	10.88
	Road No.3-Sharavu Temple Road						
	RHS						
	Level Footpath-Ch.165.00 to Ch.185.0	Sqm	1	20	0.73	0.15	2.19
	Parking-Ch.15.00 to Ch.33.0	Sqm	1	18	2.5	0.15	6.75
	Parking-Ch.68.00 to Ch.82.0	Sqm	1	16.4	2.5	0.15	6.15
	LHS						
	Level Footpath-Ch.140.00 to Ch.180.0	Sqm	1	40	1.18	0.15	7.08
	Parking-Ch.15.0 to Ch.42.0	Sqm	1	30	2.5	0.15	11.25
	Parking-Ch.65.0 to Ch.85.0	Sqm	1	20	2.5	0.15	7.5
	Road No.4-G.H.S. Cross Road						
	RHS						
	Ch.35.00 to Ch.50.0	Sqm	1	15	1.27	0.15	2.86
	LHS						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.65.0 to Ch.90.0	Sqm	1	40	1.1	0.15	6.6
	Road No.5-Vithoba Temple Road						
	LHS						
	Ch.15.0 to Ch.212.0	Sqm	1	197	1.41	0.15	41.67
	Ch.215.0 to Ch.485.0	Sqm	1	270	1.44	0.15	58.32
	RHS						
	Ch.15.0 to Ch.485.0	Sqm	1	470	1.61	0.15	113.51
	Road No.8-Maidan 3rd Cross Road						
	Parking	Sqm	1	30.6	2.5	0.15	11.48
	Road No.9-Bibi Alabi Road						
	LHS						
	Level Footpath-Ch.0.0 to Ch.38.0	Sqm	1	40	1.58	0.15	9.48
	Level Footpath-Ch.138.0 to Ch.218.0	Sqm	1	80	1.5	0.15	18
	Level Footpath-Ch.248.0 to Ch.260.0	Sqm	1	12	1.54	0.15	2.77
	Level Footpath-Ch.288.0 to Ch.308.0	Sqm	1	20	1.29	0.15	3.87
	Parking-Ch.55.00 to Ch. 130.0	Sqm	1	75	2.5	0.15	28.13
	Parking-Ch.140.0 to Ch.150.0	Sqm	1	10.5	2.5	0.15	3.94
	RHS						
	Level Footpath-Ch.5.00to Ch.40.0	Sqm	1	35	1.35	0.15	7.09
	Level Footpath-Ch.160.00 to Ch.210.0	Sqm	1	50	1.21	0.15	9.08
	Level Footpath-Ch.240.0 to Ch.320.0	Sqm	1	80	1.28	0.15	15.36
	Level Footpath-Ch.400.0 to Ch.430.0	Sqm	1	30	1.11	0.15	5
	Level Footpath-Ch.455.0 to Ch.465.0	Sqm	1	10	2.42	0.15	3.63
	Road 10-Bibi Alabi-Kandak Road						
	RHS						
	Ch.12.0 to Ch.38.0	Sqm	1	26	0.41	0.15	1.6
	LHS						
	Ch.168.0 to Ch.188.0	Sqm	1	20	0.46	0.15	1.38
	Ch.240.0 to Ch.260.0	Sqm	1	20	0.31	0.15	0.93
	Ch.270.0 to Ch.300.0	Sqm	1	30	0.52	0.15	2.34
	Ch.300.00 to Ch.320.0	Sqm	1	20	0.73	0.15	2.19
	Ch.400.0 to Ch.425.0	Sqm	1	25	1.11	0.15	4.16
	Road 11-Maidan 4th Cross Road-Extn						
	LHS						
	Ch.90.0 to Ch.180.0	Sqm	1	90	0.8	0.15	10.8
	Ch.30.0 to Ch.50.0	Sqm	1	20	1.07	0.15	3.21
	RHS						
	Ch.70.0 to Ch.80.0	Sqm	1	10	0.23	0.15	0.35
	Ch.115.0 to Ch.185.0	Sqm	1	70	1.31	0.15	13.76
	Parking-LHS	Sqm	1	46.8	2.5	0.15	17.55
	Parking-RHS	Sqm	1	60	2.5	0.15	22.5
	Parking-RHS	Sqm	1	53.2	2.5	0.15	19.95
	Road 13-J.M 1st Cross Road						
	LHS						
	Ch.0.0 to Ch.90.0	Sqm	1	90	1.1	0.15	14.85
	Ch.95.0 to Ch.130.0	Sqm	1	40	0.56	0.15	3.36
	Ch.200.0 to Ch.220.0	Sqm	1	20	0.24	0.15	0.72
	Ch.230.0 to Ch.235.0	Sqm	1	5	4.37	0.15	3.28
	RHS						
	Ch.0.0 to Ch.130.0	Sqm	1	130	1	0.15	19.5
	Ch.200.0 to Ch.240.0	Sqm	1	40	0.5	0.15	3
	Road 15-Mission Street Road						
	LHS						
	Ch.20.0 to Ch.90.0	Sqm	1	70	1.52	0.15	15.96
	Ch.120.0 to Ch.190.0	Sqm	1	70	1.08	0.15	11.34
	RHS						
	Ch.130.0 to Ch.180.0	Sqm	1	50	1.05	0.15	7.88
	Two Wheeler Parking						
	Road No.2-PM Rao Road						
	LHS						
	Ch.55.0 to Ch.135.0	Sqm	1	80	1.4	0.15	16.8
	RHS						
	Ch.7.00 to Ch.42.00	Sqm	1	36.9	1.4	0.15	7.75
	Ch.109.0 to Ch.132.0	Sqm	1	24.6	1.4	0.15	5.17
	Road No.3 Sharavu Temple Road						
	RHS						
	Ch.42.0 to Ch.62.0	Sqm	1	17.5	1.4	0.15	3.68
	LHS						
	Ch.111.0 to Ch. 125.0	Sqm	1	13.5	1.4	0.15	2.84
	Road No.4 GHS Cross Road						
	RHS						
	Ch.80.0 to Ch.94.0	Sqm	1	13.4	1.4	0.15	2.81
	Ch.117.0 to Ch.154	Sqm	1	36.8	1.4	0.15	7.73
	LHS						
	Ch.22.0 to Ch.40.0	Sqm	1	17	1.4	0.15	3.57
	Ch.112.0 to Ch.40.0	Sqm	1	17.3	1.4	0.15	3.63
	Ch.134.0 to Ch.159.0	Sqm	1	25.5	1.4	0.15	5.36

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Road No.8-Maidan 3rd Cross Road						
	RHS						
	Ch.155.0 to Ch.170.0	Sqm	1	15.8	1.4	0.15	3.32
	LHS						
	Ch.120.0 to Ch.173.0	Sqm	1	52.2	1.4	0.15	10.96
	Road No.9-Bibi Alabi Road						
	Ch.277.0 to Ch.288.0	Sqm	1	12.5	1.4	0.15	2.63
	Pavement						
	Road No.1-GHS Road						
	Ch.0 to Ch.10.00	Cum	1.0	10.0	5.7	0.15	8.55
	Ch.10.0 to Ch.60.00	Cum	1.0	50.0	5.7	0.15	42.75
	Ch.60.00 to Ch.110.00	Cum	1.0	50.0	5.7	0.15	42.75
	Ch.110.0 to Ch.160.00	Cum	1.0	50.0	5.7	0.15	42.75
	Road No.2-P.M.Rao Road						
	Ch.0.0 to Ch.50.0	Cum	1.0	50.0	7.2	0.15	53.74
	Ch.50.0 to Ch.100.00	Cum	1.0	50.0	7.3	0.15	54.98
	Ch.100.0 to Ch.145.0.0	Cum	1.0	45.0	7.2	0.15	48.36
	Road No.3-Sharavu Temple Road						
	Ch.0.0 to Ch.30.0	Cum	1.0	30.0	6.2	0.15	27.99
	Ch.30.0 to Ch.80.0	Cum	1.0	50.0	6.2	0.15	46.5
	Ch.80.0 to Ch.130.0	Cum	1.0	50.0	6.4	0.15	47.74
	Ch.130.0 to Ch.185.0	Cum	1.0	55.0	4.6	0.15	37.54
	Road No.4-G.H.S. Cross Road						
	Ch.0.0 to Ch.20.0	Cum	1.0	20.0	6.6	0.15	19.8
	Ch.20.0 to Ch.70.0	Cum	1.0	50.0	6.3	0.15	47.48
	Ch.70.0 to Ch.120.0	Cum	1.0	50.0	6.6	0.15	49.5
	Ch.120.0 to Ch.180.0	Cum	1.0	60.0	6.6	0.15	59.4
	Road No.5-Vithoba Temple Road						
	Ch.0.00 to Ch.50.0	Cum	1.0	50.0	2.5	0.15	18.45
	Ch.50.0 to Ch.100.0	Cum	1.0	50.0	2.7	0.15	19.95
	Ch.100.00 to Ch.150.0	Cum	1.0	50.0	2.9	0.15	21.45
	Ch.150.0 to Ch.200.0	Cum	1.0	50.0	2.1	0.15	15.45
	Ch.200.0 to Ch.240.0	Cum	1.0	40.0	3.9	0.15	23.59
	Ch.240.0 to Ch.290.0	Cum	1.0	50.0	2.6	0.15	19.2
	Ch.290.0 to Ch.340.0	Cum	1.0	50.0	2.6	0.15	19.2
	Ch.340.0 to Ch.390.0	Cum	1.0	50.0	1.9	0.15	13.95
	Ch.390.0 to Ch. 440.0	Cum	1.0	50.0	2.4	0.15	17.7
	Ch.440.0 to Ch.490.0	Cum	1.0	50.0	3.0	0.15	22.73
	Road No.7-Maidan 1st Cross Road						
	Ch.0.0 to Ch.50.00	Cum	1.0	50.0	7.1	0.15	53.4
	Ch.50.00 to Ch.90.0	Cum	1.0	40.0	7.3	0.15	43.98
	Road No.8-Maidan 3rd Cross Road						
	Ch.0.0 to Ch.20.0	Cum	1.0	20.0	5.2	0.15	15.57
	Ch.20.0 to Ch.60.0	Cum	1.0	40.0	6.1	0.15	36.59
	Ch.60.0 to Ch.120.0	Cum	1.0	60.0	7.3	0.15	65.97
	Ch.120.0 to Ch.186.0	Cum	1.0	66.0	7.3	0.15	72.57
	Road No.10-Bibi Alabi-Kandak Road						
	Ch.0.0 to Ch.10.00	Cum	1.0	10.0	3.5	0.15	5.21
	Ch.10.0 to Ch.50.0	Cum	1.0	40.0	5.1	0.15	30.6
	Ch.50.0 to Ch.110.0	Cum	1.0	60.0	5.1	0.15	45.9
	Ch.110.0 to Ch.160.0	Cum	1.0	50.0	4.8	0.15	36.23
	Ch.160.0 to Ch.200.00	Cum	1.0	40.0	3.8	0.15	22.98
	Ch.200.0 to Ch.250.0	Cum	1.0	50.0	3.4	0.15	25.58
	Ch.250.0 to Ch.310.0	Cum	1.0	60.0	4.6	0.15	41.4
	Ch.310.0 to ch.350.0	Cum	1.0	40.0	5.1	0.15	30.6
	Ch.350.0 to Ch.400.00	Cum	1.0	50.0	6.0	0.15	45
	Ch.400.00 to Ch.460.0	Cum	1.0	60.0	5.1	0.15	45.9
	Road No.11-Maidan 4th Cross Road-Extn						
	Ch.0.00 to Ch.10.0	Cum	1.0	10.0	4.9	0.15	7.4
	Ch.10.0 to Ch.40.00	Cum	1.0	30.0	4.9	0.15	22.19
	Ch.40.0 to Ch.90.00	Cum	1.0	50.0	7.0	0.15	52.5
	Ch.90.0 to Ch.140.0	Cum	1.0	50.0	6.1	0.15	45.75
	Ch.140.0 to Ch195.0	Cum	1.0	55.0	5.2	0.15	42.9
	Road No.13-J.M 1st Cross Road						
	Ch.0.0 to Ch.10.0	Cum	1.0	10.0	2.2	0.15	3.24
	Ch.10.0 to Ch.50.0	Cum	1.0	40.0	2.4	0.15	14.16
	Ch.50.0 to Ch.100.00	Cum	1.0	50.0	1.7	0.15	12.45
	Ch.100.0 to Ch.170.0	Cum	1.0	70.0	3.4	0.15	36.02
	Ch.170.0 to Ch.200.0	Cum	1.0	40.0	2.5	0.15	15.18
	Ch.200.0 to Ch.238.0	Cum	1.0	38.0	2.4	0.15	13.45
	Road No.15-Mission Street Road						
	Ch.0.0 to Ch.10.0	Cum	1.0	10.0	5.3	0.15	7.95
	Ch.10.0 to Ch.60.0	Cum	1.0	50.0	7.2	0.15	54.23
	Ch.60.0 to Ch.130.0	Cum	1.0	70.0	3.1	0.15	32.11
	Ch.130.0 to Ch.160.0	Cum	1.0	30.0	2.6	0.15	11.51

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.160.0 to Ch.200.0	Cum	1.0	40.0	3.0	0.15	18.18
	Patch Work For CC Road						
	Road No.1-GHS Road						
	RHS						
	Ch.275.0 to Ch.288.0	Cum	1.0	13.0	0.6	0.15	1.18
	Road No.4-G.H.S. Cross Road						
	LHS						
	Ch.15.0 to Ch.68.0	Cum	1.0	53.0	1.8	0.15	14.18
	RHS						
	Ch.30.0 to Ch.68.0	Cum	1.0	53.0	0.2	0.15	1.83
		Cum				Total	4633.95
21	KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to exceed 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,laid with a paver with electronic sensor,compacting with 8-10 tonnes double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (SI No : 22.1.1 of KPWD 18-19)						
	Pavement						
	Road No.1-GHS Road						
	Ch.0 to Ch.10.00	Cum	1	10	5.7	0.10	5.70
	Ch.10.0 to Ch.60.00	Cum	1	50	5.7	0.10	28.50
	Ch.60.00 to Ch.110.00	Cum	1	50	5.7	0.10	28.50
	Ch.110.0 to Ch.160.00	Cum	1	50	5.7	0.10	28.50
	Road No.2-P.M.Rao Road						
	Ch.0.0 to Ch.50.0	Cum	1	50	7.165	0.10	35.83
	Ch.50.0 to Ch.100.00	Cum	1	50	7.33	0.10	36.65
	Ch.100.0 to Ch.145.0.0	Cum	1	45	7.165	0.10	32.24
	Road No.3-Sharavu Temple Road						
	Ch.0.0 to Ch.30.0	Cum	1	30	6.22	0.10	18.66
	Ch.30.0 to Ch.80.0	Cum	1	50	6.2	0.10	31.00
	Ch.80.0 to Ch.130.0	Cum	1	50	6.365	0.10	31.83
	Ch.130.0 to Ch.185.0	Cum	1	55	4.55	0.10	25.03
	Road No.4-G.H.S. Cross Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	6.6	0.10	13.20
	Ch.20.0 to Ch.70.0	Cum	1	50	6.33	0.10	31.65
	Ch.70.0 to Ch.120.0	Cum	1	50	6.6	0.10	33.00
	Ch.120.0 to Ch.180.0	Cum	1	60	6.6	0.10	39.60
	Road No.5-Vithoba Temple Road						
	Ch.0.00 to Ch.50.0	Cum	1	50	2.46	0.10	12.30
	Ch.50.0 to Ch.100.0	Cum	1	50	2.66	0.10	13.30
	Ch.100.00 to Ch.150.0	Cum	1	50	2.86	0.10	14.30
	Ch.150.0 to Ch.200.0	Cum	1	50	2.06	0.10	10.30
	Ch.200.0 to Ch.240.0	Cum	1	40	3.931	0.10	15.72
	Ch.240.0 to Ch.290.0	Cum	1	50	2.56	0.10	12.80
	Ch.290.0 to Ch.340.0	Cum	1	50	2.56	0.10	12.80
	Ch.340.0 to Ch.390.0	Cum	1	50	1.86	0.10	9.30
	Ch.390.0 to Ch. 440.0	Cum	1	50	2.36	0.10	11.80
	Ch.440.0 to Ch.490.0	Cum	1	50	3.031	0.10	15.16
	Road No.7-Maidan 1st Cross Road						
	Ch.0.0 to Ch.50.00	Cum	1	50	7.12	0.10	35.60
	Ch.50.00 to Ch.90.0	Cum	1	40	7.33	0.10	29.32
	Road No.8-Maidan 3rd Cross Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	5.191	0.10	10.38
	Ch.20.0 to Ch.60.0	Cum	1	40	6.099	0.10	24.40
	Ch.60.0 to Ch.120.0	Cum	1	60	7.33	0.10	43.98
	Ch.120.0 to Ch.186.0	Cum	1	66	7.33	0.10	48.38
	Road No.10-Bibi Alabi-Kandak Road						
	Ch.0.0 to Ch.10.00	Cum	1	10	3.47	0.10	3.47
	Ch.10.0 to Ch.50.0	Cum	1	40	5.1	0.10	20.40
	Ch.50.0 to Ch.110.0	Cum	1	60	5.1	0.10	30.60
	Ch.110.0 to Ch.160.0	Cum	1	50	4.83	0.10	24.15
	Ch.160.0 to Ch.200.00	Cum	1	40	3.83	0.10	15.32
	Ch.200.0 to Ch.250.0	Cum	1	50	3.41	0.10	17.05
	Ch.250.0 to Ch.310.0	Cum	1	60	4.6	0.10	27.60
	Ch.310.0 to ch.350.0	Cum	1	40	5.1	0.10	20.40
	Ch.350.0 to Ch.400.00	Cum	1	50	6	0.10	30.00
	Ch.400.00 to Ch.460.0	Cum	1	60	5.1	0.10	30.60
	Road No.11-Maidan 4th Cross Road-Extn						
	Ch.0.00 to Ch.10.0	Cum	1	10	4.93	0.10	4.93

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.10.0 to Ch.40.00	Cum	1	30	4.93	0.10	14.79
	Ch.40.0 to Ch.90.00	Cum	1	50	7	0.10	35.00
	Ch.90.0 to Ch.140.0	Cum	1	50	6.1	0.10	30.50
	Ch.140.0 to Ch.195.0	Cum	1	55	5.2	0.10	28.60
	Road No.13-J.M 1st Cross Road						
	Ch.0.0 to Ch.10.0	Cum	1	10	2.16	0.10	2.16
	Ch.10.0 to Ch.50.0	Cum	1	40	2.36	0.10	9.44
	Ch.50.0 to Ch.100.00	Cum	1	50	1.66	0.10	8.30
	Ch.100.0 to Ch.170.0	Cum	1	70	3.43	0.10	24.01
	Ch.170.0 to Ch.200.0	Cum	1	40	2.53	0.10	10.12
	Ch.200.0 to Ch.238.0	Cum	1	38	2.36	0.10	8.97
	Road No.15-Mission Street Road						
	Ch.0.0 to Ch.10.0	Cum	1	10	5.3	0.10	5.30
	Ch.10.0 to Ch.60.0	Cum	1	50	7.23	0.10	36.15
	Ch.60.0 to Ch.130.0	Cum	1	70	3.058	0.10	21.41
	Ch.130.0 to Ch.160.0	Cum	1	30	2.558	0.10	7.67
	Ch.160.0 to Ch.200.0	Cum	1	40	3.03	0.10	12.12
	Patch Work For CC Road						
	Road No.1-GHS Road						
	RHS						
	Ch.275.0 to Ch.288.0	Cum	1	13	0.60	0.10	0.79
	Road No.4-G.H.S. Cross Road						
	LHS						
	Ch.15.0 to Ch.68.0	Cum	1	53	1.78	0.10	9.45
	RHS						
	Ch.30.0 to Ch.68.0	Cum	1	53	0.23	0.10	1.22
		Cum		Total Qty.			1230.23
22	KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,Manually laid and compacting with palte compactor,finishing and curing complete as per MORTH specifications Clause 601. (RA attached)						
	Flush Footpath with Carriageway						
	Road No.1-GHS Road						
	RHS						
	Level Footpath-Ch.270.00 to Ch.288.00	Cum	1	18	0.21	0.1	0.38
	LHS						
	Level Footpath-Ch.260.0 to Ch.268.00	Cum	1	8	0.4	0.1	0.32
	Parking-Ch.180.0 to Ch.260.0	Cum	1	82	2.5	0.1	20.5
	Parking-Ch.320.0 to Ch.350.0	Cum	1	30	2.5	0.1	7.5
	Road No.2-P.M.Rao Road						
	Parking-LHS-Ch.10.00 to Ch.50.00	Cum	1	36.2	2.5	0.1	9.05
	Parking-RHS-Ch.50.00 to Ch.75.00	Cum	1	29	2.5	0.1	7.25
	Road No.3-Sharavu Temple Road						
	RHS						
	Level Footpath-Ch.165.00 to Ch.185.0	Cum	1	20	0.73	0.1	1.46
	Parking-Ch.15.00 to Ch.33.0	Cum	1	18	2.5	0.1	4.5
	Parking-Ch.68.00 to Ch.82.0	Cum	1	16.4	2.5	0.1	4.1
	LHS						
	Level Footpath-Ch.140.00 to Ch.180.0	Cum	1	40	1.18	0.1	4.72
	Parking-Ch.15.0 to Ch.42.0	Cum	1	30	2.5	0.1	7.5
	Parking-Ch.65.0 to Ch.85.0	Cum	1	20	2.5	0.1	5
	Road No.4-G.H.S. Cross Road						
	RHS						
	Ch.35.00 to Ch.50.0	Cum	1	15	1.27	0.1	1.91
	LHS						
	Ch.65.0 to Ch.90.0	Cum	1	40	1.1	0.1	4.4
	Road No.5-Vithoba Temple Road						
	LHS						
	Ch.15.0 to Ch.212.0	Cum	1	197	1.41	0.1	27.78
	Ch.215.0 to Ch.485.0	Cum	1	270	1.44	0.1	38.88
	RHS						
	Ch.15.0 to Ch.485.0	Cum	1	470	1.61	0.1	75.67
	Road No.8-Maidan 3rd Cross Road						
	Parking	Cum	1	30.6	2.5	0.1	7.65
	Road No.9-Bibi Alabi Road						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	LHS						
	Level Footpath-Ch.0.0 to Ch.38.0	Cum	1	40	1.58	0.1	6.32
	Level Footpath-Ch.138.0 to Ch.218.0	Cum	1	80	1.5	0.1	12
	Level Footpath-Ch.248.0 to Ch.260.0	Cum	1	12	1.54	0.1	1.85
	Level Footpath-Ch.288.0 to Ch.308.0	Cum	1	20	1.29	0.1	2.58
	Parking-Ch.55.00 to Ch. 130.0	Cum	1	75	2.5	0.1	18.75
	Parking-Ch.140.0 to Ch.150.0	Cum	1	10.5	2.5	0.1	2.63
	RHS						
	Level Footpath-Ch.5.00to Ch.40.0	Cum	1	35	1.35	0.1	4.73
	Level Footpath-Ch.160.00 to Ch.210.0	Cum	1	50	1.21	0.1	6.05
	Level Footpath-Ch.240.0 to Ch.320.0	Cum	1	80	1.28	0.1	10.24
	Level Footpath-Ch.400.0 to Ch.430.0	Cum	1	30	1.11	0.1	3.33
	Level Footpath-Ch.455.0 to Ch.465.0	Cum	1	10	2.42	0.1	2.42
	Road No.10-Bibi Alabi-Kandak Road						
	RHS						
	Ch.12.0 to Ch.38.0	Cum	1	26	0.41	0.1	1.07
	LHS						
	Ch.168.0 to Ch.188.0	Cum	1	20	0.46	0.1	0.92
	Ch.240.0 to Ch.260.0	Cum	1	20	0.31	0.1	0.62
	Ch.270.0 to Ch.300.0	Cum	1	30	0.52	0.1	1.56
	Ch.300.00 to Ch.320.0	Cum	1	20	0.73	0.1	1.46
	Ch.400.0 to Ch.425.0	Cum	1	25	1.11	0.1	2.78
	Road No.11-Maidan 4th Cross Road-Extn						
	LHS						
	Ch.90.0 to Ch.180.0	Cum	1	90	0.8	0.1	7.2
	Ch.30.0 to Ch.50.0	Cum	1	20	1.07	0.1	2.14
	RHS						
	Ch.70.0 to Ch.80.0	Cum	1	10	0.23	0.1	0.23
	Ch.115.0 to Ch.185.0	Cum	1	70	1.31	0.1	9.17
	Parking-LHS	Cum	1	46.8	2.5	0.1	11.7
	Parking-RHS	Cum	1	60	2.5	0.1	15
	Parking-RHS	Cum	1	53.2	2.5	0.1	13.3
	Road No.13-J.M 1st Cross Road						
	LHS						
	Ch.0.0 to Ch.90.0	Cum	1	90	1.1	0.1	9.9
	Ch.95.0 to Ch.130.0	Cum	1	40	0.56	0.1	2.24
	Ch.200.0 to Ch.220.0	Cum	1	20	0.24	0.1	0.48
	Ch.230.0 to Ch.235.0	Cum	1	5	4.37	0.1	2.19
	RHS						
	Ch.0.0 to Ch.130.0	Cum	1	130	1	0.1	13
	Ch.200.0 to Ch.240.0	Cum	1	40	0.5	0.1	2
	Road No.15-Mission Street Road						
	LHS						
	Ch.20.0 to Ch.90.0	Cum	1	70	1.52	0.1	10.64
	Ch.120.0 to Ch.190.0	Cum	1	70	1.08	0.1	7.56
	RHS						
	Ch.130.0 to Ch.180.0	Cum	1	50	1.05	0.1	5.25
	Road No.9-Bibi Alabi Road						
	Median	Cum	1	355	1.1	0.10	39.05
	Two Wheeler Parking						
	Road No.2-PM Rao Road						
	LHS						
	Ch.55.0 to Ch.135.0	Sqm	1	80	1.4	0.10	11.2
	RHS						
	Ch.7.00 to Ch.42.00	Sqm	1	36.9	1.4	0.10	5.17
	Ch.109.0 to Ch.132.0	Sqm	1	24.6	1.4	0.10	3.44
	Road No.3 Sharavu Temple Road						
	RHS						
	Ch.42.0 to Ch.62.0	Sqm	1	17.5	1.4	0.10	2.45
	LHS						
	Ch.111.0 to Ch. 125.0	Sqm	1	13.5	1.4	0.10	1.89
	Road No.4 GHS Cross Road						
	RHS						
	Ch.80.0 to Ch.94.0	Sqm	1	13.4	1.4	0.10	1.88
	Ch.117.0 to Ch.154	Sqm	1	36.8	1.4	0.10	5.15
	LHS						
	Ch.22.0 to Ch.40.0	Sqm	1	17	1.4	0.10	2.38
	Ch.112.0 to Ch.40.0	Sqm	1	17.3	1.4	0.10	2.42
	Ch.134.0 to Ch.159.0	Sqm	1	25.5	1.4	0.10	3.57
	Road No.8-Maidan 3rd Cross Road						
	RHS						
	Ch.155.0 to Ch.170.0	Sqm	1	15.8	1.4	0.10	2.21
	LHS						
	Ch.120.0 to Ch.173.0	Sqm	1	52.2	1.4	0.10	7.31
	Road No.9-Bibi Alabi Road						
	Ch.277.0 to Ch.288.0	Sqm	1	12.5	1.4	0.10	1.75
						Total	509.75

Sr. No.	Description	Unit	No's	L	B	H	Qty.
23	Providing and laying cement concrete using 20mm and down size granite coarse aggregates and fine aggregates of ready mixed concrete for RCC works laid in 15 em thick layers and well compacted including vibrating curing etc., for all super structure works with all lead and lift etc., complete. (exclusve of cost of steel and fabrication charges) Note : The RMC should be obtained only from the plants certified by Quality Council of India as per CE, C&B letter, AE2, 2015-16, Dt. 12-09-2015 Ready mixed Cement concrete M-25 (KPWD,4.49.2)						
	Footpath						
	Road No.1-GHS Road						
	LHS						
	Ch.0.0 to Ch.95.00	Cum	1	95	2.73	0.1	25.94
	Ch.100.0 to Ch.260.00	Cum	1	160	3.23	0.1	51.68
	Ch.270.0 to Ch.370.00	Cum	1	100	2.97	0.1	29.7
	RHS						
	Ch.0.0 to Ch.140.00	Cum	1	140	2.3	0.1	32.2
	Ch.150.0 to Ch.280.0	Cum	1	130	3.18	0.1	41.34
	Ch.290.0 to Ch.390.0	Cum	1	100	3.68	0.1	36.8
	Road No.2-P.M.Rao Road						
	LHS						
	Ch.00.0 to Ch.170.0	Cum	1	170	2.83	0.1	48.11
	RHS						
	Ch.00.0 to Ch.170.0	Cum	1	170	3.76	0.1	63.92
	Road No.3-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.170.0	Cum	1	170	2.82	0.1	47.94
	RHS						
	Ch.0.0 to Ch.50.0	Cum	1	50	4.23	0.1	21.15
	Ch.55.0 to Ch.90.0	Cum	1	35	2.84	0.1	9.94
	Ch.100.0 to Ch.142.0	Cum	1	42	3.55	0.1	14.91
	Road No.4-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.50.0	Cum	1	50	3.55	0.1	17.75
	Ch.90.0 to Ch.185.00	Cum	1	95	2.68	0.1	25.46
	RHS						
	Ch.0.0 to Ch.35.0	Cum	1	35	1.9	0.1	6.65
	Ch.50.0 to Ch.180.0	Cum	1	130	2.34	0.1	30.42
	Road No.7-Maidan 1st Cross Road						
	LHS						
	Ch.0.0 to Ch.92.00	Cum	1	92	3.45	0.1	31.74
	RHS						
	At Ch.0.00	Cum	1	20	2.61	0.1	5.22
	Ch.0.0 to Ch.92.00	Cum	1	92	2.7	0.1	24.84
	Road No.8-Maidan 3rd Cross Road						
	LHS						
	Ch.20.0 to Ch.180.0	Cum	1	160	2.8	0.1	44.8
	RHS						
	Ch.0.0 to Ch.180.0	Cum	1	180	3.11	0.1	55.98
	Road No.9 Bibi Alabi Road						
	LHS						
	Ch.0.0 to Ch.200.00	Cum	1	200	5.38	0.1	107.6
	Ch.210.00 to Ch.320.00	Cum	1	110	5.61	0.1	61.71
	Ch.330.0 to Ch.430.00	Cum	1	100	6.75	0.1	67.5
	RHS						
	Ch.30.00 to Ch.160.00	Cum	1	130	4.48	0.1	58.24
	Ch.170.00 to Ch.340.00	Cum	1	170	4.75	0.1	80.75
	Ch.345.00 to Ch.430.00	Cum	1	85	4.41	0.1	37.49
	Road No.10-Bibi Alabi - Kandak Road						
	LHS						
	Ch.0.0 to Ch.145.0	Cum	1	145	1.49	0.1	21.61
	Ch.55.00 to Ch.165.0	Cum	1	110	0.15	0.1	1.65
	Ch.185.00 to Ch.230.0	Cum	1	45	1.58	0.1	7.11
	Ch.320.00 to Ch.405.00	Cum	1	85	3.87	0.1	32.9
	Ch.425.00 to Ch.460.0	Cum	1	35	3.54	0.1	12.39
	RHS						
	Ch.40.0 to Ch.260.0	Cum	1	220	1.5	0.1	33
	Ch.270.0 to Ch.290.0	Cum	1	20	3.45	0.1	6.9
	Ch.305.0 to Ch.460.0	Cum	1	155	3.11	0.1	48.21
	Road No.11-Maidan 4th Cross Road-Extn.						
	LHS						
	Ch.25.0 to Ch.200.00	Cum	1	175	3.11	0.1	54.43
	RHS						
	Ch.0.0 to Ch.200.00	Cum	1	175	3.18	0.1	55.65
	Road No.13-J.M.1st Cross Road						
	LHS						
	Ch.160.0 to Ch.170.0	Cum	1	10	1.91	0.1	1.91
	Ch.175.0 to Ch.200.0	Cum	1	25	2.51	0.1	6.28

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.218.0 to Ch.227	Cum	1	9	1.31	0.1	1.18
	RHS						
	Ch.160.0 to Ch.190.0	Cum	1	30	2.27	0.1	6.81
	Road No.15-Mission Street Road Extn.						
	LHS						
	Ch.0.0 to Ch.20.00	Cum	1	20	1.1	0.1	2.2
	RHS						
	Ch.20.0 to Ch.90.0	Cum	1	70	1.8	0.1	12.6
	Ch.180.0 to Ch.200	Cum	1	20	1.85	0.1	3.7
	Road No.1/18-Old Port Road						
	LHS						
	Ch.0.0 to Ch.50.00	Cum	1	50	2.62	0.1	13.1
	Ch.60.0 to Ch.125.00	Cum	1	65	2.35	0.1	15.28
	Ch.135.0 to Ch.330.00	Cum	1	195	2.55	0.1	49.73
	Ch.340.0 to Ch.435.00	Cum	1	95	4.11	0.1	39.05
	RHS						
	Ch.0.0 to Ch.50.00	Cum	1	50	3	0.1	15
	Ch.55.0 to Ch.130.0	Cum	1	75	2	0.1	15
	Ch.135.0 to Ch.220.0	Cum	1	85	4.17	0.1	35.45
	Ch.230.0 to Ch.440.0	Cum	1	210	3.27	0.1	68.67
						Total	1639.59
24	KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplasticizer at 3 lts confirming to IS9103-1999 reaffirmed 2008(Coarse and fine aggregate conforming to IS:383) mixed in a batching and mixing plant as per approved mix design,transported to site,laid with a fixed form paver spread,compacted and finished in a continuous operation including provision of contraction, expansio, construction and longitudinal joints,incluing groove cutting chrges, joints filler,separation memberane, sealent primer, joints sealant, debonding strip, dowel bars, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per MORTH specifications Clause 602.with M40 @420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (SI No : 22.2.2 of KPWD 18-19)						
	Pavement						
	Road No.1-GHS Road						
	Ch.0 to Ch.10.00	Cum	1	10	5.70	0.25	14.25
	Ch.10.0 to Ch.60.00	Cum	1	50	5.7	0.25	71.25
	Ch.60.00 to Ch.110.00	Cum	1	50	5.7	0.25	71.25
	Ch.110.0 to Ch.160.00	Cum	1	50	5.7	0.25	71.25
	Road No.2-P.M.Rao Road						
	Ch.0.0 to Ch.50.0	Cum	1	50	7.17	0.25	89.56
	Ch.50.0 to Ch.100.00	Cum	1	50	7.33	0.25	91.63
	Ch.100.0 to Ch.145.0.0	Cum	1	45	7.17	0.25	80.61
	Road No.3-Sharavu Temple Road						
	Ch.0.0 to Ch.30.0	Cum	1	30	6.22	0.25	46.65
	Ch.30.0 to Ch.80.0	Cum	1	50	6.20	0.25	77.50
	Ch.80.0 to Ch.130.0	Cum	1	50	6.37	0.25	79.56
	Ch.130.0 to Ch.185.0	Cum	1	55	4.55	0.25	62.56
	Road No.4-G.H.S. Cross Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	6.60	0.25	33.00
	Ch.20.0 to Ch.70.0	Cum	1	50	6.33	0.25	79.13
	Ch.70.0 to Ch.120.0	Cum	1	50	6.60	0.25	82.50
	Ch.120.0 to Ch.180.0	Cum	1	60	6.60	0.25	99.00
	Road No.5-Vithoba Temple Road						
	Ch.0.00 to Ch.50.0	Cum	1	50	2.46	0.25	30.75
	Ch.50.0 to Ch.100.0	Cum	1	50	2.66	0.25	33.25
	Ch.100.00 to Ch.150.0	Cum	1	50	2.86	0.25	35.75
	Ch.150.0 to Ch.200.0	Cum	1	50	2.06	0.25	25.75
	Ch.200.0 to Ch.240.0	Cum	1	40	3.93	0.25	39.31
	Ch.240.0 to Ch.290.0	Cum	1	50	2.56	0.25	32.00
	Ch.290.0 to Ch.340.0	Cum	1	50	2.56	0.25	32.00
	Ch.340.0 to Ch.390.0	Cum	1	50	1.86	0.25	23.25
	Ch.390.0 to Ch. 440.0	Cum	1	50	2.36	0.25	29.50
	Ch.440.0 to Ch.490.0	Cum	1	50	3.03	0.25	37.89
	Road No.7-Maidan 1st Cross Road						
	Ch.0.0 to Ch.50.00	Cum	1	50	7.12	0.25	89.00
	Ch.50.00 to Ch.90.0	Cum	1	40	7.33	0.25	73.30
	Road No.8-Maidan 3rd Cross Road						
	Ch.0.0 to Ch.20.0	Cum	1	20	5.19	0.25	25.96
	Ch.20.0 to Ch.60.0	Cum	1	40	6.10	0.25	60.99
	Ch.60.0 to Ch.120.0	Cum	1	60	7.33	0.25	109.95
	Ch.120.0 to Ch.186.0	Cum	1	66	7.33	0.25	120.95
	Road No.10-Bibi Alabi-Kandak Road						
	Ch.0.0 to Ch.10.00	Cum	1	10	3.47	0.25	8.68
	Ch.10.0 to Ch.50.0	Cum	1	40	5.10	0.25	51.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.50.0 to Ch.110.0	Cum	1	60	5.10	0.25	76.50
	Ch.110.0 to Ch.160.0	Cum	1	50	4.83	0.25	60.38
	Ch.160.0 to Ch.200.00	Cum	1	40	3.83	0.25	38.30
	Ch.200.0 to Ch.250.0	Cum	1	50	3.41	0.25	42.63
	Ch.250.0 to Ch.310.0	Cum	1	60	4.60	0.25	69.00
	Ch.310.0 to ch.350.0	Cum	1	40	5.10	0.25	51.00
	Ch.350.0 to Ch.400.00	Cum	1	50	6.00	0.25	75.00
	Ch.400.00 to Ch.460.0	Cum	1	60	5.10	0.25	76.50
	Road No.11-Maidan 4th Cross Road-Extn						
	Ch.0.00 to Ch.10.0	Cum	1	10	4.93	0.25	12.33
	Ch.10.0 to Ch.40.00	Cum	1	30	4.93	0.25	36.98
	Ch.40.0 to Ch.90.00	Cum	1	50	7.00	0.25	87.50
	Ch.90.0 to Ch.140.0	Cum	1	50	6.10	0.25	76.25
	Ch.140.0 to Ch195.0	Cum	1	55	5.20	0.25	71.50
	Road No.13-J.M 1st Cross Road						
	Ch.0.0 to Ch.10.0	Cum	1	10	2.16	0.25	5.40
	Ch.10.0 to Ch.50.0	Cum	1	40	2.36	0.25	23.60
	Ch.50.0 to Ch.100.00	Cum	1	50	1.66	0.25	20.75
	Ch.100.0 to Ch.170.0	Cum	1	70	3.43	0.25	60.03
	Ch.170.0 to Ch.200.0	Cum	1	40	2.53	0.25	25.30
	Ch.200.0 to Ch.238.0	Cum	1	38	2.36	0.25	22.42
	Road No.15-Mission Street Road						
	Ch.0.0 to Ch.10.0	Cum	1	10	5.30	0.25	13.25
	Ch.10.0 to Ch.60.0	Cum	1	50	7.23	0.25	90.38
	Ch.60.0 to Ch.130.0	Cum	1	70	3.06	0.25	53.52
	Ch.130.0 to Ch.160.0	Cum	1	30	2.56	0.25	19.19
	Ch.160.0 to Ch.200.0	Cum	1	40	3.03	0.25	30.30
	Patch Work For CC Road						
	Road No.1-GHS Road						
	RHS						
	Ch.275.0 to Ch.288.0	Cum	1	13	0.60	0.25	1.96
	Road No.4-G.H.S. Cross Road						
	LHS						
	Ch.15.0 to Ch.68.0	Cum	1	53	1.78	0.25	23.64
	RHS						
	Ch.30.0 to Ch.68.0	Cum	1	53	0.23	0.25	3.05
	Road No.9-Bibi Alabi Road						
	Median	Cum	1	355	1.10	0.25	97.63
		Cum				Total	3173.19
25	Providing and placing joint sealant compound of cold polysulphide in the grooves after widening the groove to required width, sand blasting the groove face if recommended by the sealant manufacturer, cleaning the groove with air compressor, insertion of debonding strip, priming the sides of the sealant if the sealant manufacturer recommends and pouring the sealant all complete including material, manpower and as shown on drawing and as per MORTH specifications clause 602. (Non SOR Item)						
	Pavement						
	Road No.1-GHS Road						
	Ch.0 to Ch.10.00	Cum	1	3	5.70		17.10
	Ch.10.0 to Ch.60.00	Cum	1	14	5.70		79.80
	Ch.60.00 to Ch.110.00	Cum	1	14	5.70		79.80
	Ch.110.0 to Ch.160.00	Cum	1	14	5.70		79.80
	Road No.2-P.M.Rao Road						
	Ch.0.0 to Ch.50.0	Cum	1	14	7.17		100.31
	Ch.50.0 to Ch.100.00	Cum	1	14	7.33		102.62
	Ch.100.0 to Ch.145.0.0	Cum	1	13	7.17		93.15
	Road No.3-Sharavu Temple Road						
	Ch.0.0 to Ch.30.0	Cum	1	9	6.22		55.98
	Ch.30.0 to Ch.80.0	Cum	1	14	6.20		86.80
	Ch.80.0 to Ch.130.0	Cum	1	14	6.37		89.11
	Ch.130.0 to Ch.185.0	Cum	1	16	4.55		72.80
	Road No.4-G.H.S. Cross Road						
	Ch.0.0 to Ch.20.0	Cum	1	6	6.60		39.60
	Ch.20.0 to Ch.70.0	Cum	1	14	6.33		88.62
	Ch.70.0 to Ch.120.0	Cum	1	14	6.60		92.40
	Ch.120.0 to Ch.180.0	Cum	1	17	6.60		112.20
	Road No.5-Vithoba Temple Road						
	Ch.0.00 to Ch.50.0	Cum	1	14	2.46		34.44
	Ch.50.0 to Ch.100.0	Cum	1	14	2.66		37.24
	Ch.100.00 to Ch.150.0	Cum	1	14	2.86		40.04
	Ch.150.0 to Ch.200.0	Cum	1	14	2.06		28.84
	Ch.200.0 to Ch.240.0	Cum	1	11	3.93		43.24
	Ch.240.0 to Ch.290.0	Cum	1	14	2.56		35.84
	Ch.290.0 to Ch.340.0	Cum	1	14	2.56		35.84
	Ch.340.0 to Ch.390.0	Cum	1	14	1.86		26.04
	Ch.390.0 to Ch. 440.0	Cum	1	14	2.36		33.04

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.440.0 to Ch.490.0	Cum	1	14	3.03		42.43
	Road No.7-Maidan 1st Cross Road						
	Ch.0.0 to Ch.50.00	Cum	1	14	7.12		99.68
	Ch.50.00 to Ch.90.0	Cum	1	11	7.33		80.63
	Road No.8-Maidan 3rd Cross Road						
	Ch.0.0 to Ch.20.0	Cum	1	6	5.19		31.15
	Ch.20.0 to Ch.60.0	Cum	1	11	6.10		67.09
	Ch.60.0 to Ch.120.0	Cum	1	17	7.33		124.61
	Ch.120.0 to Ch.186.0	Cum	1	19	7.33		139.27
	Road No.10-Bibi Alabi-Kandak Road						
	Ch.0.0 to Ch.10.00	Cum	1	3	3.47		10.41
	Ch.10.0 to Ch.50.0	Cum	1	11	5.10		56.10
	Ch.50.0 to Ch.110.0	Cum	1	17	5.10		86.70
	Ch.110.0 to Ch.160.0	Cum	1	14	4.83		67.62
	Ch.160.0 to Ch.200.00	Cum	1	11	3.83		42.13
	Ch.200.0 to Ch.250.0	Cum	1	14	3.41		47.74
	Ch.250.0 to Ch.310.0	Cum	1	17	4.60		78.20
	Ch.310.0 to ch.350.0	Cum	1	11	5.10		56.10
	Ch.350.0 to Ch.400.00	Cum	1	14	6.00		84.00
	Ch.400.00 to Ch.460.0	Cum	1	17	5.10		86.70
	Road No.11-Maidan 4th Cross Road-Extn						
	Ch.0.00 to Ch.10.0	Cum	1	3	4.93		14.79
	Ch.10.0 to Ch.40.00	Cum	1	9	4.93		44.37
	Ch.40.0 to Ch.90.00	Cum	1	14	7.00		98.00
	Ch.90.0 to Ch.140.0	Cum	1	14	6.10		85.40
	Ch.140.0 to Ch.195.0	Cum	1	16	5.20		83.20
	Road No.13-J.M 1st Cross Road						
	Ch.0.0 to Ch.10.0	Cum	1	3	2.16		6.48
	Ch.10.0 to Ch.50.0	Cum	1	11	2.36		25.96
	Ch.50.0 to Ch.100.00	Cum	1	14	1.66		23.24
	Ch.100.0 to Ch.170.0	Cum	1	20	3.43		68.60
	Ch.170.0 to Ch.200.0	Cum	1	11	2.53		27.83
	Ch.200.0 to Ch.238.0	Cum	1	11	2.36		25.96
	Road No.15-Mission Street Road						
	Ch.0.0 to Ch.10.0	Cum	1	3	5.30		15.90
	Ch.10.0 to Ch.60.0	Cum	1	14	7.23		101.22
	Ch.60.0 to Ch.130.0	Cum	1	20	3.06		61.16
	Ch.130.0 to Ch.160.0	Cum	1	9	2.56		23.02
	Ch.160.0 to Ch.200.0	Cum	1	11	3.03		33.33
	Patch Work For CC Road						
	Road No.1-GHS Road						
	RHS						
	Ch.275.0 to Ch.288.0	Cum	1	4	0.60		2.42
	Road No.4-G.H.S. Cross Road						
	LHS						
	Ch.15.0 to Ch.68.0	Cum	1	15	1.78		26.76
	RHS						
	Ch.30.0 to Ch.68.0	Cum	1	15	0.23		3.45
					Total Qty.		3476.29
		Rmt			Consider 10% Qty of Total		347.63
26	KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 Repairs of spalled joints grooves of contraction joints longitudinal joints and expansion joints in concrete pavement using epoxy mortar concrete complete as per specifications.Morth specification No.3005.1 (SI No : 35.8 of KPWD 18-19)						
	Consider Same Qty of Joint Filling@20% of Joint Filler Main Qty.	Rmt				Total Qty.	695.26
27	Providing and laying at or near ground level factory made Median kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per drawing. (Precast C.C. kerb stone shall be approved by Engineer-in-charge). (RA Attached)						
	Consider Provisional Qty.	Rmt	20			Sub Total	20.00
		Rmt					
		No's			Total Qty.		50
	Vol of one kerb stone=0.102cum,Total vol of kerb=	Cum					5
28	Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC M20 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (SI No : 5.3 of KPWD 18-19)						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Footpath						
	Road No.1-GHS Road						
	LHS						
	Ch.0.0 to Ch.95.00	Rm	1	95			95
	Ch.100.0 to Ch.260.00	Rm	1	160			160
	Ch.270.0 to Ch.370.00	Rm	1	100			100
	RHS						
	Ch.0.0 to Ch.140.00	Rm	1	140			140
	Ch.150.0 to Ch.280.0	Rm	1	130			130
	Ch.290.0 to Ch.390.0	Rm	1	100			100
	Road No.2-P.M.Rao Road						
	LHS						
	Ch.00.0 to Ch.170.0	Rm	1	170			170
	RHS						
	Ch.00.0 to Ch.170.0	Rm	1	170			170
	Road No.3-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.170.0	Rm	1	170			170
	RHS						
	Ch.0.0 to Ch.50.0	Rm	1	50			50
	Ch.55.0 to Ch.90.0	Rm	1	35			35
	Ch.100.0 to Ch.142.0	Rm	1	42			42
	Road No.4-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.50.0	Rm	1	50			50
	Ch.90.0 to Ch.185.00	Rm	1	95			95
	RHS						
	Ch.0.0 to Ch.35.0	Rm	1	35			35
	Ch.50.0 to Ch.180.0	Rm	1	130			130
	Road No.7-Maidan 1st Cross Road						
	LHS						
	Ch.0.0 to Ch.92.00	Rm	1	92			92
	RHS						
	At Ch.0.00	Rm	1	20			20
	Ch.0.0 to Ch.92.00	Rm	1	92			92
	Road No.8-Maidan 3rd Cross Road						
	LHS						
	Ch.20.0 to Ch.180.0	Rm	1	160			160
	RHS						
	Ch.0.0 to Ch.180.0	Rm	1	180			180
	Road No.9 Bibi Alabi Road						
	LHS						
	Ch.0.0 to Ch.200.00	Rm	1	200			200
	Ch.210.00 to Ch.320.00	Rm	1	110			110
	Ch.330.0 to Ch.430.00	Rm	1	100			100
	RHS						
	Ch.30.00 to Ch.160.00	Rm	1	130			130
	Ch.170.00 to Ch.340.00	Rm	1	170			170
	Ch.345.00 to Ch.430.00	Rm	1	85			85
	Road No.10-Bibi Alabi - Kandak Road						
	LHS						
	Ch.0.0 to Ch.145.0	Rm	1	145			145
	Ch.55.00 to Ch.165.0	Rm	1	110			110
	Ch.185.00 to Ch.230.0	Rm	1	45			45
	Ch.320.00 to Ch.405.00	Rm	1	85			85
	Ch.425.00 to Ch.460.0	Rm	1	35			35
	RHS						
	Ch.40.0 to Ch.260.0	Rm	1	220			220
	Ch.270.0 to Ch.290.0	Rm	1	20			20
	Ch.305.0 to Ch.460.0	Rm	1	155			155
	Road No.11-Maidan 4th Cross Road-Extn.						
	LHS						
	Ch.25.0 to Ch.200.00	Rm	1	175			175
	RHS						
	Ch.0.0 to Ch.200.00	Rm	1	175			175
	Road No.13-J.M.1st Cross Road						
	LHS						
	Ch.160.0 to Ch.170.0	Rm	1	10			10
	Ch.175.0 to Ch.200.0	Rm	1	25			25
	Ch.218.0 to Ch.227	Rm	1	9			9
	RHS						
	Ch.160.0 to Ch.190.0	Rm	1	30			30
	Road No.15-Mission Street Road Extn.						
	LHS						
	Ch.0.0 to Ch.20.00	Rm	1	20			20
	RHS						
	Ch.20.0 to Ch.90.0	Rm	1	70			70
	Ch.180.0 to Ch.200	Rm	1	20			20

Sr. No.	Description	Unit	No's	L	B	H	Qty.
						Total=	4360.00
	Deduct Resuse Kerb Stone Qty.	Rm	-1	1512.75			-1512.75
							2847.25
	C= A+B/0.45m(length of one Kerb Stone)	Nos				Total(C)	6327.00
	Dicontinuos Kerb at Level Footpath(D)	Cum	1	2818.7	0.15	0.35	147.98
	Vol of 1 Kerb=0.028 cum, Total Vol.C*0.028+(D)=	Cum					325.14
29	Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC M20 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (SI No : 5.3 of KPWD 18-19)						
	Raised Footpath						
	Road No.1-GHS Road						
	LHS						
	Ch.0.0 to Ch.95.00	Rm	1	95			95
	Ch.100.0 to Ch.260.00	Rm	1	160			160
	Ch.270.0 to Ch.370.00	Rm	1	100			100
	RHS						
	Ch.0.0 to Ch.140.00	Rm	1	140			140
	Ch.150.0 to Ch.280.0	Rm	1	130			130
	Ch.290.0 to Ch.390.0	Rm	1	100			100
	Road No.2-P.M.Rao Road						
	LHS						
	Ch.00.0 to Ch.170.0	Rm	1	170			170
	RHS						
	Ch.00.0 to Ch.170.0	Rm	1	170			170
	Road No.3-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.170.0	Rm	1	170			170
	RHS						
	Ch.0.0 to Ch.50.0	Rm	1	50			50
	Ch.55.0 to Ch.90.0	Rm	1	35			35
	Ch.100.0 to Ch.142.0	Rm	1	42			42
	Road No.4-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.50.0	Rm	1	50			50
	Ch.90.0 to Ch.185.00	Rm	1	95			95
	RHS						
	Ch.0.0 to Ch.35.0	Rm	1	35			35
	Ch.50.0 to Ch.180.0	Rm	1	130			130
	Road No.7-Maidan 1st Cross Road						
	LHS						
	Ch.0.0 to Ch.92.00	Rm	1	92			92
	RHS						
	At Ch.0.00	Rm	1	20			20
	Ch.0.0 to Ch.92.00	Rm	1	92			92
	Road No.8-Maidan 3rd Cross Road						
	LHS						
	Ch.20.0 to Ch.180.0	Rm	1	160			160
	RHS						
	Ch.0.0 to Ch.180.0	Rm	1	180			180
	Road No.9 Bibi Alabi Road						
	LHS						
	Ch.0.0 to Ch.200.00	Rm	1	200			200
	Ch.210.00 to Ch.320.00	Rm	1	110			110
	Ch.330.0 to Ch.430.00	Rm	1	100			100
	RHS						
	Ch.30.00 to Ch.160.00	Rm	1	130			130
	Ch.170.00 to Ch.340.00	Rm	1	170			170
	Ch.345.00 to Ch.430.00	Rm	1	85			85
	Road No.10-Bibi Alabi - Kandak Road						
	LHS						
	Ch.0.0 to Ch.145.0	Rm	1	145			145
	Ch.55.00 to Ch.165.0	Rm	1	110			110
	Ch.185.00 to Ch.230.0	Rm	1	45			45
	Ch.320.00 to Ch.405.00	Rm	1	85			85
	Ch.425.00 to Ch.460.0	Rm	1	35			35
	RHS						
	Ch.40.0 to Ch.260.0	Rm	1	220			220
	Ch.270.0 to Ch.290.0	Rm	1	20			20
	Ch.305.0 to Ch.460.0	Rm	1	155			155
	Road No.11-Maidan 4th Cross Road-Extn.						
	LHS						
	Ch.25.0 to Ch.200.00	Rm	1	175			175
	RHS						
	Ch.0.0 to Ch.200.00	Rm	1	175			175
	Road No.13-J.M.1st Cross Road						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	LHS						
	Ch.160.0 to Ch.170.0	Rm	1	10			10
	Ch.175.0 to Ch.200.0	Rm	1	25			25
	Ch.218.0 to Ch.227	Rm	1	9			9
	RHS						
	Ch.160.0 to Ch.190.0	Rm	1	30			30
	Road No.15-Mission Street Road Extn.						
	LHS						
	Ch.0.0 to Ch.20.00	Rm	1	20			20
	RHS						
	Ch.20.0 to Ch.90.0	Rm	1	70			70
	Ch.180.0 to Ch.200	Rm	1	20			20
	Total Qty.	Rm					4360
	C= A+B/0.45m(length of one Kerb Stone)	Nos.					9689
	Total Vol.= 0.0118 cum(Vol of one kerb stone)	Cum					114
30	Reusing existing kerb stone obtained from dismantling of existing footpath or by other dismantling work and laying at or near ground level in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including transportation to site from stack yard, making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).						
	Consider 50% Qty. Of Existing Dismantled Kerb available on Site	Rmt	50%	3025.50			1512.75
31	KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per MORTH specifications section 8. (SI No : 24.1 of KPWD 18-19)						
	Footpath						
	Road No.1-GHS Road						
	LHS						
	Ch.0.0 to Ch.95.00	Sqm	1	95		0.275	26.13
	Ch.100.0 to Ch.260.00	Sqm	1	160		0.275	44
	Ch.270.0 to Ch.370.00	Sqm	1	100		0.275	27.5
	RHS						
	Ch.0.0 to Ch.140.00	Sqm	1	140		0.275	38.5
	Ch.150.0 to Ch.280.0	Sqm	1	130		0.275	35.75
	Ch.290.0 to Ch.390.0	Sqm	1	100		0.275	27.5
	Road No.2-P.M.Rao Road						
	LHS						
	Ch.00.0 to Ch.170.0	Sqm	1	170		0.275	46.75
	RHS						
	Ch.00.0 to Ch.170.0	Sqm	1	170		0.275	46.75
	Road No.3-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.170.0	Sqm	1	170		0.275	46.75
	RHS						
	Ch.0.0 to Ch.50.0	Sqm	1	50		0.275	13.75
	Ch.55.0 to Ch.90.0	Sqm	1	35		0.275	9.63
	Ch.100.0 to Ch.142.0	Sqm	1	42		0.275	11.55
	Road No.4-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.50.0	Sqm	1	50		0.275	13.75
	Ch.90.0 to Ch.185.00	Sqm	1	95		0.275	26.13
	RHS						
	Ch.0.0 to Ch.35.0	Sqm	1	35		0.275	9.63
	Ch.50.0 to Ch.180.0	Sqm	1	130		0.275	35.75
	Road No.7-Maidan 1st Cross Road						
	LHS						
	Ch.0.0 to Ch.92.00	Sqm	1	92		0.275	25.3
	RHS						
	At Ch.0.00	Sqm	1	20		0.275	5.5
	Ch.0.0 to Ch.92.00	Sqm	1	92		0.275	25.3
	Road No.8-Maidan 3rd Cross Road						
	LHS						
	Ch.20.0 to Ch.180.0	Sqm	1	160		0.275	44
	RHS						
	Ch.0.0 to Ch.180.0	Sqm	1	180		0.275	49.5
	Road No.9 Bibi Alabi Road						
	LHS						
	Ch.0.0 to Ch.200.00	Sqm	1	200		0.275	55
	Ch.210.00 to Ch.320.00	Sqm	1	110		0.275	30.25
	Ch.330.0 to Ch.430.00	Sqm	1	100		0.275	27.5
	RHS						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.30.00 to Ch.160.00	Sqm	1	130		0.275	35.75
	Ch.170.00 to Ch.340.00	Sqm	1	170		0.275	46.75
	Ch.345.00 to Ch.430.00	Sqm	1	85		0.275	23.38
	Road No.10-Bibi Alabi - Kandak Road						
	LHS						
	Ch.0.0 to Ch.145.0	Sqm	1	145		0.275	39.88
	Ch.55.00 to Ch.165.0	Sqm	1	110		0.275	30.25
	Ch.185.00 to Ch.230.0	Sqm	1	45		0.275	12.38
	Ch.320.00 to Ch.405.00	Sqm	1	85		0.275	23.38
	Ch.425.00 to Ch.460.0	Sqm	1	35		0.275	9.63
	RHS						
	Ch.40.0 to Ch.260.0	Sqm	1	220		0.275	60.5
	Ch.270.0 to Ch.290.0	Sqm	1	20		0.275	5.5
	Ch.305.0 to Ch.460.0	Sqm	1	155		0.275	42.63
	Road No.11-Maidan 4th Cross Road-Extn.						
	LHS						
	Ch.25.0 to Ch.200.00	Sqm	1	175		0.275	48.13
	RHS						
	Ch.0.0 to Ch.200.00	Sqm	1	175		0.275	48.13
	Road No.13-J.M.1st Cross Road						
	LHS						
	Ch.160.0 to Ch.170.0	Sqm	1	10		0.275	2.75
	Ch.175.0 to Ch.200.0	Sqm	1	25		0.275	6.88
	Ch.218.0 to Ch.227	Sqm	1	9		0.275	2.48
	RHS						
	Ch.160.0 to Ch.190.0	Sqm	1	30		0.275	8.25
	Road No.15-Mission Street Road Extn.						
	LHS						
	Ch.0.0 to Ch.20.00	Sqm	1	20		0.275	5.5
	RHS						
	Ch.20.0 to Ch.90.0	Sqm	1	70		0.275	19.25
	Ch.180.0 to Ch.200	Sqm	1	20		0.275	5.5
		Sqm				Total Qty.	1199.07
32	P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.						
	Power Duct Chambers	Nos.	2	214			428.00
		Nos.				Total Qty.	428.00
33	P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)						
	SWD						
	Road No.1 G.H.S.Road						
	Node-MH-633 to MH-634						
	Base	Rm	1.00	39.90			39.90
	Node-MH-634 to MH-635						
	Base	Rm	1.00	49.40			49.40
	Node-MH-635 to MH-636						
	Base	Rm	1.00	24.10			24.10
	Node-MH-636 to MH-637						
	Base	Rm	1.00	54.40			54.40
	Node-MH-637 to MH-638						
	Base	Rm	1.00	52.40			52.40
	Node-MH-638 to MH-639						
	Base	Rm	1.00	31.90			31.90
	Node-MH-639 to MH-640						
	Base	Rm	1.00	16.40			16.40
	Node-MH-640 to MH-641						
	Base	Rm	1.00	29.00			29.00
	Node-MH-641 to MH-642						
	Base	Rm	1.00	61.20			61.20
	Node-MH-797 to MH-798						
	Base	Rm	1.00	40.20			40.20
	Node-MH-798 to MH-799						
	Base	Rm	1.00	27.00			27.00
	Node-MH-799 to MH-800						
	Base	Rm	1.00	21.90			21.90
	Node-MH-800 to MH-802						
	Base	Rm	1.00	79.60			79.60
	Node-MH-802 to MH-654						
	Base	Rm	1.00	47.80			47.80
	Node-MH-803 to MH-804						
	Base	Rm	1.00	50.10			50.10
	Node-MH-804 to MH-805						
	Base	Rm	1.00	33.70			33.70
	Node-MH-805 to O-85						
	Base	Rm	1.00	44.37			44.37
	Road No.2-P.M.Rao Road						
	Node-MH-644						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Rm	1.00	38.10			38.10
	Node-MH-645						
	Base	Rm	1.00	26.80			26.80
	Node-MH-646						
	Base	Rm	1.00	32.50			32.50
	Node-MH-647						
	Base	Rm	1.00	46.40			46.40
	Node-MH-648						
	Base	Rm	1.00	27.60			27.60
	Node-MH-639						
	Base	Rm	1.00	11.30			11.30
	Road No.3-Sharavu Temple Road						
	Node-MH-649 to MH-650						
	Base	Rm	1.00	42.80			42.80
	Node-MH-650 to MH-651						
	Base	Rm	1.00	51.30			51.30
	Node-MH-651 to MH-652						
	Base	Rm	1.00	23.80			23.80
	Node-MH-652 to MH-653						
	Base	Rm	1.00	25.10			25.10
	Node-MH-653 to O-76						
	Base	Rm	1.00	38.80			38.80
	Road No.4-G.H.S. Cross Road						
	Node-MH-654 to MH-655						
	Base	Rm	1.00	12.80			12.80
	Node-MH-655 to MH-656						
	Base	Rm	1.00	24.80			24.80
	Node-MH-656 to MH-657						
	Base	Rm	1.00	24.70			24.70
	Node-MH-657 to MH-658						
	Base	Rm	1.00	17.60			17.60
	Node-MH-658to MH-659						
	Base	Rm	1.00	45.50			45.50
	Node-MH-659 to MH-660						
	Base	Rm	1.00	30.10			30.10
	Node-MH-660 to O-77						
	Base	Rm	1.00	24.10			24.10
	Road No.5-Vithoba Temple Road						
	Node-MH-796 to MH-662						
	Base	Rm	1.00	14.70			14.70
	Node-MH-662 to MH-663						
	Base	Rm	1.00	126.10			126.10
	Node-MH-663 to MH-664						
	Base	Rm	1.00	36.70			36.70
	Node-MH-664 to MH-665						
	Base	Rm	1.00	26.70			26.70
	Node-MH-665 to MH-666						
	Base	Rm	1.00	16.20			16.20
	Node-MH-666 to MH-667						
	Base	Rm	1.00	87.90			87.90
	Node-MH-667 to MH-668						
	Base	Rm	1.00	18.30			18.30
	Node-MH-668 to MH-669						
	Base	Rm	1.00	64.50			64.50
	Node-MH-669 to MH-670						
	Base	Rm	1.00	37.10			37.10
	Node-MH-670 to MH-671						
	Base	Rm	1.00	21.10			21.10
	Node-MH-671 to O-78						
	Base	Rm	1.00	27.40			27.40
	Road No.7-Maidan 1st Cross Road						
	Node-MH-680 to O-81						
	Base	Rm	1.00	103.10			103.10
	Node-MH-678 to O-80						
	Base	Rm	1.00	96.20			96.20
	Road No.8-Maidan 3rd Cross Road						
	Node-MH-682 to MH-683						
	Base	Rm	1.00	29.90			29.90
	Node-MH-683 to MH-684						
	Base	Rm	1.00	44.80			44.80
	Node-MH-684 to MH-685						
	Base	Rm	1.00	65.70			65.70
	Node-MH-685 to MH-686						
	Base	Rm	1.00	32.60			32.60
	Node-MH-686 to MH-691						
	Base	Rm	1.00	8.10			8.10
	Node-MH-687 to MH-688						
	Base	Rm	1.00	31.20			31.20
	Node-MH-688 to MH-689						
	Base	Rm	1.00	55.30			55.30
	Node-MH-689 to MH-690						
	Base	Rm	1.00	37.50			37.50
	Node-MH-690 to MH-691						
	Base	Rm	1.00	51.00			51.00
	Road No.9-Bibi Alabi Road						
	Node-MH-692 to MH-693						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Rm	1.00	47.90			47.90
	Node-MH-693 to MH-680						
	Base	Rm	1.00	6.00			6.00
	Node-MH-694 to MH-695						
	Base	Rm	1.00	12.60			12.60
	Node-MH-695 to MH-696						
	Base	Rm	1.00	77.30			77.30
	Node-MH-696 to MH-697						
	Base	Rm	1.00	32.10			32.10
	Node-MH-697 to MH-698						
	Base	Rm	1.00	100.20			100.20
	Node-MH-698 to MH-699						
	Base	Rm	1.00	36.40			36.40
	Node-MH-699 to MH-700						
	Base	Rm	1.00	60.30			60.30
	Node-MH-700 to MH-701						
	Base	Rm	1.00	53.40			53.40
	Node-MH-701 to O-83						
	Base	Rm	1.00	27.40			27.40
	Node-MH-703 to MH-704						
	Base	Rm	1.00	223.40			223.40
	Node-MH-704 to MH-705						
	Base	Rm	1.00	19.10			19.10
	Node-MH-705 to MH-706						
	Base	Rm	1.00	48.30			48.30
	Node-MH-706 to MH-707						
	Base	Rm	1.00	94.80			94.80
	Node-MH-707 to O-87						
	Base	Rm	1.00	66.90			66.90
	Road No.10-Bibi Alabi-Kandak Road						
	Node-MH-709 to MH-710						
	Base	Rm	1.00	62.30			62.30
	Node-MH-710 to MH-686						
	Base	Rm	1.00	75.30			75.30
	Node-MH-686 to MH-691						
	Base	Rm	1.00	8.10			8.10
	Node-MH-691 to MH-711						
	Base	Rm	1.00	28.90			28.90
	Node-MH-711 to MH-712						
	Base	Rm	1.00	43.80			43.80
	Node-MH-712 to MH-713						
	Base	Rm	1.00	10.80			10.80
	Node-MH-713 to MH-714						
	Base	Rm	1.00	25.20			25.20
	Node-MH-714 to MH-715						
	Base	Rm	1.00	54.20			54.20
	Node-MH-715 to MH-716						
	Base	Rm	1.00	28.60			28.60
	Node-MH-716 to MH-717						
	Base	Rm	1.00	20.30			20.30
	Node-MH-717 to MH-718						
	Base	Rm	1.00	11.30			11.30
	Node-MH-718 to MH-719						
	Base	Rm	1.00	50.70			50.70
	Node-MH-719 to MH-720						
	Base	Rm	1.00	34.50			34.50
	Road No.11-Maidan 4th Cross Road-Extn						
	Node-MH-721 to MH-722						
	Base	Rm	1.00	43.80			43.80
	Node-MH-722 to MH-723						
	Base	Rm	1.00	31.00			31.00
	Node-MH-723 to MH-724						
	Base	Rm	1.00	25.50			25.50
	Node-MH-724 to MH-725						
	Base	Rm	1.00	59.00			59.00
	Node-MH-725 to MH-713						
	Base	Rm	1.00	33.80			33.80
	Node-MH-726 to MH-727						
	Base	Rm	1.00	39.70			39.70
	Node-MH-727 to MH-728						
	Base	Rm	1.00	41.70			41.70
	Node-MH-728 to MH-729						
	Base	Rm	1.00	91.70			91.70
	Node-MH-729 to MH-712						
	Base	Rm	1.00	21.80			21.80
	Node-MH-712 to MH-713						
	Base	Rm	1.00	10.80			10.80
	Road No.13-J.M 1st Cross Road						
	Node-MH-781 to MH-782						
	Base	Rm	1.00	57.60			57.60
	Node-MH-782 to MH-783						
	Base	Rm	1.00	30.60			30.60
	Node-MH-783 to MH-784						
	Base	Rm	1.00	40.80			40.80
	Node-MH-785 to MH-786						
	Base	Rm	1.00	21.20			21.20
	Node-MH-786 to MH-787						
	Base	Rm	1.00	21.80			21.80
	Node-MH-787 to MH-788						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Base	Rm	1.00	25.00			25.00
	Node-MH-788 to MH-518						
	Base	Rm	1.00	14.80			14.80
	Road No.15-Mission Street Road						
	Node-MH-789 to MH-790						
	Base	Rm	1.00	32.40			32.40
	Node-MH-790 to MH-791						
	Base	Rm	1.00	23.20			23.20
	Node-MH-791 to MH-792						
	Base	Rm	1.00	32.40			32.40
	Node-MH-792 to MH-793						
	Base	Rm	1.00	27.10			27.10
	Node-MH-793 to MH-794						
	Base	Rm	1.00	41.70			41.70
	Node-MH-794 to MH-795						
	Base	Rm	1.00	51.20			51.20
	Node-MH-795 to MH-475						
	Base	Rm	1.00	51.90			51.90
							4510.17
	Consider Chamber @10m C/C distance	Nos.					451.00
	Total no. Of covers	Nos.		Total Qty.			451.00
34	P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)						
	Flush Footpath with Carriageway						
	Road No.1-GHS Road						
	RHS						
	Ch.260.00 to Ch.270.00	Rm	1	18			18
	LHS						
	Ch.280.0 to Ch.288.00	Rm	1	8			8
	Road No.2-P.M.Rao Road						
	LHS-Ch.10.00 to Ch.50.00-Parking	Rm	1	36.2			36.2
	RHS-Ch.50.00 to Ch.75.00-Parking	Rm	1	29			29
	Road No.3-Sharavu Temple Road						
	RHS						
	Ch.165.00 to Ch.190.0	Rm	1	20			20
	Parking	Rm	1	18			18
	LHS						
	Ch.165.00 to Ch.190.0	Rm	1	40			40
	Parking	Rm	1	30			30
	Road No.4-G.H.S. Cross Road						
	RHS						
	Ch.35.00 to Ch.50.0	Rm	1	15			15
	LHS						
	Ch.50.0 to Ch.90.0	Rm	1	40			40
	Road No.5-Vithoba Temple Road						
	LHS						
	Ch.200.0 to Ch.280.0	Rm	1	197			197
	Ch.280.0 to Ch.320.0	Rm	1	270			270
	Ch.370.0 to Ch.440.0	Rm	0	0			0
	RHS						
	Ch.0.0 to Ch.20.00	Rm	1	470			470
	Ch.380.0 to Ch.410.0	Rm	0	0			0
	Road No.8-Maidan 3rd Cross Road						
	Parking	Rm	1	30.6			30.6
	Road No.9-Bibi Alabi Road						
	Ch.220.0 to Ch.260.0	Rm	1	40			40
	Ch.265.0 to Ch.300.0	Rm	1	35			35
	Ch.345.0 to Ch.400.0	Rm	1	50			50
	Road No.10-Bibi Alabi-Kandak Road						
	RHS						
	Ch.12.0 to Ch.38.0	Rm	1	26			26
	LHS						
	Ch.168.0 to Ch.188.0	Rm	1	20			20
	Ch.240.0 to Ch.260.0	Rm	1	20			20
	Ch.270.0 to Ch.300.0	Rm	1	30			30
	Ch.300.00 to Ch.320.0	Rm	1	20			20
	Ch.400.0 to Ch.425.0	Rm	1	25			25
	Road No.11-Maidan 4th Cross Road-Extn						
	LHS						
	Ch.0.0 to Ch.28.00	Rm					
	Parking-LHS	Rm	1	46.8			46.8
	Parking-RHS	Rm	1	60			60
	Parking-RHS	Rm	1	53.2			53.2
	Road No.13-J.M 1st Cross Road						
	LHS						
	Ch.0.0 to Ch.90.0	Rm	1	90			90
	Ch.95.0 to Ch.130.0	Rm	1	40			40
	Ch.200.0 to Ch.220.0	Rm	1	20			20
	Ch.230.0 to Ch.235.0	Rm	1	5			5
	RHS						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.0.0 to Ch.130.0	Rm	1	130			130
	Ch.200.0 to Ch.240.0	Rm	1	40			40
	Road No.15-Mission Street Road						
	LHS						
	Ch.20.0 to Ch.90.0	Rm	1	70			70
	Ch.120.0 to Ch.190.0	Rm	1	70			70
	RHS						
	Ch.130.0 to Ch.180.0	Rm	1	50			50
							2162.80
	Consider @10m C/C distance of M.H.Cover	Nos.					216.00
35	Raising manhole cover and frame to the required road top level including the removing existing cover and raising of MH top wall in RCC M25 and refixing the same cover in proper position with all finish,including cost of all materials, labour, etc. complete.						
	Total Length of Road	Nos.	1	107			107
36	KSRRB M300- Wrought iron and mild steel welded work KSRRB M300-18. Wrought iron and mild steel welded work (using angles, square bars, tees and channel grills, gratings with grating frames, gates and tree guards of any size and design etc. including cost of screens and welding rods or bolts and nuts complete fixed in position but without the cost of excavation and concrete for fixing which will be paid separately complete as per specifications.(KPWD,18-19,SI.No.19.97)						
	Flush Footpath with Carriageway						
	Road No.1-GHS Road						
	RHS						
	Ch.260.00 to Ch.270.00	Rm	1	18			18
	LHS						
	Ch.280.0 to Ch.288.00	Rm	1	8			8
	Road No.2-P.M.Rao Road						
	LHS-Ch.10.00 to Ch.50.00-Parking	Rm	1	36.2			36.2
	RHS-Ch.50.00 to Ch.75.00-Parking	Rm	1	29			29
	Road No.3-Sharavu Temple Road						
	RHS						
	Ch.165.00 to Ch.190.0	Rm	1	20			20
	Parking	Rm	1	18			18
	LHS						
	Ch.165.00 to Ch.190.0	Rm	1	40			40
	Parking	Rm	1	30			30
	Road No.4-G.H.S. Cross Road						
	RHS						
	Ch.35.00 to Ch.50.0	Rm	1	15			15
	LHS						
	Ch.50.0 to Ch.90.0	Rm	1	40			40
	Road No.5-Vithoba Temple Road						
	LHS						
	Ch.200.0 to Ch.280.0	Rm	1	197			197
	Ch.280.0 to Ch.320.0	Rm	1	270			270
	Ch.370.0 to Ch.440.0	Rm	0	0			0
	RHS						
	Ch.0.0 to Ch.20.00	Rm	1	470			470
	Ch.380.0 to Ch.410.0	Rm	0	0			0
	Road No.8-Maidan 3rd Cross Road						
	Parking	Rm	1	30.6			30.6
	Road No.9-Bibi Alabi Road						
	Ch.220.0 to Ch.260.0	Rm	1	40			40
	Ch.265.0 to Ch.300.0	Rm	1	35			35
	Ch.345.0 to Ch.400.0	Rm	1	50			50
	Road No.10-Bibi Alabi-Kandak Road						
	RHS						
	Ch.12.0 to Ch.38.0	Rm	1	26			26
	LHS						
	Ch.168.0 to Ch.188.0	Rm	1	20			20
	Ch.240.0 to Ch.260.0	Rm	1	20			20
	Ch.270.0 to Ch.300.0	Rm	1	30			30
	Ch.300.00 to Ch.320.0	Rm	1	20			20
	Ch.400.0 to Ch.425.0	Rm	1	25			25
	Road No.11-Maidan 4th Cross Road-Extn						
	LHS						
	Ch.0.0 to Ch.28.00	Rm	0	0			0
	Parking-LHS	Rm	1	46.8			46.8
	Parking-RHS	Rm	1	60			60
	Parking-RHS	Rm	1	53.2			53.2
	Road No.13-J.M 1st Cross Road						
	LHS						
	Ch.0.0 to Ch.90.0	Rm	1	90			90
	Ch.95.0 to Ch.130.0	Rm	1	40			40
	Ch.200.0 to Ch.220.0	Rm	1	20			20

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.230.0 to Ch.235.0	Rm	1	5			5
	RHS						
	Ch.0.0 to Ch.130.0	Rm	1	130			130
	Ch.200.0 to Ch.240.0	Rm	1	40			40
	Road No.15-Mission Street Road						
	LHS						
	Ch.20.0 to Ch.90.0	Rm	1	70			70
	Ch.120.0 to Ch.190.0	Rm	1	70			70
	RHS						
	Ch.130.0 to Ch.180.0	Rm	1	50			50
	Total No. Of Gratings	Nos.					216.28
		Nos.				Total Qty.	
			Nos.	Kg/No.	Kg		Quintal
	Grating		216.28	150	32442		324.42
37	KSRB 12-8.2 : Constructing brick masonry inspection chamber 500x700mm, and 450mm depth , (clear inside dimension) for pipeline with one or two inlets, using table moulded non-modular bricks of class designation 50 in cement mortar 1:5, C.I cover with frame (light duty) 455x610mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23kg and weight of frame 15 kg) R.C.C. top slab with cement concrete M 15 with 20mm and downsize granite metal , foundation concrete M 5 with 40mm and downsize granite metal inside plastering 12mm thick with cement mortar 1:3, finished smooth with a floating coat of cement on walls and bed concrete complete as per standard design including cost of materials, labour charges, curing complete as per specifications. Specification No. KBS (P.No. 74/ I.No.11.52 of PWD SR 2018-19)						
	Water Pipe and OFC Pipe						
1	GHS Road	Nos.	9				9.00
2	P.M.Rao Road	Nos.	5				5.00
3	Sharavu Temple Road	Nos.	5				5.00
4	GHS Cross Road	Nos.	5				5.00
5	Vithoba Temple Road	Nos.	6				6.00
6	Maidan 1st Cross Road	Nos.	3				3.00
7	Maidan 3rd Cross Road	Nos.	5				5.00
8	Bibi Alabi Road	Nos.	10				10.00
9	Bibi Alabi - Kanadak Road	Nos.	11				11.00
10	Maidan 4th Cross Road-Extn.	Nos.	5				5.00
11	J.M.1st Cross Road	Nos.	4				4.00
12	Mission Street Road-Extn.	Nos.	5				5.00
							73.00
	Consider 10% qty of Total	Nos.					8
38	Providing gully pipe lowering,laying of PVC 100 mm dia pipes to the required alignments including specials and grade as indicated in drawings/design and hydraulically testing of the pipe line.The rate shall include all jointing materials,testing apparatus and water for testi g etc as directed by the Engineer in charge (page No.41,Item No.7,KUWSDB SOR 2016-17)						
	Footpath						
	Road No.1-GHS Road						
	LHS						
	Ch.0.0 to Ch.95.00	Rm	1	95			95
	Ch.100.0 to Ch.260.00	Rm	1	160			160
	Ch.270.0 to Ch.370.00	Rm	1	100			100
	RHS						
	Ch.0.0 to Ch.140.00	Rm	1	140			140
	Ch.150.0 to Ch.280.0	Rm	1	130			130
	Ch.290.0 to Ch.390.0	Rm	1	100			100
	Road No.2-P.M.Rao Road						
	LHS						
	Ch.00.0 to Ch.170.0	Rm	1	170			170
	RHS						
	Ch.00.0 to Ch.170.0	Rm	1	170			170
	Road No.3-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.170.0	Rm	1	170			170
	RHS						
	Ch.0.0 to Ch.50.0	Rm	1	50			50
	Ch.55.0 to Ch.90.0	Rm	1	35			35
	Ch.100.0 to Ch.142.0	Rm	1	42			42
	Road No.4-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.50.0	Rm	1	50			50
	Ch.90.0 to Ch.185.00	Rm	1	95			95
	RHS						
	Ch.0.0 to Ch.35.0	Rm	1	35			35
	Ch.50.0 to Ch.180.0	Rm	1	130			130
	Road No.7-Maidan 1st Cross Road						
	LHS						
	Ch.0.0 to Ch.92.00	Rm	1	92			92

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	RHS						
	At Ch.0.00	Rm	1	20			20
	Ch.0.0 to Ch.92.00	Rm	1	92			92
	Road No.8-Maidan 3rd Cross Road						
	LHS						
	Ch.20.0 to Ch.180.0	Rm	1	160			160
	RHS						
	Ch.0.0 to Ch.180.0	Rm	1	180			180
	Road No.9 Bibi Alabi Road						
	LHS						
	Ch.0.0 to Ch.200.00	Rm	1	200			200
	Ch.210.00 to Ch.320.00	Rm	1	110			110
	Ch.330.0 to Ch.430.00	Rm	1	100			100
	RHS						
	Ch.30.00 to Ch.160.00	Rm	1	130			130
	Ch.170.00 to Ch.340.00	Rm	1	170			170
	Ch.345.00 to Ch.430.00	Rm	1	85			85
	Road No.10-Bibi Alabi - Kandak Road						
	LHS						
	Ch.0.0 to Ch.145.0	Rm	1	145			145
	Ch.55.00 to Ch.165.0	Rm	1	110			110
	Ch.185.00 to Ch.230.0	Rm	1	45			45
	Ch.320.00 to Ch.405.00	Rm	1	85			85
	Ch.425.00 to Ch.460.0	Rm	1	35			35
	RHS						
	Ch.40.0 to Ch.260.0	Rm	1	220			220
	Ch.270.0 to Ch.290.0	Rm	1	20			20
	Ch.305.0 to Ch.460.0	Rm	1	155			155
	Road No.11-Maidan 4th Cross Road-Extn.						
	LHS						
	Ch.25.0 to Ch.200.00	Rm	1	175			175
	RHS						
	Ch.0.0 to Ch.200.00	Rm	1	175			175
	Road No.13-J.M.1st Cross Road						
	LHS						
	Ch.160.0 to Ch.170.0	Rm	1	10			10
	Ch.175.0 to Ch.200.0	Rm	1	25			25
	Ch.218.0 to Ch.227	Rm	1	9			9
	RHS						
	Ch.160.0 to Ch.190.0	Rm	1	30			30
	Road No.15-Mission Street Road Extn.						
	LHS						
	Ch.0.0 to Ch.20.00	Rm	1	20			20
	RHS						
	Ch.20.0 to Ch.90.0	Rm	1	70			70
	Ch.180.0 to Ch.200	Rm	1	20			20
						Total	4360.00
	Consider @10m c/c distance		Nos.	Rm			
	Nos. Of Pipes		436	1.5			654.00
	Total length of pipe=	Rmt		Total Qty.			654.00
39	KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia, of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2018-19, Sl.No.12.89)						
	SWD						
	Same qty as pipe	Nos.	436.00				436.00
		Nos.			Total Qty.		436.00
40	KSRRB M2200- Providing Weep Holes KSRRB M2200-8. Providing weep holes in Brick masonry / Plain / Reinforced concrete abutment, wing wall / return wall with 100 mm dia AC pipe, extending through the full width of the structure with slope of 1V :20H towards drawing face. Complete as per drawing and Technical Specifications complete as per specifications MORTH Specification No.2706 & 2200 (PWD SR 2018-19, Sl.No.28.10)						
	Total Length of SWD	Rm	1	4510.17			4510.17
	Weep Holes at 1m c/c	Nos/Rm					4510.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
41	KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2018-19,SI.No.24.36)						
1	GHS Road	Rmt	4	25.1			100.4
2	P.M.Rao Road	Rmt	2	16.6			33.2
3	Sharavu Temple Road	Rmt	2	18.8			37.6
4	GHS Cross Road	Rmt	2	14.8			29.6
5	Vithoba Temple Road	Rmt	17	8.1			137.7
6	Maidan 1st Cross Road	Rmt	1	14.5			14.5
7	Maidan 3rd Cross Road	Rmt	2	15.9			31.8
8	Bibi Alabi Road	Rmt	5	28.4			142
9	Bibi Alabi - Kanadak Road	Rmt	5	20.4			102
10	Maidan 4th Cross Road-Extn.	Rmt	2	21.5			43
12	MPT Road	Rmt	0	18			0
11	J.M.1st Cross Road	Rmt	8	10.3			82.4
12	Mission Street Road-Extn.	Rmt	2	21.4			42.8
		Rmt			Total Qty.		797.00
42	Providing and laying Dia 225mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)		Nos.	RHS	Nos.	LHS	
1	GHS Road	Rmt	6	370	6	370	4440
2	P.M.Rao Road	Rmt	4	178	4	178	1424
3	Sharavu Temple Road	Rmt	4	194	4	194	1552
4	GHS Cross Road	Rmt	4	180	4	180	1440
5	Vithoba Temple Road	Rmt	0	0	9	482	4338
	Vithoba Temple Road-Cross Ducting	Rmt	58	7.5			435
6	Maidan 1st Cross Road	Rmt	0	90	0	90	0
7	Maidan 3rd Cross Road	Rmt	6	186	6	186	2232
8	Bibi Alabi Road	Rmt	6	440	6	440	5280
9	Bibi Alabi - Kanadak Road	Rmt	6	460	6	460	5520
10	Maidan 4th Cross Road-Extn.	Rmt	4	195	4	195	1560
11	J.M.1st Cross Road	Rmt	0	0	6	238	1428
	J.M.1st Cross Road-Crossing Duct	Rmt	19	7.5			142.5
12	Mission Street Road-Extn.	Rmt	4	200	0	200	800
	Deduction of Chambers length		No. Of Pipes	No. Of Chambers	No. Of Pipes	No. Of Chambers	
			A	B	C	D	$E=(A*B+C*D)$ *2m chamber length
1	GHS Road	Rmt	6	13	6	13	-312
2	P.M.Rao Road	Rmt	4	6	4	6	-96
3	Sharavu Temple Road	Rmt	4	7	4	7	-112
4	GHS Cross Road	Rmt	4	6	4	6	-96
5	Vithoba Temple Road	Rmt	0	0	9	17	-306
6	Maidan 1st Cross Road	Rmt	0	3	0	3	0
7	Maidan 3rd Cross Road	Rmt	6	7	6	7	-168
8	Bibi Alabi Road	Rmt	6	15	6	15	-360
9	Bibi Alabi - Kanadak Road	Rmt	6	16	6	16	-384
10	Maidan 4th Cross Road-Extn.	Rmt	4	7	4	7	-112
11	J.M.1st Cross Road	Rmt	0	0	6	8	-96
12	Mission Street Road-Extn.	Rmt	4	7	0	7	-56
		Rmt			Total Qty.		28493.50
43	Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years.(Market Rate)		Nos.	RHS	Nos.	LHS	
1	GHS Road	Rmt	2	370	2	370	1480
2	P.M.Rao Road	Rmt	2	178	2	178	712
3	Sharavu Temple Road	Rmt	2	194	2	194	776
4	GHS Cross Road	Rmt	2	180	2	180	720
5	Vithoba Temple Road	Rmt	0	0	3	482	1446
	Vithoba Temple Road-Cross Ducting	Rmt	19	7.5			142.5
6	Maidan 1st Cross Road	Rmt	0	90	2	90	180
7	Maidan 3rd Cross Road	Rmt	2	186	2	186	744
8	Bibi Alabi Road	Rmt	2	440	2	440	1760
9	Bibi Alabi - Kanadak Road	Rmt	2	460	2	460	1840

Sr. No.	Description	Unit	No's	L	B	H	Qty.
10	Maidan 4th Cross Road-Extn.	Rmt	2	195	2	195	780
11	J.M.1st Cross Road	Rmt	0	0	3	238	714
	J.M.1st Cross Road-Crossing Duct	Rmt	10	7.5			75
12	Mission Street Road-Extn.	Rmt	0	200	2	200	400
	Deduction of Chambers length		No. Of Pipes	No. Of Chambers	No. Of Pipes	No. Of Chambers	
			A	B	C	D	E=(A*B+C*D) *2m chamber length
1	GHS Road	Rmt	2	13	2	13	-104
2	P.M.Rao Road	Rmt	2	6	2	6	-48
3	Sharavu Temple Road	Rmt	2	7	2	7	-56
4	GHS Cross Road	Rmt	2	6	2	6	-48
5	Vithoba Temple Road	Rmt	0	0	3	17	-102
6	Maidan 1st Cross Road	Rmt	0	3	2	3	-12
7	Maidan 3rd Cross Road	Rmt	2	7	2	7	-56
8	Bibi Alabi Road	Rmt	2	15	2	15	-120
9	Bibi Alabi - Kanadak Road	Rmt	2	16	2	16	-128
10	Maidan 4th Cross Road-Extn.	Rmt	2	7	2	7	-56
11	J.M.1st Cross Road	Rmt	0	0	3	8	-48
12	Mission Street Road-Extn.	Rmt	0	7	2	7	-28
		Rmt		Total Qty.			10963.50
44	Providing and Fixing Spacers for Power Ducts of size 225 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			RHS	LHS		
1	GHS Road	Rmt	1	370	370		740
2	P.M.Rao Road	Rmt	1	178	178		356
3	Sharavu Temple Road	Rmt	1	194	194		388
4	GHS Cross Road	Rmt	1	180	180		360
5	Vithoba Temple Road	Rmt	1	0	482		482
6	Maidan 1st Cross Road	Rmt	1	0	0		0
7	Maidan 3rd Cross Road	Rmt	1	186	186		372
8	Bibi Alabi Road	Rmt	1	440	440		880
9	Bibi Alabi - Kanadak Road	Rmt	1	460	460		920
10	Maidan 4th Cross Road-Extn.	Rmt	1	195	195		390
11	J.M.1st Cross Road	Rmt	1	0	238		238
12	Mission Street Road-Extn.	Rmt	1	200	0		200
							5326.00
	No. of Spacer=Total Length of Pipe / 1.5m	Nos.		Total Qty.			3551.00
45	Providing and Fixing Spacers for Power Ducts of size 160 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			RHS	LHS		
1	GHS Road	Rmt	1	370	370		740
2	P.M.Rao Road	Rmt	1	178	178		356
3	Sharavu Temple Road	Rmt	1	194	194		388
4	GHS Cross Road	Rmt	1	180	180		360
5	Vithoba Temple Road	Rmt	1	0	482		482
6	Maidan 1st Cross Road	Rmt	1	0	90		90
7	Maidan 3rd Cross Road	Rmt	1	186	186		372
8	Bibi Alabi Road	Rmt	1	440	440		880
9	Bibi Alabi - Kanadak Road	Rmt	1	460	460		920
10	Maidan 4th Cross Road-Extn.	Rmt	1	195	195		390
11	J.M.1st Cross Road	Rmt	1	0	238		238
12	Mission Street Road-Extn.	Rmt	1	0	200		200
							5416.00
	No. of Spacer=Total Length of Pipe / 1.5m	Nos.		Total Qty.			3611.00
46	Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent indian standard and conveying to work site including loading and unloading at both destination and rolling,lowering into trenches,laying true to line and jointing of pipe etc.Complete. (Market Rate)			RHS	LHS		
1	GHS Road	Rmt	1	370	370		740
2	P.M.Rao Road	Rmt	1	178	178		356
3	Sharavu Temple Road	Rmt	1	194	194		388
4	GHS Cross Road	Rmt	1	180	180		360
5	Vithoba Temple Road	Rmt	1	0	482		482
	Vithoba Temple Road-Crossing	Rmt	10	7.5			75
6	Maidan 1st Cross Road	Rmt	1	90	90		180
7	Maidan 3rd Cross Road	Rmt	1	186	186		372
8	Bibi Alabi Road	Rmt	1	440	440		880
9	Bibi Alabi - Kanadak Road	Rmt	1	460	460		920
10	Maidan 4th Cross Road-Extn.	Rmt	1	195	195		390
11	J.M.1st Cross Road	Rmt	1	0	238		238
	J.M.1st Cross Road-Cross Road	Rmt	4.76	7.5			35.7
12	Mission Street Road-Extn.	Rmt	1	200	200		400
		Rmt			Total Qty.		5816.70

Sr. No.	Description	Unit	No's	L	B	H	Qty.
47	Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level,shape and size using approved colour shade and staping it using approved stamp pattern and antiquitting it on top with approved colour.Sealing entire area with concrete sealer.						
	Footpath						
	Road No.1-GHS Road						
	LHS						
	Ch.0.0 to Ch.95.00	Sqm	1	95.00	2.73		259.35
	Ch.100.0 to Ch.260.00	Sqm	1	160.00	3.23		516.8
	Ch.270.0 to Ch.370.00	Sqm	1	100	2.97		297
	RHS						
	Ch.0.0 to Ch.140.00	Sqm	1	140.00	2.30		322
	Ch.150.0 to Ch.280.0	Sqm	1	130.00	3.18		413.4
	Ch.290.0 to Ch.390.0	Sqm	1	100.00	3.68		368
	Road No.2-P.M.Rao Road						
	LHS						
	Ch.00.0 to Ch.170.0	Sqm	1	170.00	2.83		481.1
	RHS						
	Ch.00.0 to Ch.170.0	Sqm	1	170	3.76		639.2
	Road No.3-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.170.0	Sqm	1	170.00	2.82		479.4
	RHS						
	Ch.0.0 to Ch.50.0	Sqm	1	50.00	4.23		211.5
	Ch.55.0 to Ch.90.0	Sqm	1	35.00	2.84		99.4
	Ch.100.0 to Ch.142.0	Sqm	1	42.00	3.55		149.1
	Road No.4-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.50.0	Sqm	1	50.00	3.55		177.5
	Ch.90.0 to Ch.185.00	Sqm	1	95.00	2.68		254.6
	RHS						
	Ch.0.0 to Ch.35.0	Sqm	1	35.00	1.90		66.5
	Ch.50.0 to Ch.180.0	Sqm	1	130.00	2.34		304.2
	Road No.7-Maidan 1st Cross Road						
	LHS						
	Ch.0.0 to Ch.92.00	Sqm	1	92.00	3.45		317.4
	RHS						
	At Ch.0.00	Sqm	1	20.00	2.61		52.2
	Ch.0.0 to Ch.92.00	Sqm	1	92	2.70		248.4
	Road No.8-Maidan 3rd Cross Road						
	LHS						
	Ch.20.0 to Ch.180.0	Sqm	1	160.00	2.80		448
	RHS						
	Ch.0.0 to Ch.180.0	Sqm	1	180.00	3.11		559.8
	Road No.9 Bibi Alabi Road						
	LHS						
	Ch.0.0 to Ch.200.00	Sqm	1	200.00	5.38		1076
	Ch.210.00 to Ch.320.00	Sqm	1	110.00	5.61		617.1
	Ch.330.0 to Ch.430.00	Sqm	1	100.00	6.75		675
	RHS						
	Ch.30.00 to Ch.160.00	Sqm	1	130.00	4.48		582.4
	Ch.170.00 to Ch.340.00	Sqm	1	170.00	4.75		807.5
	Ch.345.00 to Ch.430.00	Sqm	1	85.00	4.41		374.85
	Road No.10-Bibi Alabi - Kandak Road						
	LHS						
	Ch.0.0 to Ch.145.0	Sqm	1	145.00	1.49		216.05
	Ch.55.00 to Ch.165.0	Sqm	1	110.00	0.15		16.5
	Ch.185.00 to Ch.230.0	Sqm	1	45.00	1.58		71.1
	Ch.320.00 to Ch.405.00	Sqm	1	85.00	3.87		328.95
	Ch.425.00 to Ch.460.0	Sqm	1	35.00	3.54		123.9
	RHS						
	Ch.40.0 to Ch.260.0	Sqm	1	220.00	1.50		330
	Ch.270.0 to Ch.290.0	Sqm	1	20.00	3.45		69
	Ch.305.0 to Ch.460.0	Sqm	1	155.00	3.11		482.05
	Road No.11-Maidan 4th Cross Road-Extn.						
	LHS						
	Ch.25.0 to Ch.200.00	Sqm	1	175.00	3.11		544.25
	RHS						
	Ch.0.0 to Ch.200.00	Sqm	1	175.00	3.18		556.5
	Road No.13-J.M.1st Cross Road						
	LHS						
	Ch.160.0 to Ch.170.0	Sqm	1	10.00	1.91		19.1
	Ch.175.0 to Ch.200.0	Sqm	1	25.00	2.51		62.75
	Ch.218.0 to Ch.227	Sqm	1	9.00	1.31		11.79
	RHS						
	Ch.160.0 to Ch.190.0	Sqm	1	30.00	2.27		68.1
	Road No.15-Mission Street Road Extn.						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	LHS						
	Ch.0.0 to Ch.20.00	Sqm	1	20.00	1.10		22
	RHS						
	Ch.20.0 to Ch.90.0	Sqm	1	70.00	1.80		126
	Ch.180.0 to Ch.200	Sqm	1	20.00	1.85		37
		Sqm			Total Qty.		13882.74
48.00	Cutting of Control joints panels(in Footpath) at suitable required locations using using tools and tackles.						
	Footpath						
	Road No.1-GHS Road						
	LHS						
	Ch.0.0 to Ch.95.00	Rm	27		2.73		73.71
	Ch.100.0 to Ch.260.00	Rm	46		3.23		148.58
	Ch.270.0 to Ch.370.00	Rm	29		2.97		86.13
	RHS						
	Ch.0.0 to Ch.140.00	Rm	40		2.3		92
	Ch.150.0 to Ch.280.0	Rm	37		3.18		117.66
	Ch.290.0 to Ch.390.0	Rm	29		3.68		106.72
	Road No.2-P.M.Rao Road						
	LHS						
	Ch.00.0 to Ch.170.0	Rm	49		2.83		138.67
	RHS						
	Ch.00.0 to Ch.170.0	Rm	49		3.76		184.24
	Road No.3-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.170.0	Rm	49		2.82		138.18
	RHS						
	Ch.0.0 to Ch.50.0	Rm	14		4.23		59.22
	Ch.55.0 to Ch.90.0	Rm	10		2.84		28.4
	Ch.100.0 to Ch.142.0	Rm	12		3.55		42.6
	Road No.4-Sharavu Temple Road						
	LHS						
	Ch.0.0 to Ch.50.0	Rm	14		3.55		49.7
	Ch.90.0 to Ch.185.00	Rm	27		2.68		72.36
	RHS						
	Ch.0.0 to Ch.35.0	Rm	10		1.9		19
	Ch.50.0 to Ch.180.0	Rm	37		2.34		86.58
	Road No.7-Maidan 1st Cross Road						
	LHS						
	Ch.0.0 to Ch.92.00	Rm	26		3.45		89.7
	RHS						
	At Ch.0.00	Rm	6		2.61		15.66
	Ch.0.0 to Ch.92.00	Rm	26		2.7		70.2
	Road No.8-Maidan 3rd Cross Road						
	LHS						
	Ch.20.0 to Ch.180.0	Rm	46		2.8		128.8
	RHS						
	Ch.0.0 to Ch.180.0	Rm	51		3.11		158.61
	Road No.9-Bibi Alabi Road						
	LHS						
	Ch.0.0 to Ch.200.00	Rm	57		5.38		306.66
	Ch.210.00 to Ch.320.00	Rm	31		5.61		173.91
	Ch.330.0 to Ch.430.00	Rm	29		6.75		195.75
	RHS						
	Ch.30.00 to Ch.160.00	Rm	37		4.48		165.76
	Ch.170.00 to Ch.340.00	Rm	49		4.75		232.75
	Ch.345.00 to Ch.430.00	Rm	24		4.41		105.84
	Road No.10-Bibi Alabi - Kandak Road						
	LHS						
	Ch.0.0 to Ch.145.0	Rm	41		1.49		61.09
	Ch.55.00 to Ch.165.0	Rm	31		0.15		4.65
	Ch.185.00 to Ch.230.0	Rm	13		1.58		20.54
	Ch.320.00 to Ch.405.00	Rm	24		3.87		92.88
	Ch.425.00 to Ch.460.0	Rm	10		3.54		35.4
	RHS						
	Ch.40.0 to Ch.260.0	Rm	63		1.5		94.5
	Ch.270.0 to Ch.290.0	Rm	6		3.45		20.7
	Ch.305.0 to Ch.460.0	Rm	44		3.11		136.84
	Road No.11-Maidan 4th Cross Road-Extn.						
	LHS						
	Ch.25.0 to Ch.200.00	Rm	50		3.11		155.5
	RHS						
	Ch.0.0 to Ch.200.00	Rm	50		3.18		159
	Road No.13-J.M.1st Cross Road						
	LHS						
	Ch.160.0 to Ch.170.0	Rm	3		1.91		5.73

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.175.0 to Ch.200.0	Rm	7		2.51		17.57
	Ch.218.0 to Ch.227	Rm	3		1.31		3.93
	RHS						
	Ch.160.0 to Ch.190.0	Rm	9		2.27		20.43
	Road No.15-Mission Street Road Extn.						
	LHS						
	Ch.0.0 to Ch.20.00	Rm	6		1.1		6.6
	RHS						
	Ch.20.0 to Ch.90.0	Rm	20		1.8		36
	Ch.180.0 to Ch.200	Rm	6		1.85		11.1
						Total	3969.85
49	Providing and laying heavy duty cobble stones 75mm thick, using cement and course sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm thick sand bed (average thickness) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications. (KPWD SR 2018-19,SI No : 14.7)						
	Flush Footpath with Carriageway						
	Road No.1-GHS Road						
	RHS						
	Level Footpath-Ch.270.00 to Ch.288.00	Sqm	1	18	0.21		3.78
	LHS						
	Level Footpath-Ch.260.0 to Ch.268.00	Sqm	1	8	0.40		3.2
	Parking-Ch.180.0 to Ch.260.0	Sqm	1	82	2.50		205
	Parking-Ch.320.0 to Ch.350.0	Sqm	1	30	2.50		75
	Road No.2-P.M.Rao Road						
	Parking-LHS-Ch.10.00 to Ch.50.00	Sqm	1	36.2	2.50		90.5
	Parking-RHS-Ch.50.00 to Ch.75.00	Sqm	1	29	2.50		72.5
	Road No.3-Sharavu Temple Road						
	RHS						
	Level Footpath-Ch.165.00 to Ch.185.0	Sqm	1	20	0.73		14.6
	Parking-Ch.15.00 to Ch.33.0	Sqm	1	18	2.50		45
	Parking-Ch.68.00 to Ch.82.0	Sqm	1	16.4	2.50		41
	LHS						
	Level Footpath-Ch.140.00 to Ch.180.0	Sqm	1	40	1.18		47.2
	Parking-Ch.15.0 to Ch.42.0	Sqm	1	30	2.50		75
	Parking-Ch.65.0 to Ch.85.0	Sqm	1	20	2.50		50
	Road No.4-G.H.S. Cross Road						
	RHS						
	Ch.35.00 to Ch.50.0	Sqm	1	15	1.27		19.05
	LHS						
	Ch.65.0 to Ch.90.0	Sqm	1	40	1.10		44
	Road No.5-Vithoba Temple Road						
	LHS						
	Ch.15.0 to Ch.212.0	Sqm	1	197	1.41		277.77
	Ch.215.0 to Ch.485.0	Sqm	1	270	1.44		388.8
	RHS						
	Ch.15.0 to Ch.485.0	Sqm	1	470	1.61		756.7
	Road No.8-Maidan 3rd Cross Road						
	Parking	Sqm	1	30.6	2.50		76.5
	Road No.9-Bibi Alabi Road						
	LHS						
	Level Footpath-Ch.0.0 to Ch.38.0	Sqm	1	40	1.58		63.2
	Level Footpath-Ch.138.0 to Ch.218.0	Sqm	1	80	1.50		120
	Level Footpath-Ch.248.0 to Ch.260.0	Sqm	1	12	1.54		18.48
	Level Footpath-Ch.288.0 to Ch.308.0	Sqm	1	20	1.29		25.8
	Parking-Ch.55.00 to Ch. 130.0	Sqm	1	75.00	2.50		187.5
	Parking-Ch.140.0 to Ch.150.0	Sqm	1	10.50	2.50		26.25
	RHS						
	Level Footpath-Ch.5.00to Ch.40.0	Sqm	1	35.00	1.35		47.25
	Level Footpath-Ch.160.00 to Ch.210.0	Sqm	1	50.00	1.21		60.5
	Level Footpath-Ch.240.0 to Ch.320.0	Sqm	1	80.00	1.28		102.4
	Level Footpath-Ch.400.0 to Ch.430.0	Sqm	1	30	1.11		33.3
	Level Footpath-Ch.455.0 to Ch.465.0	Sqm	1	10	2.42		24.2
	Road No.10-Bibi Alabi-Kandak Road						
	RHS						
	Ch.12.0 to Ch.38.0	Sqm	1	26	0.41		10.66
	LHS						
	Ch.168.0 to Ch.188.0	Sqm	1	20.00	0.46		9.2
	Ch.240.0 to Ch.260.0	Sqm	1	20.00	0.31		6.2
	Ch.270.0 to Ch.300.0	Sqm	1	30.00	0.52		15.6
	Ch.300.00 to Ch.320.0	Sqm	1	20.00	0.73		14.6

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Ch.400.0 to Ch.425.0	Sqm	1	25.00	1.11		27.75
	Road No.11-Maidan 4th Cross Road-Extn						
	LHS						
	Ch.90.0 to Ch.180.0	Sqm	1	90.00	0.80		72
	Ch.30.0 to Ch.50.0	Sqm	1	20.00	1.07		21.4
	RHS						
	Ch.70.0 to Ch.80.0	Sqm	1	10.00	0.23		2.3
	Ch.115.0 to Ch.185.0	Sqm	1	70.00	1.31		91.7
	Parking-LHS	Sqm	1	46.80	2.50		117
	Parking-RHS	Sqm	1	60.00	2.50		150
	Parking-RHS	Sqm	1	53.20	2.50		133
	Road No.13-J.M 1st Cross Road						
	LHS						
	Ch.0.0 to Ch.90.0	Sqm	1	90.00	1.10		99
	Ch.95.0 to Ch.130.0	Sqm	1	40.00	0.56		22.4
	Ch.200.0 to Ch.220.0	Sqm	1	20.00	0.24		4.8
	Ch.230.0 to Ch.235.0	Sqm	1	5.00	4.37		21.85
	RHS						
	Ch.0.0 to Ch.130.0	Sqm	1	130.00	1.00		130
	Ch.200.0 to Ch.240.0	Sqm	1	40.00	0.50		20
	Road No.15-Mission Street Road						
	LHS						
	Ch.20.0 to Ch.90.0	Sqm	1	70.00	1.52		106.4
	Ch.120.0 to Ch.190.0	Sqm	1	70.00	1.08		75.6
	RHS						
	Ch.130.0 to Ch.180.0	Sqm	1	50.00	1.05		52.5
	Two Wheeler Parking						
	Road No.2-PM Rao Road						
	LHS						
	Ch.55.0 to Ch.135.0	Sqm	1	80.00	1.40		112
	RHS						
	Ch.7.00 to Ch.42.00	Sqm	1	36.90	1.40		51.66
	Ch.109.0 to Ch.132.0	Sqm	1	24.60	1.40		34.44
	Road No.3 Sharavu Temple Road						
	RHS						
	Ch.42.0 to Ch.62.0	Sqm	1	17.50	1.40		24.5
	LHS						
	Ch.111.0 to Ch. 125.0	Sqm	1	13.50	1.40		18.9
	Road No.4 GHS Cross Road						
	RHS						
	Ch.80.0 to Ch.94.0	Sqm	1	13.40	1.40		18.76
	Ch.117.0 to Ch.154	Sqm	1	36.80	1.40		51.52
	LHS						
	Ch.22.0 to Ch.40.0	Sqm	1	17.00	1.40		23.8
	Ch.112.0 to Ch.40.0	Sqm	1	17.30	1.40		24.22
	Ch.134.0 to Ch.159.0	Sqm	1	25.50	1.40		35.7
	Road No.8-Maidan 3rd Cross Road						
	RHS						
	Ch.155.0 to Ch.170.0	Sqm	1	15.80	1.40		22.12
	LHS						
	Ch.120.0 to Ch.173.0	Sqm	1	52.20	1.40		73.08
	Road No.9-Bibi Alabi Road						
	Ch.277.0 to Ch.288.0	Sqm	1	12.50	1.40		17.5
	Table Top paver Block						
1	GHS Road	Sqm	1	7.50	3.00		22.5
2	P.M.Rao Road	Sqm	1	7.00	3.00		21
3	Sharavu Temple Road	Sqm	1	6.20	3.00		18.6
4	GHS Cross Road	Sqm	1	7.50	3.00		22.5
5	Vithoba Temple Road	Sqm	1	6.00	3.00		18
6	Maidan 1st Cross Road	Sqm	1	9.00	3.00		27
7	Maidan 3rd Cross Road	Sqm	1	7.00	3.00		21
8	Bibi Alabi Road	Sqm	3	17.00	3.00		153
9	Bibi Alabi - Kanadak Road	Sqm	1	6.00	3.00		18
10	Maidan 4th Cross Road-Extn.	Sqm	1	7.00	3.00		21
11	J.M.1st Cross Road	Sqm	1	4.50	3.00		13.5
12	Mission Street Road-Extn.	Sqm	1	6.70	3.00		20.1
		Sqm			Total Qty.		5082.84
50	KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 16-17,S.I.No.21.17.1,Page No.163)						

Sr. No.	Description	Unit	No's	L	B	H	Qty.
	Table Top paver Block						
1	GHS Road	Cum	1	7.50	7.50	0.15	8.44
2	P.M.Rao Road	Cum	1	7.00	7.50	0.15	7.88
3	Sharavu Temple Road	Cum	1	6.20	7.50	0.15	6.98
4	GHS Cross Road	Cum	1	7.50	7.50	0.15	8.44
5	Vithoba Temple Road	Cum	1	6.00	7.50	0.15	6.75
6	Maidan 1st Cross Road	Cum	1	9.00	7.50	0.15	10.13
7	Maidan 3rd Cross Road	Cum	1	7.00	7.50	0.15	7.88
8	Bibi Alabi Road	Cum	3	17.00	7.50	0.15	57.38
9	Bibi Alabi - Kanadak Road	Cum	1	6.00	7.50	0.15	6.75
10	Maidan 4th Cross Road-Extn.	Cum	1	7.00	7.50	0.15	7.88
11	J.M.1st Cross Road	Cum	1	4.50	7.50	0.15	5.06
12	Mission Street Road-Extn.	Cum	1	6.70	7.50	0.15	7.54
		Cum			Total Qty.		141.08
51	KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen (KPWD 18-19, S.I.No.21.22.6)						
	Table Top paver Block						
1	GHS Road	Cum	1	7.50	7.50	0.04	2.25
2	P.M.Rao Road	Cum	1	7.00	7.50	0.04	2.10
3	Sharavu Temple Road	Cum	1	6.20	7.50	0.04	1.86
4	GHS Cross Road	Cum	1	7.50	7.50	0.04	2.25
5	Vithoba Temple Road	Cum	1	6.00	7.50	0.04	1.80
6	Maidan 1st Cross Road	Cum	1	9.00	7.50	0.04	2.70
7	Maidan 3rd Cross Road	Cum	1	7.00	7.50	0.04	2.10
8	Bibi Alabi Road	Cum	3	17.00	7.50	0.04	15.30
9	Bibi Alabi - Kanadak Road	Cum	1	6.00	7.50	0.04	1.80
10	Maidan 4th Cross Road-Extn.	Cum	1	7.00	7.50	0.04	2.10
11	J.M.1st Cross Road	Cum	1	4.50	7.50	0.04	1.35
12	Mission Street Road-Extn.	Cum	1	6.70	7.50	0.04	2.01
		Cum			Total Qty.		37.62
	Sinages						
52	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory & Informatory signboards made out of cube corner micro prismatic grade sheeting conforming to type XI standards of IRC:67:2012 specifications & fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminum skin on both sides & fixed over a support frame of 25X25X3mm MS angle and mounted on 75 mm dia OR 75X75X6mm mild steel angle to Total height 2.70 m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60mm below ground level. the sign post should be painted with be coat of red oxide paint and two coats of synthetic enamel paint of black and white colour with bands of 30 cm height alternatively firmly fixed to the ground by means of foundation with M20 grade cement concrete of 45cmX45cmX60cm including cost & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the works as directed by engineer in-charge.						
	10 years warranty for Retro Reflective Sheeting from the original sheeting manufactures as per clause 6.9 in IRC: 2012 & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier. 900MM Equilateral Triangle-TYPE XI (KPWD 18-19,SI No : 24.2.1)						
1	GHS Road	Nos.	13				13.00
2	P.M.Rao Road	Nos.	6				6.00
3	Sharavu Temple Road	Nos.	3				3.00
4	GHS Cross Road	Nos.	4				4.00
5	Vithoba Temple Road	Nos.	11				11.00
6	Maidan 1st Cross Road	Nos.	3				3.00
7	Maidan 3rd Cross Road	Nos.	5				5.00
8	Bibi Alabi Road	Nos.	19				19.00
9	Bibi Alabi - Kanadak Road	Nos.	15				15.00
10	Maidan 4th Cross Road-Extn.	Nos.	5				5.00
11	J.M.1st Cross Road	Nos.	10				10.00
12	Mission Street Road-Extn.	Nos.	11				11.00
		Nos.			Total Qty.		105.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
53	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory & Informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC:67:2012 specifications & fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminum skin on both sides & fixed over a support frame of 25X25X3mm MS angle and mounted on 75 mm dia OR 75X75X6mm mild steel angle to Total height 2.70 m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60mm below ground level. the sign post should be painted with be coat of red oxide paint and two coats of synthetic enamel paint of black and white colour with bands of 30 cm height alternatively firmly fixed to the ground by means of foundation with M20 grade cement concrete of 45cmX45cmX60cm including cost & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the works as directed be engineer in-charge.						
	10 years warranty for Retro Reflective Sheeting from the original sheeting manufactures as per clause 6.9 in IRC: 2012 & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier. 900MM Octagon Stop Board-TYPE XI (KPWD 18-19,SI No : 24.2.6)						
1	GHS Road	Nos.	1				1.00
2	P.M.Rao Road	Nos.	1				1.00
3	Sharavu Temple Road	Nos.	1				1.00
4	GHS Cross Road	Nos.	1				1.00
5	Vithoba Temple Road	Nos.	1				1.00
6	Maidan 1st Cross Road	Nos.	1				1.00
7	Maidan 3rd Cross Road	Nos.	1				1.00
8	Bibi Alabi Road	Nos.	2				2.00
9	Bibi Alabi - Kanadak Road	Nos.	1				1.00
10	Maidan 4th Cross Road-Extn.	Nos.	1				1.00
11	J.M.1st Cross Road	Nos.	1				1.00
12	Mission Street Road-Extn.	Nos.	1				1.00
		Nos.		Total Qty.			13.00
54	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory & Informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC:67:2012 specifications & fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminum skin on both sides & fixed over a support frame of 25X25X3mm MS angle and mounted on 75 mm dia OR 75X75X6mm mild steel angle to Total height 2.70 m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60mm below ground level. the sign post should be painted with be coat of red oxide paint and two coats of synthetic enamel paint of black and white colour with bands of 30 cm height alternatively firmly fixed to the ground by means of foundation with M20 grade cement concrete of 45cmX45cmX60cm including cost & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the works as directed be engineer in-charge.						
	10 years warranty for Retro Reflective Sheeting from the original sheeting manufactures as per clause 6.9 in IRC: 2012 & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier. 600MM Circle-TYPE XI (KPWD 18-19,SI No : 24.2.3)						
1	GHS Road	Nos.	7				7.00
2	P.M.Rao Road	Nos.	5				5.00
3	Sharavu Temple Road	Nos.	6				6.00
4	GHS Cross Road	Nos.	8				8.00
5	Vithoba Temple Road	Nos.	13				13.00
6	Maidan 1st Cross Road	Nos.	4				4.00
7	Maidan 3rd Cross Road	Nos.	4				4.00
8	Bibi Alabi Road	Nos.	7				7.00
9	Bibi Alabi - Kanadak Road	Nos.	12				12.00
10	Maidan 4th Cross Road-Extn.	Nos.	6				6.00
11	J.M.1st Cross Road	Nos.	10				10.00
12	Mission Street Road-Extn.	Nos.	9				9.00
		Nos.		Total Qty.			91.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
55.00	KSRRB M800-3. Direction and Place Identification Signs upto 0.9 sqm Size Board:- Manufacturing, supply and installation of retro- reflectorised cautionary, mandatory and informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC :67:2012 specifications & fixed over 4 mm thick aluminium composite panel sheet having minimum 0.30 thick aluminium skin on both sides & fixed over a support frame of 25x25x3 mm MS angle and mounted on 75mm dia OR 75x75x6mm Mild steel angle of total height 2.70m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60 cm below ground level. The sign post should be painted with one coat of red oxide paint and white colour with brands of 30 cm height alternatively firmly fixed to the ground by means of foundation with M20 grade cement concrete of 45 cm x45 cm x 60 cm including cost & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the work as directed by engineer in charge. 10 years warranty for retro reflective sheeting from the original sheeting manufacturer as per clause 6.9 in IRC 2012 & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier. (KPWD 18-19,SI No : 24.3)						
				Area			
1	GHS Road	Sqm	6	0.9			5.40
2	P.M.Rao Road	Sqm	1	0.9			0.90
3	Sharavu Temple Road	Sqm	2	0.9			1.80
4	GHS Cross Road	Sqm	1	0.9			0.90
5	Vithoba Temple Road	Sqm	3	0.9			2.70
6	Maidan 1st Cross Road	Sqm	1	0.9			0.90
7	Maidan 3rd Cross Road	Sqm	1	0.9			0.90
8	Bibi Alabi Road	Sqm	1	0.9			0.90
9	Bibi Alabi - Kanadak Road	Sqm	6	0.9			5.40
10	Maidan 4th Cross Road-Extn.	Sqm	1	0.9			0.90
11	J.M.1st Cross Road	Sqm	1	0.9			0.90
12	Mission Street Road-Extn.	Sqm	1	0.9			0.90
		Sqm			Total Qty.		22.50
56	Direction and Place Identification Signs with size more than 0.9 sqm Size Board: Providing and erecting direction and place identification retro-reflectorised sign as per IRC:67 made of high intensity grade sheeting vide Clause 801.3, fixed over aluminium sheeting, 2 mm thick with area exceeding 0.9 sqm supported on a mild steel single angle iron post 75 x 75 x 6 mm, 2 Nos. firmly fixed to the ground by means of properly designed foundation with M 15 grade cement concrete 45 x 45 x 60 em, 60 em below ground level as per approved drawing.						
				Area			
1	GHS Road	Sqm	1	2			2.00
2	P.M.Rao Road	Sqm	1	2			2.00
3	Sharavu Temple Road	Sqm	1	2			2.00
4	GHS Cross Road	Sqm	1	2			2.00
5	Vithoba Temple Road	Sqm	1	2			2.00
6	Maidan 1st Cross Road	Sqm	1	2			2.00
7	Maidan 3rd Cross Road	Sqm	1	2			2.00
8	Bibi Alabi Road	Sqm	3	2			6.00
9	Bibi Alabi - Kanadak Road	Sqm	1	2			2.00
10	Maidan 4th Cross Road-Extn.	Sqm	1	2			2.00
11	J.M.1st Cross Road	Sqm	1	2			2.00
12	Mission Street Road-Extn.	Sqm	5	2			10.00
		Sqm			Total Qty.		36.00
57	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, supply and installation of retro- reflectorised cautionary, mandatory and informatory signboards made out of cube corner micro prismatic grade sheeting confirming to 600x800 MM type XI standards of IRC :67:2012 specifications & fixed over 4 mm thick aluminium composite panel sheet having minimum 0.30 thick aluminium skin on both sides & fixed over a support frame of 25x25x3 mm MS angle and mounted on 75mm dia OR 75x75x6mm Mild steel angle of total height 2.70m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60 cm below ground level. The sign post should be painted with one coat of red oxide paint and white colour with brands of 30 cm height alternatively firmly fixed to the ground by means of foundation with (KPWD18-19,24.2.4)						
1	GHS Road	Nos.	3				3.00
2	P.M.Rao Road	Nos.	2				2.00
3	Sharavu Temple Road	Nos.	3				3.00
4	GHS Cross Road	Nos.	1				1.00
5	Vithoba Temple Road	Nos.	1				1.00
6	Maidan 1st Cross Road	Nos.	1				1.00
7	Maidan 3rd Cross Road	Nos.	1				1.00
8	Bibi Alabi Road	Nos.	3				3.00
9	Bibi Alabi - Kanadak Road	Nos.	3				3.00
10	Maidan 4th Cross Road-Extn.	Nos.	3				3.00
11	J.M.1st Cross Road	Nos.	1				1.00
12	Mission Street Road-Extn.	Nos.	1				1.00
		Nos.			Total Qty.		23.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
58	KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications (KPWD 18-19,SI No : 24.41)						
1	GHS Road	Nos	86				86.00
2	P.M.Rao Road	Nos	24				24.00
3	Sharavu Temple Road	Nos	20				20.00
4	GHS Cross Road	Nos	24				24.00
5	Vithoba Temple Road	Nos	40				40.00
6	Maidan 1st Cross Road	Nos	24				24.00
7	Maidan 3rd Cross Road	Nos	24				24.00
8	Bibi Alabi Road	Nos	54				54.00
9	Bibi Alabi - Kanadak Road	Nos	60				60.00
10	Maidan 4th Cross Road-Extn.	Nos	24				24.00
11	J.M.1st Cross Road	Nos	60				60.00
12	Mission Street Road-Extn.	Nos	50				50.00
		Nos.		Total Qty.			490.00
59	Supply & Installation of Solar Raised Pavement Markers made of polycarbonate molded body with circular shape, solar powered, LED self illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens in passive mode. The marker shall support a load of 20000 kg tested in accordance to IRC 37 and shall be resistant to dust and water ingress according to IP 65 (Ingress Protection 65 is a test which is conducted to check if solar road stud is protected from total dust ingress and low pressure water jets from any direction) standards and should withstand temperatures in the range of 0 C to 70 C. Color of lighting could be provided in red or yellow (amber) as per requirement and typical frequency of blinking is 1 Hz. There should be current losses of less than 20 micro-amperes at 2.4 V in sleep-charging mode to enhance the life of the marker and a full charge should provide for a minimum autonomy of 50 hours. The height, width and length of the marker shall not be less than 10 mm x 100 mm x 100 mm. Also, the surface diameter of the marker shall not be less than 100 mm respectively. The weight of the marker shall not exceed 0.5 Kilograms. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer.	Nos.	320				320.00
60	Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface:Providing and laying of hot applied thermoplastic compound 2.5mm thick including reflectorising glass beads at 250 gms and 2 ltr of primer per sqm area,thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35.The finished surface to be level,uniform and free from streak and holes complete as per specifications.MORTH specification No.803 (KPWD 18-19,SI No : 24.15)						
1	GHS Road						
a	Continuos Line-at Edge	Sqm	2	370	0.1		74.00
b	Continuos Line-at Median	Sqm	0	370	0.1		0.00
c	Dash Lines	Sqm	1	222	0.1		22.20
d	Arrow	Sqm	7	0.76	Area/Rm		5.32
e	Pedstrian Crossing	Sqm	5	7.5	1.4		52.50
f	Table Top Crossing	Sqm	1	7.5	16.82		126.15
2	P.M.Rao Road						
a	Continuos Line-at Edge	Sqm	2	178	0.1		35.60
b	Continuos Line-at Median	Sqm	0	178	0.1		0.00
c	Dash Lines	Sqm	1	106.8	0.1		10.68
d	Arrow	Sqm	4	0.76	Area/Rm		3.04
e	Pedstrian Crossing	Sqm	2	7	1.4		19.60
f	Table Top Crossing	Sqm	1	7	16.82		117.74
3	Sharavu Temple Road						
a	Continuos Line-at Edge	Sqm	2	194	0.1		38.80
b	Continuos Line-at Median	Sqm	0	194	0.1		0.00
c	Dash Lines	Sqm	1	116.4	0.1		11.64
d	Arrow	Sqm	4	0.76	Area/Rm		3.04
e	Pedstrian Crossing	Sqm	2	6.2	1.4		17.36
f	Table Top Crossing	Sqm	1	6.2	16.82		104.28
4	GHS Cross Road						
a	Continuos Line-at Edge	Sqm	2	180	0.1		36.00
b	Continuos Line-at Median	Sqm	0	180	0.1		0.00
c	Dash Lines	Sqm	1	108	0.1		10.80
d	Arrow	Sqm	4	0.76	Area/Rm		3.04
e	Pedstrian Crossing	Sqm	2	7.5	1.4		21.00
f	Table Top Crossing	Sqm	1	7.5	16.82		126.15
5	Vithoba Temple Road						
a	Continuos Line-at Edge	Sqm	2	482	0.1		96.40
b	Continuos Line-at Median	Sqm	0	482	0.1		0.00
c	Dash Lines	Sqm	1	289.2	0.1		28.92
d	Arrow	Sqm	10	0.76	Area/Rm		7.60

Sr. No.	Description	Unit	No's	L	B	H	Qty.
e	Pedstrian Crossing	Sqm	4	6	1.4		33.60
f	Table Top Crossing	Sqm	1	6	16.82		100.92
6	Maidan 1st Cross Road						
	Ch.0 to Ch.478.0						
a	Continuos Line-at Edge	Sqm	2	90	0.1		18.00
b	Continuos Line-at Median	Sqm	0	90	0.1		0.00
c	Dash Lines	Sqm	2	54	0.1		10.80
d	Arrow	Sqm	2	0.76	Area/Rm		1.52
e	Pedstrian Crossing	Sqm	2	9	1.4		25.20
f	Table Top Crossing	Sqm	1	9	16.82		151.38
7	Maidan 3rd Cross Road						
a	Continuos Line-at Edge	Sqm	2	186	0.1		37.20
b	Continuos Line-at Median	Sqm	0	186	0.1		0.00
c	Dash Lines	Sqm	2	111.6	0.1		22.32
d	Arrow	Sqm	4	0.76	Area/Rm		3.04
e	Pedstrian Crossing	Sqm	2	7	1.4		19.60
f	Table Top Crossing	Sqm	1	7	16.82		117.74
8	Bibi Alabi Road						
	Ch.0 to Ch.478.0						
a	Continuos Line-at Edge	Sqm	2	440	0.1		88.00
b	Continuos Line-at Median	Sqm	0	440	0.1		0.00
c	Dash Lines	Sqm	2	264	0.1		52.80
d	Arrow	Sqm	18	0.76	Area/Rm		13.68
e	Pedstrian Crossing	Sqm	1	17	1.4		23.80
f	Table Top Crossing	Sqm	3	17	16.82		857.82
9	Bibi Alabi - Kanadak Road						
	Ch.0 to Ch.478.0						
a	Continuos Line-at Edge	Sqm	2	460	0.1		92.00
b	Continuos Line-at Median	Sqm	0	460	0.1		0.00
c	Dash Lines	Sqm	2	276	0.1		55.20
d	Arrow	Sqm	9	0.76	Area/Rm		6.84
e	Pedstrian Crossing	Sqm	6	6	1.4		50.40
f	Table Top Crossing	Sqm	1	6	16.82		100.92
10	Maidan 4th Cross Road-Extn.						
	Ch.0 to Ch.478.0						
a	Continuos Line-at Edge	Sqm	2	195	0.1		39.00
b	Continuos Line-at Median	Sqm	0	195	0.1		0.00
c	Dash Lines	Sqm	2	117	0.1		23.40
d	Arrow	Sqm	4	0.76	Area/Rm		3.04
e	Pedstrian Crossing	Sqm	2	7	1.4		19.60
f	Table Top Crossing	Sqm	1	7	16.82		117.74
11	J.M.1st Cross Road						
	Ch.0 to Ch.478.0						
a	Continuos Line-at Edge	Sqm	2	197	0.1		39.40
b	Continuos Line-at Median	Sqm	0	197	0.1		0.00
c	Dash Lines	Sqm	2	118.2	0.1		23.64
d	Arrow	Sqm	4	0.76	Area/Rm		3.04
e	Pedstrian Crossing	Sqm	6	5.5	1.4		46.20
f	Table Top Crossing	Sqm	1	5.5	16.82		92.51
12	Mission Street Road-Extn.						
	Ch.0 to Ch.478.0						
a	Continuos Line-at Edge	Sqm	2	200	0.1		40.00
b	Continuos Line-at Median	Sqm	0	200	0.1		0.00
c	Dash Lines	Sqm	2	120	0.1		24.00
d	Arrow	Sqm	4	0.76	Area/Rm		3.04
e	Pedstrian Crossing	Sqm	6	6.7	1.4		56.28
f	Table Top Crossing	Sqm	1	6.7	16.82		112.69
	Add 10% Extra qty.						349.82
		Sqm			Total Qty.		3848.04
61	Providing and Fixing of Bus shelter(on prepared foundation) made of SS 304 frame work with brush steel finish, Galvanised Aluminium powder coated roofing and electronic circuit to control its lighting.The seating shall be made of SS 304 tubular sections for seat and back rest.each unit size of 4500mm x 600mm with a minimum backrest support of 450mm.Bus shelter shall have the Side Display board to have 1100X400mm Electronic display.The electronic display board to be of LED Scrolling type with Oval, 4.3 x 5.1mm dia. Diffused. LED's having Amber colour.Dual bin system should be adopted one for recycle waste & other for dry waste.Each bin shall be with minimum capacity of 70Ltrs.Interactive Information Panel-display equipment with information area of 1400 x 1400 and touch screen LED display panel of area not less than 600-900mm with integrated 8mm toughened glass.Advertisement Area 2 nos of size 4500mm x 1650mm and 2100mm x 2000mm shall be integrated within the design of the Bus Shelter. This shall be backlit type with SS box framing sides and back complete.Provision for installing outdoor WiFi Router.The Foundation slab shall be made in min M25 concrete. The cast iron nuts, bolts shall be rust proof hot deep galvanized powder coated etc.The materials used shall be Nonflammable (NON SOR Item)						
1	GHS Road	Nos.	0				0.00
2	P.M.Rao Road	Nos.	0				0.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
3	Sharavu Temple Road	Nos.	0				0.00
4	GHS Cross Road	Nos.	0				0.00
5	Vithoba Temple Road	Nos.	0				0.00
6	Maidan 1st Cross Road	Nos.	0				0.00
7	Maidan 3rd Cross Road	Nos.	0				0.00
8	Bibi Alabi Road	Nos.	3				3.00
9	Bibi Alabi - Kanadak Road	Nos.	0				0.00
10	Maidan 4th Cross Road-Extn.	Nos.	0				0.00
11	J.M.1st Cross Road	Nos.	0				0.00
12	Mission Street Road-Extn.	Nos.	0				0.00
		Nos.		Total Qty.			3.00
62	Providing & installing of E- toilet with Super structure of the electronic toilet to have asthetic ambience with inner room size 1.2 x 0.8 x 2.4 (LXWXH)meters and Size of electronic toilet overall size in meters 2.30x1.25x2.80 (LXWXH) Total area 35 Sft. with Built-access controlled main door and side walls made of SS Grade 304,Toilet floor and closet are to be stainless steel of grade 304.E-Toilet shall have Built-in water tank with minimum 225 Lit capacity and Access controll using coin validator for entering the unit based on automatic payment collection mechanism exit from the unit should be manual.Automatic lights inside the unit with gloves on opening the door.E-Toilet shall be Automatic flushing system which includes Automatic Pre flush cleaning before use,Automatic closet washing mechanism after use and Automatic platform cleaning mechanism programmed after specific numbers.In addition to these flush switch is to be provided for manual operation.Standard features should include heath faucet,exhaust fan and cloth hanger.	Nos.	4				4.00
	The E-Toilet shall have Alert to users-different indication on 'ready to use',busy are to be provided in the unit also with Voice guidance in the unit for users. Web enabled support-GPRS based Real time data to be provided from the unit through web for knowing the health status like number of users per day and coins collected.E-toilet shall have Modular and portable design enabling easy assembling and installation at site.Call ceneter and web portal facilities for registering complience and tracking usage,coin collection etc.Status display in LED,Printed instruction stickers are to be provided.For Advertisement purpose space for advertisement dispaly to be povided on the exterior of the unit for income generation and sustainability. Backup power facility like UPS is to be provided to supplement upto 30 Min Base of the unit to be placed on a suitable concrete structure with a ashthetic finish. (Non SOR Item)						
63	KSRB 6-2.3 : Providing and constructing burnt brick masonry with approved quality of non-modular bricks of standard size of class designation 5.0Newton per sqmm (table moulded) with cement mortar 1:6 for basement and superstrucutre/re including cost of materials, labour charges, scaffolding, curing complete as per specifications. Specification No. KBS 6.2. (KPWD 18-19,SI.No.6.7)						
1	GHS Road						
	Long Wall	Cum	8.00	3.00	0.23	0.65	3.59
	Short Wall	Cum	8.00	0.60	0.23	0.65	0.72
2	P.M.Rao Road						
	Long Wall	Cum	8.00	3.00	0.23	0.65	3.59
	Short Wall	Cum	8.00	0.60	0.23	0.65	0.72
3	Sharavu Temple Road						
	Long Wall	Cum	8.00	3.00	0.23	0.65	3.59
	Short Wall	Cum	8.00	0.60	0.23	0.65	0.72
4	GHS Cross Road						
	Long Wall	Cum	8.00	3.00	0.23	0.65	3.59
	Short Wall	Cum	8.00	0.60	0.23	0.65	0.72
5	Vithoba Temple Road						
	Long Wall	Cum	16.00	3.00	0.23	0.65	7.18
	Short Wall	Cum	16.00	0.60	0.23	0.65	1.44
6	Maidan 1st Cross Road						
	Long Wall	Cum	8.00	3.00	0.23	0.65	3.59
	Short Wall	Cum	8.00	0.60	0.23	0.65	0.72
7	Maidan 3rd Cross Road						
	Long Wall	Cum	8.00	3.00	0.23	0.65	3.59
	Short Wall	Cum	8.00	0.60	0.23	0.65	0.72
8	Bibi Alabi Road						
	Long Wall	Cum	16.00	3.00	0.23	0.65	7.18
	Short Wall	Cum	16.00	0.60	0.23	0.65	1.44
9	Bibi Alabi - Kanadak Road						
	Long Wall	Cum	16.00	3.00	0.23	0.65	7.18
	Short Wall	Cum	16.00	0.60	0.23	0.65	1.44
10	Maidan 4th Cross Road-Extn.						
	Long Wall	Cum	8.00	3.00	0.23	0.65	3.59
	Short Wall	Cum	8.00	0.60	0.23	0.65	0.72
11	J.M.1st Cross Road						
	Long Wall	Cum	4.00	3.00	0.23	0.65	1.79
	Short Wall	Cum	4.00	0.60	0.23	0.65	0.36
12	Mission Street Road-Extn.						
	Long Wall	Cum	8.00	3.00	0.23	0.65	3.59
	Short Wall	Cum	8.00	0.60	0.23	0.65	0.72
		Cum		Total Qty.			62.43

Sr. No.	Description	Unit	No's	L	B	H	Qty.
64	KSRB15-3.8 : Providing 18mm thick cement plaster in single coat with cement mortar 1:4, to brick masonry including rounding off corners wherever required smooth rendering. : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.(KPWD 18-19,SI No.15.16)						
1	GHS Road						
	Long Wall	Sqm	8.00	3.00		0.45	10.80
	Short Wall	Sqm	8.00	0.60		0.45	2.16
2	P.M.Rao Road						
	Long Wall	Sqm	8.00	3.00		0.45	10.80
	Short Wall	Sqm	8.00	0.60		0.45	2.16
3	Sharavu Temple Road						
	Long Wall	Sqm	8.00	3.00		0.45	10.80
	Short Wall	Sqm	8.00	0.60		0.45	2.16
4	GHS Cross Road						
	Long Wall	Sqm	8.00	3.00		0.45	10.80
	Short Wall	Sqm	8.00	0.60		0.45	2.16
5	Vithoba Temple Road						
	Long Wall	Sqm	16.00	3.00		0.45	21.60
	Short Wall	Sqm	16.00	0.60		0.45	4.32
6	Maidan 1st Cross Road						
	Long Wall	Sqm	8.00	3.00		0.45	10.80
	Short Wall	Sqm	8.00	0.60		0.45	2.16
7	Maidan 3rd Cross Road						
	Long Wall	Sqm	8.00	3.00		0.45	10.80
	Short Wall	Sqm	8.00	0.60		0.45	2.16
8	Bibi Alabi Road						
	Long Wall	Sqm	16.00	3.00		0.45	21.60
	Short Wall	Sqm	16.00	0.60		0.45	4.32
9	Bibi Alabi - Kanadak Road						
	Long Wall	Sqm	16.00	3.00		0.45	21.60
	Short Wall	Sqm	16.00	0.60		0.45	4.32
10	Maidan 4th Cross Road-Extn.						
	Long Wall	Sqm	8.00	3.00		0.45	10.80
	Short Wall	Sqm	8.00	0.60		0.45	2.16
11	J.M.1st Cross Road						
	Long Wall	Sqm	4.00	3.00		0.45	5.40
	Short Wall	Sqm	4.00	0.60		0.45	1.08
12	Mission Street Road-Extn.						
	Long Wall	Sqm	8.00	3.00		0.45	10.80
	Short Wall	Sqm	8.00	0.60		0.45	2.16
		Sqm		Total Qty.			187.92
65	Providing and fixing 450mm wide X 600mmX 20mm thk.RIVERWASHED BLACK GRANITE CLADDING on surface of seating as directed by architect (Non SOR Item)						
1	GHS Road						
	Bench	Sqm	4.00	3.00		0.60	7.20
2	P.M.Rao Road						
	Bench	Sqm	4.00	3.00		0.60	7.20
3	Sharavu Temple Road						
	Bench	Sqm	4.00	3.00		0.60	7.20
4	GHS Cross Road						
	Bench	Sqm	4.00	3.00		0.60	7.20
5	Vithoba Temple Road						
	Bench	Sqm	8.00	3.00		0.60	14.40
6	Maidan 1st Cross Road						
	Bench	Sqm	8.00	3.00		0.60	14.40
7	Maidan 3rd Cross Road						
	Bench	Sqm	4.00	3.00		0.60	7.20
8	Bibi Alabi Road						
	Bench	Sqm	8.00	3.00		0.60	14.40
9	Bibi Alabi - Kanadak Road						
	Bench	Sqm	8.00	3.00		0.60	14.40
10	Maidan 4th Cross Road-Extn.						
	Bench	Sqm	4.00	3.00		0.60	7.20
11	J.M.1st Cross Road						
	Bench	Sqm	2.00	3.00		0.60	3.60
12	Mission Street Road-Extn.						
	Bench	Sqm	4.00	3.00		0.60	7.20
		Sqm		Total Qty.			111.60
66	Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)						
1	GHS Road	Nos	20				20.00
2	P.M.Rao Road	Nos	8				8.00
3	Sharavu Temple Road	Nos	8				8.00
4	GHS Cross Road	Nos	8				8.00
5	Vithoba Temple Road	Nos	4				4.00
6	Maidan 1st Cross Road	Nos	8				8.00
7	Maidan 3rd Cross Road	Nos	6				6.00
8	Bibi Alabi Road	Nos	24				24.00
9	Bibi Alabi - Kanadak Road	Nos	20				20.00
10	Maidan 4th Cross Road-Extn.	Nos	8				8.00
11	J.M.1st Cross Road	Nos	18				18.00
12	Mission Street Road-Extn.	Nos	14				14.00

Sr. No.	Description	Unit	No's	L	B	H	Qty.
							146.00
67	Providing and fixing of railing as detail design in MS HOLLOW SECTION and bars (shop drawing to be approved),with vertical support of 0.9m @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)						
	Handrail						
	Road						
	RHS	Rm	1	200			200.00
	LHS	Rm	1	200			200.00
		Rm				A=	400.00
	Hand Rail of length 2.4 meter Steel Qty.					Wu/Rm	
	Horizontal Member-M.S.Box 25x25x3.2mm thk.	KG		3	2.4	4.536	32.66
	Vertical Member-M.S. Box 50x25x3.2mm thk.	KG		1	1.375	7.368	10.13
	Verical Bar-Dia 16mm	KG		20	0.475	0.7493296	7.12
					Area	Thk	
	Logo Plate	KG		1	0.07065	0.001	0.000071
		KG				Total Wight for 2.4 m Railing (A)	49.91
	Railing per 1m Weight(A / 2.4 m)	KG				B=	20.8
	Total Railing Weight (A x B)	MT					8.32
68	Providing and Fixing SS 304 Outdoor Dustbin(Pivoted Type and Mounted on SS Poles) of 55 liters capacity all complete to the satisfaction of the Engineer in charge. (NON SOR Item)						
1	GHS Road	Nos.	4				4.00
2	P.M.Rao Road	Nos.	2				2.00
3	Sharavu Temple Road	Nos.	2				2.00
4	GHS Cross Road	Nos.	2				2.00
5	Vithoba Temple Road	Nos.	5				5.00
6	Maidan 1st Cross Road	Nos.	1				1.00
7	Maidan 3rd Cross Road	Nos.	2				2.00
8	Bibi Alabi Road	Nos.	5				5.00
9	Bibi Alabi - Kanadak Road	Nos.	5				5.00
10	Maidan 4th Cross Road-Extn.	Nos.	2				2.00
11	J.M.1st Cross Road	Nos.	3				3.00
12	Mission Street Road-Extn.	Nos.	2				2.00
		Nos.				Total Qty.	35.00
69	KSRRB M300-14. Half brick circular tree guard, in 2nd class brick, internal diametre 1.25 metres, and height 1.2 metres, above ground and 0.20 metre below ground, bottom two courses laid dry, and top three courses in cement mortar 1:6 (1 cement 6 sand) and the intermediate courses being in dry honey comb masonry, as per design complete, complete as per specifications.KSRRB M300-Edging with 2nd class bricks, laid dry lengthwise	Nos.	20				20.00
70	Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead of 5 km Item No 17.4 KSRRB M100-4.1-Earth	Cum	1.00	12413.16			12413.16
71	Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead of 5km Item No 17.4 KSRRB M100-4.1-Debris	Cum	1.00	11254.96			11254.96

ASSISTANT ENGINEER
MSCL MANGALURU

ASSISTANT EXECUTIVE ENGINEER
MSCL MANGALURU

EXECUTIVE ENGINEER
MSCL MANGALURU

GM TECHNICAL
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**Name of the Work :- Mangalore Smart City
1.2 Rate Analysis of Road & Other Work for DPR 7**

1	Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)		
	Basic rate		68.16
	Add 10% For area weightage (Mangalore City)		6.82
		Rate	74.98 Sqm
2	KSRRB M200.Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled material stacking serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (SI No : 18.47)		
	Basic rate		899
	Initial Lead of 5km		13
	Add 10% For area weightage (Mangalore City)		89.9
		Rate	1001.90 Cum
3	KSRRB M200-Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications. MORTH Specification No.202. (Page No.139,S.I.No.18.49)		
	Basic rate		12.00
	Add 10% For area weightage (Mangalore City)		1.2
		Rate	13.20 Rmt
4	KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 18-19,S.I.18.20)		
	Basic rate		390
	Add 10% For area weightage (Mangalore City)		39
		Rate	429.00 Cum
5	KSRRB M200-17.2. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. v)Steel work in all types of Sections upto a Height of 5 m above plinth level excluding Cutting of Rivet- B. Excluding dismembering. (KPWD SOR 18-19,18.33)		
	Basic rate		1893
	Add 10% For area weightage (Mangalore City)		189.3
		Rate	2082.30 MT
6	KSRRB 300-50. Scarifying bituminous course 50mm to 75mm thick along with premix carpet / surface dressing by road roller attached with scarifier without disturbing the base and stacking the debris including cost of all labour charges, HOM of machineries complete as per specifications. MORTH / Section 5.(KSRRB SI No.19.56)		
	Basic rate		39
	Add 10% For area weightage (Mangalore City)		3.9
		Rate	42.90 Sqm

7	KSRRB 300-46. Scarifying stone metal crust 50mm to 100mm thick by road roller with scarifier along with 20mm premix carpet / surface dressing and stacking of old serviceable materials including cost of all labour charges, HOM of machinaries complete as per specifications. MORTH / Section 5. (KSRRB SI No.19.52)			
	Basic rate			39
	Add 10% For area weightage (Mangalore City)			3.9
		Rate		42.90 Sqm
8	KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. i)Dismantaling Brick/Tile work B.In Cement mortar (SI No : 18.23)			
	Basic rate			351
	Add 10% For area weightage (Mangalore City)			35.1
		Rate		386.10 Cum
9	Removing B.S slab of drain and stackin as directed by engineer in charge.(PWD 18-19,SI No : 5.32)			
	Basic rate			98
	Add 10% For area weightage (Mangalore City)			9.8
		Rate		107.80 Sqm
10	KSRRB M800-Permanent type barricade in construction zone KSRRB M800-44.1. Construction of a permanent type barricade made of steel components, 1.5 m high from road level, fitted with 3 horizontal rails 200 mm wide and 4 m long on 50 x 50 x 5 mm angle iron vertical support, painted with yellow and white strips, 150 mm in width at an angle of 45°, complete as per IRC:SP:55-2014 complete as per specifications . A. With steel components (SI No : 24.45)			
	Basic rate			3829
	Add 10% For area weightage (Mangalore City)			382.9
		Rate		4211.90 Each
11	KSRRB M300-14. Excavation for roadwork in all types of soil with hydraulic excavator of 0.9 bucket capacity including cutting and loading in tippers,trimming bottom and side slopes,in accordance with requirements of lines and grades and cross sections,and transporting disposal location up to a lead of 5.00Km and complete as per specifications. MORTH specification No.301 (SI No : 19.14)			
	Basic rate for 1KM			41
	Extra for carriage beyond 1km and upto 5km			10.24
	Add 10% For area weightage (Mangalore City)			5.12
		Rate		56.36 Cum
12	KSRRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 18-19,SI No.2.11)			
	Basic rate			120
	Add 10% For area weightage (Mangalore City)			12
		Rate		132.00 Cum
13	KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occuring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3			
	Basic rate			6
	Add 10% For area weightage (Mangalore City)			0.6
		Rate		6.60 Sqm

14	KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (SI.No. 4.6 of KPWD 18-19)				
	Basic Rate			5900	
	Add 10% For area weightage (Mangalore City)			590	
			Rate	6490.00	Cum
15	KSRRB 400 Granular Sub-Base with Coarse Graded Material (table 400-1) KSRRB M400-7. Construction of granular sub-base by providing Coarse graded crushed stone aggregates of granite / trap / basalt material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per MORTH specifications clause 401 and Table 400-1 Grading VI. (SI.No.20.4 of KPWD SR 2018-19)				
	Basic Rate			2166	
	Add 10% For area weightage (Mangalore City)			216.6	
			Rate	2382.60	Cum
16	KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material (RA Attached)				
	Basic Rate			2400	
	Add 10% For area weightage (Mangalore City)			240	
			Rate	2640.00	Cum
17	KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters conforming to IS 9103-1999 reaffirmed -2008 at machine mixed,concrete laid in layers not exceeding 15cms thick, vibrated for all works in foundation for footings, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (SI No : 4.10 of KPWD 18-19)				
	Basic Rate			6198	
	Add 10% For area weightage (Mangalore City)			619.8	
			Rate	6817.80	Cum
18	KSRB 4.6.1 Providing and removing centering, shuttering, strutting, propping etc.,and removal of formwork for foundations, footings, bases of columns for mass concrete including cost of all materials,labour complete as per specifications. Specification No. KSB 4.6.2 (SI No : 4.28 of KPWD 18-19)				
	Basic Rate			263	
	Add 10% For area weightage (Mangalore City)			26.3	
			Rate	289.30	Sqm
19	KSRB 4.9.2 :Providing T.M.T steel reinforcement for RCC work including straightening,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to thr adjoining members wherever necessary complete as per design (laps,hooks and wastage shall not be measured and paid) cost of materials,labour,HOM of machinery complete as per specifications.Specification No. KBS4.6.3. do with TMT bars Fe500 (SI No : 4.46.2 of KPWD 18-19)				
	Basic Rate			70782	
	Add 10% For area weightage (Mangalore City)			7078.2	
			Rate	77860.20	MT

20	KSRRB M300-Construction of Subgrade. KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murrum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory roller compaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305IKPWD 18-19,19.62,17.1 and 17.4)			
	Basic Rate		513	
	Add 20km lead (17.4 KSRRB M100-4.1-Cost of haulage excluding loading and unloading MORTH-100/Chapter 1-case 1-Surface Road)=2.0Rs/ Tkm x 1.28 T x 20km		51.2	
	Sub Total		564.2	
	Add 10% For area weightage (Mangalore City)		56.42	
		Rate	620.62	Cum
21	KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,laid with a paver with electronic sensor,compacting with 8-10 tonnes double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (SI No : 22.1.1 of KPWD 18-19)			
	Basic Rate		4048	
	Add 10% For area weightage (Mangalore City)		404.8	
		Rate	4452.80	Cum
22	KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,Manually laid and compacting with palte compactor,finishing and curing complete as per MORTH specifications Clause 601. (RA attached)			
	Basic Rate		3680	
	Add 10% For area weightage (Mangalore City)		368	
		Rate	4048.00	Cum
23	Providing and laying cement concrete using 20mm and down size granite coarse aggregates and fine aggregates of ready mixed concrete for RCC works laid in 15 em thick layers and well compacted including vibrating curing etc., for all super structure works with all lead and lift etc., complete. (exculsive of cost of steel and fabrication charges) Note : The RMC should be obtained only from the plants certified by Quality Council of India as per CE, C&B letter, AE2, 2015-16, Dt. 12-09-2015 Ready mixed Cement concrete M-25 (KPWD,4.49.2)			
	Basic Rate		5497	
	Add 10% For area weightage (Mangalore City)		549.7	
		Rate	6046.70	Cum

24	KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplastisizer at 3 lts confirming to IS9103-1999 reaffirmed 2008(Coarse and fine aggregate conforming to IS:383) mixed in a batching and mixing plant as per approved mix design,transported to site,laid with a fixed form paver spread,compacted and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints,including groove cutting charges, joints filler,separation memberane, sealent primer, joints sealant, debonding strip, dowel bars, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per MORTH specifications Clause 602.with M40 @420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (SI No : 22.2.2 of KPWD 18-19)		
	Basic Rate		5765
	Add 10% For area weightage (Mangalore City)		576.5
		Rate	6341.50 Cum
25	Providing and placing joint sealant compound of cold polysulphide in the grooves after widening the groove to required width, sand blasting the groove face if recommended by the sealant manufacturer, cleaning the groove with air compressor, insertion of debonding strip, priming the sides of the sealant if the sealant manufacturer recommends and pouring the sealant all complete including material, manpower and as shown on drawing and as per MORTH specifications clause 602. (Non SOR Item)		
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.2	Rate	115 Rmt
26	KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 Repairs of spalled joints grooves of contraction joints longitudinal joints and expansion joints in concrete pavement using epoxy mortar concrete complete as per specifications.Morth specification No.3005.1 (SI No : 35.8 of KPWD 18-19)		
	Basic Rate		331
	Add 10% For area weightage (Mangalore City)		33.1
		Rate	364.10 Rmt
27	Providing and laying at or near ground level factory made Median kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per drawing. (Precast C.C. kerb stone shall be approved by Engineer-in-charge). (RA Attached)		
	Rate Arrived as per Rate analysis		
	Basic Rate		17708.82
	Add 10% For area weightage (Mangalore City)		1770.88
		Rate	19479.70 Cum
28	Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC M20 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (SI No : 5.3 of KPWD 18-19)		
	Basic Rate of one kerb stone of M15 Grade =0.0279 cum	Rate	421
	Rate for 1 cum of Kerb stone		15089.61
	Add diferance in cement content of M15 to M20 Grade		392
	Total Rate		15481.61
	Add 10% For area weightage (Mangalore City)		1548.16
		Rate	17029.77 Cum
29	Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC M20 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (SI No : 5.3 of KPWD 18-19)		

	Basic Rate of one kerb stone of M15 Grade =0.0279 cum	Rate	421	
	Rate for 1 cum of Water Table		15089.61	
	Add diferance in cement content of M15 to M20 Grade		392	
	Total Rate		15481.61	
	Add 10% For area weightage (Mangalore City)		1548.16	
		Rate	17029.77	Cum
30	Reusing existing kerb stone obtained from dismantaling of existing footpath or by other dismantaling work and laying at or near ground level in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including transportation to site from stack yard, making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).			
	Basic Rate (RA Attached)		52.94	
	Add 10% For area weightage (Mangalore City)		5.29	
		Rate	58.23	Rmt
31	KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per MORTH specifications section 8. (SI No : 24.1 of KPWD 18-19)			
	Basic Rate		80	
	Add 10% For area weightage (Mangalore City)		8	
		Rate	88	Sqm
32	P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting. (Rate analysis attached)			
	Rate Arrived as per Rate analysis			
	Basic Rate		10764	
	Discount 30%		-3229.2	
	Sub Total		7534.8	
	Fixing Charges @5%		376.74	
		Rate	7911.54	Nos.
33	P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)			
	Basic Rate		7179	
	Discount 30%		-2153.7	
	Sub Total		5025.3	
	Fixing Charges @5%		251.265	
		Rate	5276.565	Nos.
34	P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)			
	Basic Rate		10765	
	Discount 30%		-3229.5	
	Sub Total		7535.5	
	Fixing Charges @5%		376.775	
		Rate	7912.28	Nos.
35	Raising manhole cover and frame to the reqiured road top level including the removing existing cover and raising of MH top wall in RCC M25 and refixing the same cover in proper position with all finish,including cost of all materials, labour, etc. complete.			
	Basic Rate		1804	
		Rate	1804	Nos.

36	KSRRB M300- Wrought iron and mild steel welded work KSRRB M300-18. Wrought iron and mild steel welded work (using angles, square bars, tees and channel grills, gratings with grating frames, gates and tree guards of any size and design etc. including cost of screens and welding rods or bolts and nuts complete fixed in position but without the cost of excavation and concrete for fixing which will be paid separately complete as per specifications.(KPWD,18-19,SI.No.19.97)		
	Basic Rate		7187
	Add 10% For area weightage (Mangalore City)		718.7
		Rate	7905.7 Quintal
37	KSRB 12-8.2 : Constructing brick masonry inspection chamber 500x700mm, and 450mm depth, (clear inside dimension) for pipeline with one or two inlets, using table moulded non-modular bricks of class designation 50 in cement mortar 1:5, C.I cover with frame (light duty) 455x610mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23kg and weight of frame 15 kg) R.C.C. top slab with cement concrete M 15 with 20mm and downsize granite metal , foundation concrete M 5 with 40mm and downsize granite metal inside plastering 12mm thick with cement mortar 1:3, finished smooth with a floating coat of cement on walls and bed concrete complete as per standard design including cost of materials, labour charges, curing complete as per specifications. Specification No. KBS (P.No. 74/ I.No.11.52 of PWD SR 2018-19)		
	Basic Rate		8296
	Add 10% For area weightage (Mangalore City)		829.6
		Rate	9125.6 Nos.
38	Providing gully pipe lowering,laying of PVC 100 mm dia pipes to the required alignments including specials and grade as indicated in drawings/design and hydraulically testing of the pipe line.The rate shall include all jointing materials,testing apparatus and water for testi g etc as directed by the Engineer in charge (page No.41,Item No.7,KUWSDB SOR 2016-17)		
	Basic Rate		297
	Add 10% on Labor Charges=Rs.47,For area weightage (Mangalore City)		4.7
		Rate	301.7 Rm
39	KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia, of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2018-19, SI.No.12.89)		
	Basic Rate		830
	Add 10% For area weightage (Mangalore City)		83
		Rate	913 Nos.
38	KSRRB M2200- Providing Weep Holes KSRRB M2200-8. Providing weep holes in Brick masonry / Plain / Reinforced concrete abutment, wing wall / return wall with 100 mm dia AC pipe, extending through the full width of the structure with slope of 1V :20H towards drawing face. Complete as per drawing and Technical Specifications complete as per specifications MORTH Specification No.2706 & 2200 (PWD SR 2018-19, SI.No.28.10)		
	Basic Rate		147
	Add 10% For area weightage (Mangalore City)		14.7
		Rate	161.7 Nos.
41	KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2018-19,SI.No.24.36)		

	Basic Rate		5022	
	Add 10% For area weightage (Mangalore City)		502.2	
		Rate	5524.20	Rm
42	Providing and laying Dia 225mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)			
	Basic Rate		2300	
	Deduct GST @18%		-414	
	Labour Cost for laying and Jointing-KUWSDB, HDPE Pipes, Item No.50, Pg.No.123)		78	
	Add 10% For area weightage (Mangalore City)		7.8	
		Rate	1971.80	Rm
43	Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)			
	Basic Rate		1215	
	Deduct GST @18%		-218.7	
	Labour Cost for laying and Jointing-KUWSDB, HDPE Pipes, Item No.50, Pg.No.123)		66	
	Add 10% For area weightage (Mangalore City)		6.6	
		Rate	1068.90	Rm
44	Providing and Fixing Spacers for Power Ducts of size 225 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			
	Basic Rate (without GST@18%)		1003	
		Rate	1003.00	Nos.
45	Providing and Fixing Spacers for Power Ducts of size 160 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			
	Basic Rate (without GST@18%)		1947	
		Rate	1947.00	Nos.
46	Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)			
	Basic Rate		685	
	Deduct GST @18%		-123.3	
	Labour Cost for laying and Jointing-KUWSDB, HDPE Pipes, Item No.50, Pg.No.123)		36	
	Add 10% For area weightage (Mangalore City)		3.6	
		Rate	601.30	Rm
47	Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.			
	Basic rate		624.00	
		Rate	624.00	Sqm

48	Cutting of Control joints panels(in Footpath) at suitable required locations using using tools and tackles.		
	Basic rate		59.00
		Rate	59.00 Sqm
49	Providing and laying heavy duty cobble stones 75mm thick, using cement and course sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm thick sand bed (average thickness) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications. (KPWD SR 2018-19,SI No : 14.7)		
	Basic rate		1114
	Add 10% For area weightage (Mangalore City)		111.4
		Rate	1225.40 Sqm
50	KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 16-17,S.I.No.21.17.1,Page No.163)		
	Basic rate		7839
	Add 10% For area weightage (Mangalore City)		783.9
		Rate	8622.90 Cum
51	KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-30 Bitumen		
	Basic rate		8761
	Add 10% For area weightage (Mangalore City)		876.1
		Rate	9637.10 Cum
52	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory & Informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC:67:2012 specifications & fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminum skin on both sides & fixed over a support frame of 25X25X3mm MS angle and mounted on 75 mm dia OR 75X75X6mm mild steel angle to Total height 2.70 m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60mm below ground level. the sign post should be painted with be coat of red oxide paint and two coats of synthetic enamel paint of black and white colour with bands of 30 cm height alternatively firmly fixed to the ground by means of foundation with M20 grade cement concrete of 45cmX45cmX60cm including cost & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the works as directed be engineer in-charge.		
	10 years warranty for Retro Reflective Sheeting from the original sheeting manufactures as per clause 6.9 in IRC: 2012 & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier. 900MM Equilateral Triangle-TYPE XI (KPWD 18-19,SI No : 24.2.1)		
	Basic Rate		3511
	Add 10% For area weightage (Mangalore City)		351.1
		Rate	3862.10 Nos

53	<p>KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory & Informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC:67:2012 specifications & fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminum skin on both sides & fixed over a support frame of 25X25X3mm MS angle and mounted on 75 mm dia OR 75X75X6mm mild steel angle to Total height 2.70 m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60mm below ground level. the sign post should be painted with be coat of red oxide paint and two coats of synthetic enamel paint of black and white colour with bands of 30 cm height alternatively firmly fixed to the ground by means of foundation with M20 grade cement concrete of 45cmX45cmX60cm including cost & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the works as directed be engineer in-charge.</p>												
	<p>10 years warranty for Retro Reflective Sheeting from the original sheeting manufactures as per clause 6.9 in IRC: 2012 & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier. 900MM Octagon Stop Board-TYPE XI (KPWD 18-19,SI No : 24.2.6)</p>												
	<table border="1"> <tr> <td>Basic Rate</td> <td></td> <td>4958</td> <td></td> </tr> <tr> <td>Add 10% For area weightage (Mangalore City)</td> <td></td> <td>495.8</td> <td></td> </tr> <tr> <td></td> <td>Rate</td> <td>5453.80</td> <td>Nos</td> </tr> </table>	Basic Rate		4958		Add 10% For area weightage (Mangalore City)		495.8			Rate	5453.80	Nos
Basic Rate		4958											
Add 10% For area weightage (Mangalore City)		495.8											
	Rate	5453.80	Nos										
54	<p>KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, Supply and Installation of retro-reflective cautionary, mandatory & Informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC:67:2012 specifications & fixed over 4mm thick aluminium composite panel sheet having minimum 0.30 mm thick aluminum skin on both sides & fixed over a support frame of 25X25X3mm MS angle and mounted on 75 mm dia OR 75X75X6mm mild steel angle to Total height 2.70 m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60mm below ground level. the sign post should be painted with be coat of red oxide paint and two coats of synthetic enamel paint of black and white colour with bands of 30 cm height alternatively firmly fixed to the ground by means of foundation with M20 grade cement concrete of 45cmX45cmX60cm including cost & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the works as directed be engineer in-charge.</p>												
	<p>10 years warranty for Retro Reflective Sheeting from the original sheeting manufactures as per clause 6.9 in IRC: 2012 & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier. 600MM Circle-TYPE XI (KPWD 18-19,SI No : 24.2.3)</p>												
	<table border="1"> <tr> <td>Basic Rate</td> <td></td> <td>3118</td> <td></td> </tr> <tr> <td>Add 10% For area weightage (Mangalore City)</td> <td></td> <td>311.8</td> <td></td> </tr> <tr> <td></td> <td>Rate</td> <td>3429.80</td> <td>Nos</td> </tr> </table>	Basic Rate		3118		Add 10% For area weightage (Mangalore City)		311.8			Rate	3429.80	Nos
Basic Rate		3118											
Add 10% For area weightage (Mangalore City)		311.8											
	Rate	3429.80	Nos										
55	<p>KSRRB M800-3. Direction and Place Identification Signs upto 0.9 sqm Size Board:-Manufacturing, supply and installation of retro- reflectorised cautionary, mandatory and informatory signboards made out of cube corner micro prismatic grade sheeting confirming to type XI standards of IRC :67:2012 specifications & fixed over 4 mm thick aluminium composite panel sheet having minimum 0.30 thick aluminium skin on both sides & fixed over a support frame of 25x25x3 mm MS angle and mounted on 75mm dia OR 75x75x6mm Mild steel angle of total height 2.70m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60 cm below ground level. The sign post should be painted with one coat of red oxide paint and white colour with brands of 30 cm height alternatively firmly fixed to the ground by means of foundation with M20 grade cement concrete of 45 cm x45 cm x 60 cm including cost & conveyance of all materials, equipment, machinery & labour with all leads and lifts, loading charges necessary for satisfactory completion of the work as directed by engineer in charge. 10 years warranty for retro reflective sheeting from the original sheeting manufacturer as per clause 6.9 in IRC 2012 & a certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be obtained from the supplier. (KPWD 18-19,SI No : 24.3)</p>												
	<table border="1"> <tr> <td>Basic Rate</td> <td></td> <td>6927</td> <td></td> </tr> <tr> <td>Add 10% For area weightage (Mangalore City)</td> <td></td> <td>692.7</td> <td></td> </tr> </table>	Basic Rate		6927		Add 10% For area weightage (Mangalore City)		692.7					
Basic Rate		6927											
Add 10% For area weightage (Mangalore City)		692.7											

		Rate	7619.70	Sqm
56	Direction and Place Identification Signs with size more than 0.9 sqm Size Board: Providing and erecting direction and place identification retro-reflectorised sign as per IRC:67 made of high intensity grade sheeting vide Clause 801.3, fixed over aluminium sheeting, 2 mm thick with area exceeding 0.9 sqm supported on a mild steel single angle iron post 75 x 75 x 6 mm, 2 Nos. firmly fixed to the ground by means of properly designed foundation with M 15 grade cement concrete 45 x 45 x 60 em, 60 em below ground level as per approved drawing.			
	Basic Rate		7206	
	Add 10% For area weightage (Mangalore City)		720.6	
		Rate	7926.60	Sqm
57	KSRRB M800-2. Retro-Reflectorised Traffic Signs - Manufacturing, supply and installation of retro-reflectorised cautionary, mandatory and informative signboards made out of cube corner micro prismatic grade sheeting conforming to 600x800 MM type XI standards of IRC :67:2012 specifications & fixed over 4 mm thick aluminium composite panel sheet having minimum 0.30 thick aluminium skin on both sides & fixed over a support frame of 25x25x3 mm MS angle and mounted on 75mm dia OR 75x75x6mm Mild steel angle of total height 2.70m with clear height of not less than 2.10 m from the ground level to the bottom of the sign board & 60 cm below ground level. The sign post should be painted with one coat of red oxide paint and white colour with brands of 30 cm height alternatively firmly fixed to the ground by means of foundation with (KPWD18-19,24.2.4)			
	Basic Rate		4049	
	Add 10% For area weightage (Mangalore City)		404.9	
		Rate	4453.90	Nos
58	KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lens reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications (KPWD 18-19,SI No : 24.41)			
	Basic Rate		289	
	Add 10% For area weightage (Mangalore City)		28.9	
		Rate	317.90	Nos.
59	Supply & Installation of Solar Raised Pavement Markers made of polycarbonate molded body with circular shape, solar powered, LED self illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens in passive mode. The marker shall support a load of 20000 kg tested in accordance to IRC 37 and shall be resistant to dust and water ingress according to IP 65 (Ingress Protection 65 is a test which is conducted to check if solar road stud is protected from total dust Ingress and low pressure water jets from any direction) standards and should withstand temperatures in the range of 0 C to 70 C. Color of lighting could be provided in red or yellow (amber) as per requirement and typical frequency of blinking is 1 Hz. There should be current losses of less than 20 micro-amperes at 2.4 V in sleep-charging mode to enhance the life of the marker and a full charge should provide for a minimum autonomy of 50 hours. The height, width and length of the marker shall not be less than 10 mm x 100 mm x 100 mm. Also, the surface diameter of the marker shall not be less than 100 mm respectively. The weight of the marker shall not exceed 0.5 Kilograms. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer.			
	Basic Rate		2961	
	Add 10% For area weightage (Mangalore City)		296.1	
		Rate	3257.10	Nos.

60	Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface:Providing and laying of hot applied thermoplastic compound 2.5mm thick including reflectorising glass beads at 250 gms and 2 ltr of primer per sqm area,thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35.The finished surface to be level,uniform and free from streak and holes complete as per specifications.MORTH specification No.803 (KPWD 18-19,SI No : 24.15)			
	Basic Rate		429	
	Add 10% For area weightage (Mangalore City)		42.9	
		Rate	471.90	Sqm
61	Providing and Fixing of Bus shelter(on prepared foundation) made of SS 304 frame work with brush steel finish, Galvanised Aluminium powder coated roofing and electronic circuit to control its lighting.The seating shall be made of SS 304 tubular sections for seat and back rest.each unit size of 4500mm x 600mm with a minimum backrest support of 450mm.Bus shelter shall have the Side Display board to have 1100X400mm Electronic display.The electronic display board to be of LED Scrolling type with Oval, 4.3 x 5.1mm dia. Diffused. LED's having Amber colour.Dual bin system should be adopted one for recycle waste & other for dry waste.Each bin shall be with minimum capacity of 70Ltrs.Interactive Information Panel-display equipment with information area of 1400 x 1400 and touch screen LED display panel of area not less than 600-900mm with integrated 8mm toughened glass.Advertisement Area 2 nos of size 4500mm x 1650mm and 2100mm x 2000mm shall be integrated within the design of the Bus Shelter. This shall be backlit type with SS box framing sides and back complete.Provision for installing outdoor WiFi Router.The Foundation slab shall be made in min M25 concrete. The cast iron nuts, bolts shall be rust proof hot deep galvanized powder coated etc.The materials used shall be Nonflammable (NON SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer	Rate	150000	Nos.
62	Providing & installing of E- toilet with Super structure of the electronic toilet to have asthetic ambience with inner room size 1.2 x 0.8 x 2.4 (LXWXH)meters and Size of electronic toilet overall size in meters 2.30x1.25x2.80 (LXWXH) Total area 35 Sft. with Built-accs controlled main door and side walls made of SS Grade 304,Toilet floor and closet are to be stainless steel of grade 304.E-Toilet shall have Built-in water tank with minimum 225 Lit capacity and Accs controll using coin validator for entering the unit based on automatic payment collection mechanism exit from the unit should be manual.Automatic lights inside the unit with gloves on opening the door.E-Toilet shall be Automatic flushing system which includes Automatic Pre flush cleaning before use,Automatic closet washing mechanism after use and Automatic platform cleaning mechanism programmed after specific numbers.In addition to these flush switch is to be provided for manual operation.Standard features should include heath faucet,exhaust fan and cloth hanger.The E-Toilet shall have Alert to users-different indication on 'ready to use',busy are to be provided in the unit also with Voice guidance in the unit for users. Web enabled support-GPRS based Real time data to be provided from the unit through web for knowing the health status like number of users per day and coins collected.			
	E-toilet shall have Modular and portable design enabling easy assembling and installation at site.Call ceneter and web portal facilities for registering complience and tracking usage,coin collection etc.Status display in LED,Printed instruction stickers are to be provided.For Advertismnt purpose space for advertisement dispaly to be provided on the exterior of the unit for income generation and sustainability. Backup power facility like UPS is to be provided to supplement upto 30 Min Base of the unit to be placed on a suitable concrete structure with a ashthetic finish. (Non SOR Item)			
	Baisc rate		575000	
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.1	Rate	575000	Nos.
63	KSRB 6-2.3 : Providing and constructing burnt brick masonry with approved quality of non-modular bricks of standard size of class designation 5.0Newton per sqmm (table moulded) with cement mortar 1:6 for basement and superstructu/re including cost of materials, labour charges, scaffolding, curing complete as per specifications. Specification No. KBS 6.2. (KPWD 18-19,SI.No.6.7)			
	Basic rate		7797	
	Add 10% For area wightage		779.7	

		Rate	8576.70	Cum
64	KSRB15-3.8 : Providing 18mm thick cement plaster in single coat with cement mortar 1:4, to brick masonry including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.(KPWD 18-19,SI No.15.16)			
	Basic rate		262	
	Add 10% For area wightage		26.2	
		Rate	288.2	Sqm
61	Providing and fixing 450mm wide X 600mmX 20mm thk.RIVERWASHED BLACK GRANITE CLADDING on surface of seating as directed by architect (Non SOR Item)			
	Basic Rate		3527	
	Rate Approved as per EOI by MD MSCL Mangalore,Refer	Rate	3527.00	Sqm
66	Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)			
	Basic Rate		4500	
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.13	Rate	4500.00	Nos.
67	Providing and fixing of railing as detail design in MS HOLLOW SECTION and bars (shop drawing to be approved),with vertical support of 0.9m @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)			
	Basic Rate		100000.00	
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.26	Rate	100000.00	MT
68	Providing and Fixing SS 304 Outdoor Dustbin(Pivoted Type and Mounted on SS Poles) of 55 liters capacity all complete to the satisfaction of the Engineer in charge. (NON SOR Item)			
	Basic Rate		7500	
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.14	Rate	7500.00	Nos.
69	KSRRB M300-14. Half brick circular tree guard, in 2nd class brick, internal diametre 1.25 metres, and height 1.2 metres, above ground and 0.20 metre below ground, bottom two courses laid dry, and top three courses in cement mortar 1:6 (1 cement 6 sand) and the intermediate courses being in dry honey comb masonry, as per design complete, complete as per specifications.KSRRB M300-Edging with 2nd class bricks, laid dry lengthwise			
	Basic Rate		2242	
	Add 10% For area weightage (Mangalore City)		224.2	
		Rate	2466.20	Nos.
70	Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead of 5 km Item No 17.4 KSRRB M100-4.1-Earth			
	Earth	2.0x1.28x10km		
	Baisc rate		25.60	
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)		57.00	
	Sub Total		82.60	
	Add 10% For area weightage (Mangalore City)		8.26	
		Rate	90.86	Cum

71	Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead of 5km Item No 17.4 KSRRB M100-4.1-Debris			
	Debris		2.0x1.30x10Km	
	Baisc rate		26.00	
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)		57.00	
	Sub Total		83.00	
	Add 10% For area weightage (Mangalore City)		8.3	
		Rate	91.30	Cum

**ASSISTANT ENGINEER
MSCL MANGALURU**

**ASSISTANT EXECUTIVE ENGINEER
MSCL MANGALURU**

**EXECUTIVE ENGINEER
MSCL MANGALURU**

**GM TECHNICAL
MSCL MANGALURU**

**Name of the Work :- Mangalore Smart City
2.1 BOQ of Electrical lighting Works for DPR-7 Roads**

Sr.No.	Specification	Unit	Quantity	Rate	Amount	Remarks
1	Lighting Poles					
1.1	Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required	Nos.	19	1,681	31,932	
1.2	Erection of metallic pole of following length in cement concrete 1 :3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation and refilling etc. as required. Above 6.5 meter and upto 8.0 meter Existing poles (As per RA)	Nos.	11	4,057	44,627	
1.3	Lighting Pole, 7 m Fabrication, supply and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 m pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 155 mm dia, top 70 mm with	Nos.	195	12,420	2,421,900	
1.4	Lighting Pole, 4 m Fabrication, supply and erection of 4 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 4 pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 130 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No.5.14.2)	Nos.	46	7,398	340,308	
1.5	Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Double Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.5)	Nos.	0	3,540	-	
1.6	Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)	Nos.	252	2,400	604,800	
1.7	Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-above 5.5 mtr to 7.5 mtr (Ref Electrical SOR SI No.16.28.2)	Nos	11	620	6,820	
2	Out door box and switch gear					
2.1	Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets	No.	15	11,783	176,744	
2.2	Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)	No	15	1,547	23,205	

Sr.No.	Specification	Unit	Quantity	Rate	Amount	Remarks
3	LT Cable					
3.1	Supplying of 1.1 kV LT cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanised, steel strips (except 2C x 10 sq. mm wire armoured) as per IS-3975:1990 and extruded PVC outer sheathed armoured cable as per IS - 1554 Part 1:1988 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)	m	8737	117	1,022,229	
3.2	Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)	m	3368	81.60	274,829	
3.3	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)	Nos	2016	11.31	22,801	
3.4	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)	Nos	1512	3.12	4,717	
4	Earthing system					
4.1	Chemical Earthing for grounding, conduits, IC cut outs and otherequipments on the mter board by using copper /SS rod with earth enhancing backfill compound which is non corrosive ,thermally,conductive,potential, to permissible,limits,superior,fault,conductive capacity,non toxic,weather resistance and capable of achieving ohmic value less than one ohm (Ref Electrical SOR Pg.No.64,SI No.7.23.6)	Kit	30	5,500.00	165,000	
4.2	Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)	Rmt	7694	19.50	150,033	
5	Dismantling of 7 mtr high mast pole/ strut embedded in cement concrete foundation etc. as required RA attached	Nos.	0	2,541.48	-	
6	Erection of 7 mtr high mast metallic pole of following length in cement concrete 1 :3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation,refilling,components, accessories etc. as required. Above 6.5 meter and upto 8.0 meter Existing poles (As per RA)	Nos.	0	5,476.00	-	
				TOTAL	52,89,945	

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Name of the Work :- Mangalore Smart City

2.1.1 M.S.of Electrical Lighting Works

Sr.No.	Specification	Unit	No.	L	B	H	Quantity
1	Lighting Poles						
1.1	Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required						
1	G.H.S ROAD(Road no 1)	Nos.	5				5.00
2	P.M RAO ROAD (Road no 2)	Nos.	0				0.00
3	SHARAVU TEMPLE ROAD (Road no 3)	Nos.	0				0.00
4	G.H.S CROSSROAD (Jewllery Jn.) (Road no 4)	Nos.	0				0.00
5	VITOBHA TEMPLE ROAD (Road no 5)	Nos.	0				0.00
6	MAIDAN 1st CROSS ROAD(Road no 7)	Nos.	0				0.00
7	MAIDAN 3rd CROSS ROAD(Road no 8)	Nos.	0				0.00
8	BIBI ALABI ROAD (Road no 9)	Nos.	11				11.00
9	BIBI ALABI-KANADAK ROAD (Road no 10)	Nos.	0				0.00
10	MAIDAN 4th CROSS ROAD-EXTN (Road no 11)	Nos.	0				0.00
11	J.M 1st CROSS ROAD (Road no 14)	Nos.	3				3.00
12	MISSION STREET ROAD- EXTN (Road no 15)	Nos.	0				0.00
						Total	19.00
1.2	Erection of metallic pole of following length in cement concrete 1 :3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation and refilling etc. as required. Above 6.5 meter and upto 8.0 meter Existing poles (As per RA)						
1	G.H.S ROAD(Road no 1)	Nos.	0				0.00
2	P.M RAO ROAD (Road no 2)	Nos.	0				0.00
3	SHARAVU TEMPLE ROAD (Road no 3)	Nos.	0				0.00
4	G.H.S CROSSROAD (Jewllery Jn.) (Road no 4)	Nos.	0				0.00
5	VITOBHA TEMPLE ROAD (Road no 5)	Nos.	0				0.00
6	MAIDAN 1st CROSS ROAD(Road no 7)	Nos.	0				0.00
7	MAIDAN 3rd CROSS ROAD(Road no 8)	Nos.	0				0.00
8	BIBI ALABI ROAD (Road no 9)	Nos.	11				11.00
9	BIBI ALABI-KANADAK ROAD (Road no 10)	Nos.	0				0.00
10	MAIDAN 4th CROSS ROAD-EXTN (Road no 11)	Nos.	0				0.00
11	J.M 1st CROSS ROAD (Road no 14)	Nos.	0				0.00
12	MISSION STREET ROAD- EXTN (Road no 15)	Nos.	0				0.00
						Total	11.00
1.3	Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, icluding suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 m pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 155 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No. 5.14.5)						
1	G.H.S ROAD(Road no 1)	Nos.	27				27.00
2	P.M RAO ROAD (Road no 2)	Nos.	14				14.00
3	SHARAVU TEMPLE ROAD (Road no 3)	Nos.	14				14.00

Sr.No.	Specification	Unit	No.	L	B	H	Quantity
4	G.H.S CROSSROAD (Jewllery Jn.) (Road no 4)	Nos.	14				14.00
5	VITOBHA TEMPLE ROAD (Road no 5)	Nos.	19				19.00
6	MAIDAN 1st CROSS ROAD(Road no 7)	Nos.	8				8.00
7	MAIDAN 3rd CROSS ROAD(Road no 8)	Nos.	16				16.00
8	BIBI ALABI ROAD (Road no 9)	Nos.	31				31.00
9	BIBI ALABI-KANADAK ROAD (Road no 10)	Nos.	19				19.00
10	MAIDAN 4th CROSS ROAD-EXTN (Road no 11)	Nos.	16				16.00
11	J.M 1st CROSS ROAD (Road no 14)	Nos.	9				9.00
12	MISSION STREET ROAD- EXTN (Road no 15)	Nos.	8				8.00
						Total	195
1.4	Lighting Pole, 4 m Fabrication, supply and erection of 4 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 4 pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 130 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No.5.14.2)						
1	G.H.S ROAD(Road no 1)	Nos.	11				11.00
2	P.M RAO ROAD (Road no 2)	Nos.	3				3.00
3	SHARAVU TEMPLE ROAD (Road no 3)	Nos.	8				8.00
4	G.H.S CROSSROAD (Jewllery Jn.) (Road no 4)	Nos.	2				2.00
5	VITOBHA TEMPLE ROAD (Road no 5)	Nos.	0				0.00
6	MAIDAN 1st CROSS ROAD(Road no 7)	Nos.	0				0.00
7	MAIDAN 3rd CROSS ROAD(Road no 8)	Nos.	3				3.00
8	BIBI ALABI ROAD (Road no 9)	Nos.	0				0.00
9	BIBI ALABI-KANADAK ROAD (Road no 10)	Nos.	7				7.00
10	MAIDAN 4th CROSS ROAD-EXTN (Road no 11)	Nos.	12				12.00
11	J.M 1st CROSS ROAD (Road no 14)	Nos.	0				0.00
12	MISSION STREET ROAD- EXTN (Road no 15)	Nos.	0				0.00
						Total	46.00
1.5	Supplying and fixing of hot dip Galvinized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Double Cross arm - 1500 mm						
1	G.H.S ROAD(Road no 1)	Nos.	0				0.00
2	P.M RAO ROAD (Road no 2)	Nos.	0				0.00
3	SHARAVU TEMPLE ROAD (Road no 3)	Nos.	0				0.00
4	G.H.S CROSSROAD (Jewllery Jn.) (Road no 4)	Nos.	0				0.00
5	VITOBHA TEMPLE ROAD (Road no 5)	Nos.	0				0.00
6	MAIDAN 1st CROSS ROAD(Road no 7)	Nos.	0				0.00
7	MAIDAN 3rd CROSS ROAD(Road no 8)	Nos.	0				0.00
8	BIBI ALABI ROAD (Road no 9)	Nos.	0				0.00
9	BIBI ALABI-KANADAK ROAD (Road no 10)	Nos.	0				0.00
10	MAIDAN 4th CROSS ROAD-EXTN (Road no 11)	Nos.	0				0.00
11	J.M 1st CROSS ROAD (Road no 14)	Nos.	0				0.00
12	MISSION STREET ROAD- EXTN (Road no 15)	Nos.	0				0.00
						Total	0.00

Sr.No.	Specification	Unit	No.	L	B	H	Quantity
1.6	Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)						
1	G.H.S ROAD(Road no 1)	Nos.	38				38.00
2	P.M RAO ROAD (Road no 2)	Nos.	17				17.00
3	SHARAVU TEMPLE ROAD (Road no 3)	Nos.	22				22.00
4	G.H.S CROSSROAD (Jewllery Jn.) (Road no 4)	Nos.	16				16.00
5	VITOBHA TEMPLE ROAD (Road no 5)	Nos.	19				19.00
6	MAIDAN 1st CROSS ROAD(Road no 7)	Nos.	8				8.00
7	MAIDAN 3rd CROSS ROAD(Road no 8)	Nos.	19				19.00
8	BIBI ALABI ROAD (Road no 9)	Nos.	42				42.00
9	BIBI ALABI-KANADAK ROAD (Road no 10)	Nos.	26				26.00
10	MAIDAN 4th CROSS ROAD-EXTN (Road no 11)	Nos.	28				28.00
11	J.M 1st CROSS ROAD (Road no 14)	Nos.	9				9.00
12	MISSION STREET ROAD- EXTN (Road no 15)	Nos.	8				8.00
						Total	252
1.7	Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-above 5.5 mtr to 7.5 mtr (Ref Electrical SOR SI No.16.28.2)						
1	G.H.S ROAD(Road no 1)	Nos.	0				0.00
2	P.M RAO ROAD (Road no 2)	Nos.	0				0.00
3	SHARAVU TEMPLE ROAD (Road no 3)	Nos.	0				0.00
4	G.H.S CROSSROAD (Jewllery Jn.) (Road no 4)	Nos.	0				0.00
5	VITOBHA TEMPLE ROAD (Road no 5)	Nos.	0				0.00
6	MAIDAN 1st CROSS ROAD(Road no 7)	Nos.	0				0.00
7	MAIDAN 3rd CROSS ROAD(Road no 8)	Nos.	0				0.00
8	BIBI ALABI ROAD (Road no 9)	Nos.	11				11.00
9	BIBI ALABI-KANADAK ROAD (Road no 10)	Nos.	0				0.00
10	MAIDAN 4th CROSS ROAD-EXTN (Road no 11)	Nos.	0				0.00
11	J.M 1st CROSS ROAD (Road no 14)	Nos.	0				0.00
12	MISSION STREET ROAD- EXTN (Road no 15)	Nos.	0				0.00
						Total	11.00
2	Lighting Panel						
2.1	Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets						
1	G.H.S ROAD(Road no 1)	Nos.	2				2.00
2	P.M RAO ROAD (Road no 2)	Nos.	1				1.00
3	SHARAVU TEMPLE ROAD (Road no 3)	Nos.	1				1.00
4	G.H.S CROSSROAD (Jewllery Jn.) (Road no 4)	Nos.	1				1.00
5	VITOBHA TEMPLE ROAD (Road no 5)	Nos.	1				1.00
6	MAIDAN 1st CROSS ROAD(Road no 7)	Nos.	1				1.00
7	MAIDAN 3rd CROSS ROAD(Road no 8)	Nos.	1				1.00
8	BIBI ALABI ROAD (Road no 9)	Nos.	3				3.00
9	BIBI ALABI-KANADAK ROAD (Road no 10)	Nos.	1				1.00
10	MAIDAN 4th CROSS ROAD-EXTN (Road no 11)	Nos.	1				1.00
11	J.M 1st CROSS ROAD (Road no 14)	Nos.	1				1.00
12	MISSION STREET ROAD- EXTN (Road no 15)	Nos.	1				1.00
						Total	15

Sr.No.	Specification	Unit	No.	L	B	H	Quantity
2.2	Supply and fixing of miniature circuit breaker on existing board using necessary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required conforming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)						
1	G.H.S ROAD(Road no 1)	Nos.	2				2.00
2	P.M RAO ROAD (Road no 2)	Nos.	1				1.00
3	SHARAVU TEMPLE ROAD (Road no 3)	Nos.	1				1.00
4	G.H.S CROSSROAD (Jewellery Jn.) (Road no 4)	Nos.	1				1.00
5	VITOBHA TEMPLE ROAD (Road no 5)	Nos.	1				1.00
6	MAIDAN 1st CROSS ROAD(Road no 7)	Nos.	1				1.00
7	MAIDAN 3rd CROSS ROAD(Road no 8)	Nos.	1				1.00
8	BIBI ALABI ROAD (Road no 9)	Nos.	3				3.00
9	BIBI ALABI-KANADAK ROAD (Road no 10)	Nos.	1				1.00
10	MAIDAN 4th CROSS ROAD-EXTN (Road no 11)	Nos.	1				1.00
11	J.M 1st CROSS ROAD (Road no 14)	Nos.	1				1.00
12	MISSION STREET ROAD- EXTN (Road no 15)	Nos.	1				1.00
						Total	15
3	LT Cable						
3.1	Supplying of 1.1 kV LT cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanised, steel strips (except 2C x 10 sq. mm wire armoured) as per IS-3975:1990 and extruded PVC outer sheathed armoured cable as per IS - 1554 Part 1:1988 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)						
1	G.H.S ROAD(Road no 1) (Considering 25% more length for looping)	m	2	463			925
2	P.M RAO ROAD (Road no 2)(Considering 25% more length for looping)	m	2	181			363
3	SHARAVU TEMPLE ROAD (Road no 3) (Considering 25% more length for looping)	m	2	231			462
4	G.H.S CROSSROAD (Jewellery Jn.) (Road no 4) (Considering 25% more length for looping)	m	2	225			450
5	VITOBHA TEMPLE ROAD (Road no 5) (Considering 25% more length for looping)	m	2	613			1225
6	MAIDAN 1st CROSS ROAD(Road no 7)(Considering 25% more length for looping)	m	2	469			938
7	MAIDAN 3rd CROSS ROAD(Road no 8) (Considering 25% more length for looping)	m	2	225			450
8	BIBI ALABI ROAD (Road no 9) (Considering 25% more length for looping)	m	2	588			1175
9	BIBI ALABI-KANADAK ROAD (Road no 10) (Considering 25% more length for looping)	m	2	575			1150
10	MAIDAN 4th CROSS ROAD-EXTN (Road no 11) (Considering 25% more length for looping)	m	2	244			488
11	J.M 1st CROSS ROAD (Road no 14) (Considering 25% more length for looping)	m	2	250			500
12	MISSION STREET ROAD- EXTN (Road no 15) ((Considering 25% more length for looping)	m	2	306			613
						Total	8737

Sr.No.	Specification	Unit	No.	L	B	H	Quantity
3.2	Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)						
1	G.H.S ROAD(Road no 1)						
	7 mtr high pole	m	27	14			378.00
	4m high pole	m	11	8			88.00
2	P.M RAO ROAD (Road no 2)						
	7m high pole	m	14	14			196.00
	4m high pole	m	3	8			24.00
3	SHARAVU TEMPLE ROAD (Road no 3)						
	7m high pole	m	14	14			196.00
	4m high pole	m	8	8			64.00
4	G.H.S CROSSROAD (Jewllery Jn.) (Road no 4)						
	7 mtr high pole	m	14	14			196.00
	4 mtr high pole	m	2	8			
5	VITOBHA TEMPLE ROAD (Road no 5)						
	7 mtr high pole	m	19	14			266.00
	4 mtr high pole	m	0	8			0.00
6	MAIDAN 1st CROSS ROAD(Road no 7)						
	7 mtr high pole	m	8	14			112.00
7	MAIDAN 3rd CROSS ROAD(Road no 8)						
	7 mtr high pole	m	16	14			224.00
	4 mtr high pole	m	3	14			42.00
8	BIBI ALABI ROAD (Road no 9)						
	7 mtr high pole	m	42	14			588.00
	4 mtr high pole	m	0	14			0.00
9	BIBI ALABI-KANADAK ROAD (Road no 10)						
	7 mtr high pole	m	19	14			266.00
	4 mtr high pole	m	7	14			98.00
10	MAIDAN 4th CROSS ROAD-EXTN (Road no 11)						
	7 mtr high pole	m	16	14			224.00
	4 mtr high pole	m	12	14			168.00
11	J.M 1st CROSS ROAD (Road no 14)						
	7 mtr high pole	m	9	14			126.00
	4 mtr high pole	m	0	14			0.00
12	MISSION STREET ROAD- EXTN (Road no 15)						
	7 mtr road	m	8	14			112.00
	4 mtr high pole	m	0	8			0.00
						Total	3368
3.3	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)		No.of Poles	No.of Lugs			
1	G.H.S ROAD(Road no 1)						
	7 mtr high pole	Nos.	27	8			216.00
	4m high pole	Nos.	11	8			88.00
2	P.M RAO ROAD (Road no 2)						
	7m high pole	Nos.	14	8			112.00
	4m high pole	Nos.	3	8			24.00
3	SHARAVU TEMPLE ROAD (Road no 3)						
	7m high pole	Nos.	14	8			112.00
	4m high pole	Nos.	8	8			64.00
4	G.H.S CROSSROAD (Jewllery Jn.) (Road no 4)						
	7 mtr high pole	Nos.	14	8			112.00
	4m high pole	Nos.	2	8			16.00

Sr.No.	Specification	Unit	No.	L	B	H	Quantity
5	VITOBHA TEMPLE ROAD (Road no 5)						
	7 mtr high pole	Nos.	19	8			152.00
	4 mtr high pole	Nos.	0	8			0.00
6	MAIDAN 1st CROSS ROAD(Road no 7)						
	7 mtr high pole	Nos.	8	8			64.00
7	MAIDAN 3rd CROSS ROAD(Road no 8)						
	7 mtr high pole	Nos.	16	8			128.00
	4 mtr high pole	Nos.	3	8			24.00
8	BIBI ALABI ROAD (Road no 9)						
	7 mtr high pole	Nos.	42	8			336.00
	4 mtr high pole	Nos.	0	8			0.00
9	BIBI ALABI-KANADAK ROAD (Road no 10)						
	7 mtr high pole	Nos.	19	8			152.00
	4 mtr high pole	Nos.	7	8			56.00
10	MAIDAN 4th CROSS ROAD-EXTN (Road no 11)						
	7 mtr high pole	Nos.	16	8			128.00
	4 mtr high pole	Nos.	12	8			96.00
11	J.M 1st CROSS ROAD (Road no 14)						
	7 mtr high pole	Nos.	9	8			72.00
	4 mtr high pole	Nos.	0	8			0.00
12	MISSION STREET ROAD- EXTN (Road no 15)						
	7 mtr road	Nos.	8	8			64.00
	4 mtr high pole	Nos.	0	8			0.00
						Total	2016
3.4	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)						
1	G.H.S ROAD(Road no 1)						
	7 mtr high pole	Nos.	27	6			162.00
	4m high pole	Nos.	11	6			66.00
2	P.M RAO ROAD (Road no 2)						
	7m high pole	Nos.	14	6			84.00
	4m high pole	Nos.	3	6			18.00
3	SHARAVU TEMPLE ROAD (Road no 3)						
	7m high pole	Nos.	14	6			84.00
	4m high pole	Nos.	8	6			48.00
4	G.H.S CROSSROAD (Jewllery Jn.) (Road no 4)						
	7 mtr high pole	Nos.	14	6			84.00
	4m high pole	Nos.	2	6			12.00
5	VITOBHA TEMPLE ROAD (Road no 5)						
	7 mtr high pole	Nos.	19	6			114.00
	4 mtr high pole	Nos.	0	6			0.00
6	MAIDAN 1st CROSS ROAD(Road no 7)						
	7 mtr high pole	Nos.	8	6			48.00
7	MAIDAN 3rd CROSS ROAD(Road no 8)						
	7 mtr high pole	Nos.	16	6			96.00
	4 mtr high pole	Nos.	3	6			18.00
8	BIBI ALABI ROAD (Road no 9)						
	7 mtr high pole	Nos.	42	6			252.00
	4 mtr high pole	Nos.	0	6			0.00
9	BIBI ALABI-KANADAK ROAD (Road no 10)						
	7 mtr high pole	Nos.	19	6			114.00
	4 mtr high pole	Nos.	7	6			42.00
10	MAIDAN 4th CROSS ROAD-EXTN (Road no 11)						
	7 mtr high pole	Nos.	16	6			96.00
	4 mtr high pole	Nos.	12	6			72.00
11	J.M 1st CROSS ROAD (Road no 14)						
	7 mtr high pole	Nos.	9	6			54.00

Sr.No.	Specification	Unit	No.	L	B	H	Quantity
	4 mtr high pole	Nos.	0	6			0.00
12	MISSION STREET ROAD- EXTN (Road no 15)						
	7 mtr road	Nos.	8	6			48.00
	4 mtr high pole	Nos.	0	6			0.00
						Total	1512
4.1	Chemical Earthing for grounding,conduits,IC cut outs and otherequipmentson the mter boardby using copper /SS rod with earth enhancing backfill compound which is non corrosive ,thermally,conductive,potential,to permissible,limits,superior,fault,conductive capacity,non toxic,weather resistance and capable of achieving ohmic value less than one ohm (Ref Electrical SOR Pg.No.64,SI No.7.23.6)						
1	G.H.S ROAD(Road no 1)	Nos.	2	2			4.00
2	P.M RAO ROAD (Road no 2)	Nos.	1	2			2.00
3	SHARAVU TEMPLE ROAD (Road no 3)	Nos.	1	2			2.00
4	G.H.S CROSSROAD (Jewllery Jn.) (Road no 4)	Nos.	1	2			2.00
5	VITOBHA TEMPLE ROAD (Road no 5)	Nos.	1	2			2.00
6	MAIDAN 1st CROSS ROAD(Road no 7)	Nos.	1	2			2.00
7	MAIDAN 3rd CROSS ROAD(Road no 8)	Nos.	1	2			2.00
8	BIBI ALABI ROAD (Road no 9)	Nos.	3	2			6.00
9	BIBI ALABI-KANADAK ROAD (Road no 10)	Nos.	1	2			2.00
10	MAIDAN 4th CROSS ROAD-EXTN (Road no 11)	Nos.	1	2			2.00
11	J.M 1st CROSS ROAD (Road no 14)	Nos.	1	2			2.00
12	MISSION STREET ROAD- EXTN (Road no 15)	Nos.	1	2			2.00
						Total	30

Sr.No.	Specification	Unit	No.	L	B	H	Quantity
4.2	Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)						
1	G.H.S ROAD(Road no 1)	m	2	407			814.00
2	P.M RAO ROAD (Road no 2)	m	2	160			320.00
3	SHARAVU TEMPLE ROAD (Road no 3)	m	2	204			408.00
4	G.H.S CROSSROAD (Jewllery Jn.) (Road no 4)	m	2	198			396.00
5	VITOBHA TEMPLE ROAD (Road no 5)	m	2	539			1078.00
6	MAIDAN 1st CROSS ROAD(Road no 7)	m	2	413			826.00
7	MAIDAN 3rd CROSS ROAD(Road no 8)	m	2	198			396.00
8	BIBI ALABI ROAD (Road no 9)	m	2	517			1034.00
9	BIBI ALABI-KANADAK ROAD (Road no 10)	m	2	506			1012.00
10	MAIDAN 4th CROSS ROAD-EXTN (Road no 11)	m	2	215			430.00
11	J.M 1st CROSS ROAD (Road no 14)	m	2	220			440.00
12	MISSION STREET ROAD- EXTN (Road no 15)	m	2	270			540.00
						Total	7694
5	Dismantling of 7 mtr high mast pole/ strut embedded in cement concrete foundation etc. as required RA attached	No	0				0.00
6	Erection of 7 mtr high mast metallic pole of following length in cement concrete 1 :3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation,refilling,components, accessories etc. as required. Above 6.5 meter and upto 8.0 meter Existing poles (As per RA)	No	0				0.00

**Assistant Engineer
MSCL Mangaluru**

**Assistant Executive Engineer
MSCL Mangaluru**

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

Name of the Work :- Mangalore Smart City
2.1.2 Rate Analysis of Electrical Lighting works

1	Lighting Poles			
1.1	Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))			
		Rate	1,680.65	Nos.
1.2	Erection of metallic pole of following length in cement concrete 1 :3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation and refilling etc. as required. Above 6.5 meter and upto 8.0 meter Existing poles (Delhi analysis of rates E & M 2016, item 11.3.2, pg 372))			
		Rate	4,057	Nos.
1.3	Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, icluding suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 m pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 155 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No. 5.14.5)			
	Basic rate		12420	
		Rate	12420	Nos.

1.4	Lighting Pole, 4 m Fabrication, supply and erection of 4 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 4 pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 130 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No.5.14.2)			
	Basic rate			7398
		Rate	7,398	Nos.
1.5	Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Double Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.5)			
	Basic rate			3540
		Rate	3,540	Nos.
1.6	Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)			
	Basic rate			2400
		Rate	2,400	Nos.
1.7	Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-above 5.5 mtr to 7.5 mtr (Ref Electrical SOR SI No.16.28.2)			
	Basic rate			620
		Rate	620	Nos.
2	Out door box and switch gear			
2.1	Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets			
	Price list (Considering 30% discount , 18% GST & 10% profit)	Rate	11,783	Nos.

2.2	Supply and fixing of miniature circuit breaker on existing board using necessary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required conforming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)			1547	
	Basic rate			1547	
		Rate		1,547	Nos.
3	LT Cable				
3.1	Supplying of 1.1 kV LT cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanised, steel strips as per IS-3975:1990 and extruded PVC outer sheathed armoured cable as per IS - 1554 Part 1:1988 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)			117	
	Basic rate			117	
		Rate		117	Rm
3.2	Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)			81.6	
	Basic rate			81.6	
		Rate		81.60	Rm
3.3	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)			11.31	
	Basic rate			11.31	
		Rate		11.31	Nos.
3.4	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)			3.12	
	Basic rate			3.12	
		Rate		3.12	Nos.

4.1	Chemical Earthing for grounding, conduits, IC cut outs and other equipments on the meter board by using copper /SS rod with earth enhancing backfill compound which is non corrosive, thermally, conductive, potential, to permissible limits, superior, fault, conductive capacity, non toxic, weather resistance and capable of achieving ohmic value less than one ohm (Ref Electrical SOR Pg.No.64, SI No.7.23.6)		5500	
	Basic rate			
		Rate	5500.00	Kit
4.2	Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)		19.5	
	Basic rate			
		Rate	19.50	Rmt
5	Dismantling of 7 mtr high mast pole/ strut embedded in cement concrete foundation etc. as required RA attached			
		Rate	2,541	Nos.
6	Erection of 7 mtr high mast metallic pole of following length in cement concrete 1 :3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation, refilling, components, accessories etc. as required. Above 6.5 meter and upto 8.0 meter Existing poles (As per RA)			
		Rate	5,476	Nos.

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**Name of the Work :- Mangalore Smart City
2.1.3 Rate Analysis of Electrical Lighting works**

Sr. No.	Description	Unit	qty	Rate	Amount	Remark
1.1	Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))					
	Line man	day	0.33	486.20	160.446	PWD SOR 2018-19, LVIII, Sl. No 38
	Khasasi	day	2.66	466.20	1240.092	PWD SOR 2018-19, LXIV, Sl. No 148
	Total				1400.538	
	Contracto's profit @10%				140.0538	
	Contractor's over head @ 10%				140.0538	
					1680.6456	
1.2	Erection of metallic pole of following length in cement concrete 1 :3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation and refilling etc. as required. Above 6.5 meter and upto 8.0 meter Existing poles (Delhi analysis of rates E & M 2016, item 11.3.2, pg 372))					
	LABOUR					
	Mason, Grade 2	day	0.33	456.20	150.546	PWD SOR 2018-19, LVI, Sl. No 13
	Lineman	day	0.33	486.20	160.446	PWD SOR 2018-19, LVIII, Sl. No 38
	Khallas	day	3.33	466.20	1552.446	PWD SOR 2018-19, LXIV, Sl. No 148
	TOTAL				1863.438	
	Contracto's profit @10%				186.3438	
	Contractor's over head @ 10%				186.3438	
	TOTAL				2236.1256	
	Excavation including refilling as required	cum	0.87	328.90	286.143	PWD SOR 2018-19, pg-6, Sl. No 2.3
	Cement concrete 1:3:6 (1 cement: 3 coarse sand : 6 graded stone aggregate 40 mm nominal size)	cum	0.29	6279.90	1821.171	PWD SOR 2018-19, pg-13, Sl. No 4.1
	TOTAL				4057.2966	
	say				4057	
5	Dismantling of 7 mtr high mast pole/ strut embedded in cement concrete foundation etc. as required					
	Line man	day	1	486.20	486.20	PWD SOR 2018-19, LVIII, Sl. No 38
	Khasasi	day	3.5	466.20	1631.70	PWD SOR 2018-19, LXIV, Sl. No 148
	Total				2117.9	
	Contracto's profit @10%				211.79	
	Contractor's over head @ 10%				211.79	
					2541.48	

Sr. No.	Description	Unit	qty	Rate	Amount	Remark
6	Erection of metallic pole of following length in cement concrete 1 :3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) foundation including excavation and refilling etc. as required. Above 6.5 meter and upto 8.0 meter Existing high mast poles (Delhi analysis of rates E & M 2016, item 11.3.2, pg 372))					
	LABOUR					
	Mason, Grade 2	day	0.5	456.20	228.1	PWD SOR 2018-19, LVI, SI. No 13
	Lineman	day	1	486.20	486.2	PWD SOR 2018-19, LVIII, SI. No 38
	Khallasi	day	5	466.20	2331	PWD SOR 2018-19, LXIV, SI. No 148
	TOTAL				3045.3	
	Contractor's profit @10%				304.53	
	Contractor's over head @ 10%				304.53	
	TOTAL				3654.36	
	Excavation including refilling as required	cum	0.87	328.90	286.143	PWD SOR 2018-19, pg-6, SI. No 2.3
	Cement concrete 1:3:6 (1 cement: 3 coarse sand : 6 graded stone aggregate 40 mm nominal size)	cum	0.29	6279.90	1821.171	PWD SOR 2018-19, pg-13, SI. No 4.1
	TOTAL				5475.531	
	say				5476	

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Name of the Work :- Manglore Smart City

3.1 BOQ OF SOFTSCAPE for DPR 7

Sr.No.	Specifications	Unit	Quantity	Rate	Amount	Remarks
1.1	SOIL MIXES and Ground Preparation					
1.1.1	Supplying and stacking of good earth at site including royalty and carriage upto 5 k.m. lead complete (earth measured in stacks will be reduced by 20% for payment). (Non SOR Item)	Cum	96.48	140.00	13,507	
1.1.2	KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stacking complete as per specifications. MORTH Specification No. 308.2(Page No.152,Sl.No.19.90)	Cum	47.52	224.40	10,663	
1.1.3	KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. Spreading of sludge farm yard manure or/ and good earth in required thickness (cost of sludge, farm yard manure or/and good earth to be paid for separately) complete as per specifications. MORTH Specification No. 307 (KPWD SR 16-17,Page No.150,Sl No.19.77)	Cum	144.00	113.30	16,315	
1.1.4	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)	Cum	144.00	23.91	3,443	
1.1.5	Soil preparation of Lawn					
	KSRRB M300-3.Making lawns including ploughing and breaking of clod,removal of rubbish,dressing and supplying doobs grass roots and planting at 15 cm apart,including supplying and spreading of farm yard manure at rate of 0.18cum per 100 sqm complete as per specifications. MORTH Specification No.307 (KSRRB 19.80)	Sqm	240.00	17.60	4,224	

Sr.No.	Specifications	Unit	Quantity	Rate	Amount	Remarks
1.2	TURF					
1.2.1	ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	240.00	156.80	37,632	
1.2	IRRIGATION					
1.2.1	supply and fixing of irrigation lines such that all the green areas and plants are adequately watered; by means of drip irrigation for trees , sub surface for shrubs and lawn areas / ground covers and pop up sprinklers for lawn areas. (Equipment make - Rainbird or equivalent) All material used should be comply to BSI code. All the necessary value and pump required for complete commissioning to be installed. (Non SOR Item)	Sqm	240.00	560.00	134,400	
Total					2,20,184	

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Name of the Work :- Manglore Smart City
3.1.1 Measurement Sheet of softscape for DPR 7

Sr.No.	Item	Unit	No.	L	B	H	Qty.
1.1	SOIL MIXES and Ground Preparation						
1.1.1	Supplying and stacking of good earth at site including royalty and carriage upto 5 k.m. lead complete (earth measured in stacks will be reduced by 20% for payment). (Non SOR Item)						
	Road	Cum	0.67	24.00	Area	0.60	9.65
	Road	Cum	0.67	42.00	Area	0.60	16.88
	median	Cum	0.67	290.00	0.60	0.60	69.95
	Consider 2/3rd Qty of Item No.1.1.7	Cum					96.48
1.1.2	KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)						
	Road	Cum	0.33	24	Area	0.6	4.75
	Road	Cum	0.33	42	Area	0.6	8.32
	median	Cum	0.33	290	0.6	0.6	34.45
	Consider 1/3rd Qty of Item No.1.1.7	Cum					47.52
1.1.3	KSRRB M300-Horticulture KSRRB M300- Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. Spreading of sludge farm yard manure or/ and good earth in required thickness (cost of sludge, farm yard manure or/and good earth to be paid for separately) complete as per specifications. MORTH Specification No. 307 (KPWD SR 16-17,Page No.150,SI No.19.77)						
	Road	Cum	1	24	Area	0.6	14.40
	Road	Cum	1	42	Area	0.6	25.20
	median	Cum	1	290	0.6	0.6	104.40
						Total	144.00
1.1.4	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)						
	Consider Same Qty. of 1.1.7	Cum					144.00

Sr.No.	Item	Unit	No.	L	B	H	Qty.
1.1.5	Soil preparation of Lawn						
	KSRRB M300-3.Making lawns including ploughing and breaking of clod,removal of rubbish,dressing and supplying doobs grass roots and planting at 15 cm apart,including supplying and spreading of farm yard manure at rate of 0.18cum per 100 sqm complete as per specifications. MORTH Specification No.307 (KSRRB 19.80)						
	In rows 5 cm apart in both directions						
	Road	Sqm	1	24.00	Area		24.00
	Road	Sqm	1	42.00	Area		42.00
	median	Sqm	1	290.00	0.6		174.00
						Total	240.00
1.1.6	ZOYSIA JAPONICA (MAT) (Non SOR Item)						
	Road	Sqm	1	24	Area		24.00
	Road	Sqm	1	42	Area		42.00
	median	Sqm	1	290	0.6		174.00
						Total	240.00
1.2	IRRIGATION						
1.2.1	supply and fixing of irrigation lines such that all the green areas and plants are adequately watered; by means of drip irrigation for trees , sub surface for shrubs and lawn areas / ground covers and pop up sprinklers for lawn areas. (Equipment make - Rainbird or equivalent) All material used should be comply to BSI code. All the necessary value and pump required for complete commissioning to be installed. (Consider Same Qty. of 1.1.6) (Non SOR Item)						
	Road	Sqm	1	24	Area		24.00
	Road	Sqm	1	42	Area		42.00
	median	Sqm	1	290	0.6		174.00
						Total	240.00

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Name of the Work :- Manglore Smart City
3.1.2 Rate Analysis of SOFTSCAPE for DPR 7

RATE ANALYSIS - SOFTSCAPE

1.1.1	Supplying and stacking of good earth at site including royalty and carriage upto 5 k.m. lead complete (earth measured in stacks will be reduced by 20% for payment). (Non SOR Item)		
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.27	Rate	140.00 Cum
1.1.2	KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)		
	Basic rate		204
	Add 10% For area weightage		20.4
		Rate	224.40 Cum
1.1.3	KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. Spreading of sludge farm yard manure or/ and good earth in required thickness (cost of sludge, farm yard manure or/and good earth to be paid for separately) complete as per specifications. MORTH Specification No. 307 (KPWD SR 16-17,Page No.150,SI No.19.77)		
	Basic rate		103
	Add 10% For area wightage		10.3
		Rate	113.30 Cum
1.1.4	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)		
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.28	Rate	23.91 Cum

1.1.5	Soil preparation of Lawn KSRRB M300-3.Making lawns including ploughing and breaking of clod,removal of rubbish,dressing and supplying doobs grass roots and planting at 15 cm apart,including supplying and spreading of farm yard manure at rate of 0.18cum per 100 sqm complete as per specifications. MORTH Specification No.307 (KSRRB 19.80)			
	Basic rate		16	
	Add 10% For area wightage		1.6	
		Rate	17.60	Sqm
1.2	TURF			
1.2.1	ZOYSIA JAPONICA (MAT) (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.32	Rate	156.80	Sqm
1.2	IRRIGATION			
1.2.1	supply and fixing of irrigation lines such that all the green areas and plants are adequately watered; by means of drip irrigation for trees , sub surface for shrubs and lawn areas / ground covers and pop up sprinklers for lawn areas. (Equipment make - Rainbird or equivalent) All material used should be comply to BSI code. All the necessary value and pump required for complete commissioning to be installed. (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.34	Rate	560.00	Sqm

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Manglore Smart City
4.1.1 Rate Analysis for Kerb Stone

Sr.No.	Description	Unit	Qty	Rate/Unit	Amount	Remarks
1	Reusing existing kerb stone obtained from dismantling of existing footpath or by other dismantling work and laying at or near ground level in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including transportation to site from stack yard, making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).					
	Material for Jointing of existing kerb stone					
	Mortar 1:3 for fixing joints = $223 \times 1 \times [((0.114+0.165)/2) \times 0.4 \times 0.005]$ + ($0.25 \times 0.165 \times 0.005$) = 0.062cum. Cement mortar 1:3 (1 cement : 3 coarse sand)	Cum	0.032	5666.00	181.31	KSRB 1.3 Pg No 2
	Mason (brick layer) 1st class	day	2.500	466.20	1165.50	KSRB Pg No LIV
	Mason (brick layer) 2nd class	day	2.500	456.20	1140.50	
	Beldar	day	2.500	446.20	1115.50	
	Coolie	day	1.650	446.20	736.23	
	Total				4339.04	
	Add 1 % Water charges				43.39	
	Add 1% Transportation from stack yard to site				43.39	
					4425.82	
	Add 10 % Contractor's profit				442.58	
	Add 10% Contractor Overhead				442.58	
	Cost of 6.22cum				5310.99	
	cost for 1 cum.				853.86	A
	Cost of Kerb per RM				52.94	Per RM
	Cost per Kerb of width 0.45m =A X 0.0279cum (Vol of one Kerb)				24	Per No

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Mangalore Smart City
4.0 Rate Analysis for Kerb Stone

Sr.No.	Description	Unit	Qty	Rate/Unit	Amount	Remarks
1	Providing and laying at or near ground level factory made kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).					
	Kerb Dimension= Top Width=0.114m, Bottom Width=0.165 m, Height =0.4 m Details of cost 100 metre i.e. No. of kerb stones = 100/0.45=223 Nos. width of kerb stone =0.45m Precast C.C. Kerb stone M - 20 = $223 \times ((0.114+0.165)/2) \times 0.15 + 0.25 \times 0.165) \times 0.4$ 5=6.23cum					
	Material					
	Precast C.C. Kerb stone M - 20	Cum	6.230	11874.13	73975.86	Rate attached
	Shuttering Work					
	Mortar 1:3 for fixing joints = 223x1x [[((0.114+0.165)/2)*0.4*0.005] + (0.25x0.165x0.005) = 0.062cum. Cement mortar 1:3 (1 cement : 3 coarse sand)	Cum	0.032	5666.00	181.31	KSRB 1.3 Pg No 2
	Mason (brick layer) 1st class	day	2.500	466.20	1165.50	KSRB Pg No LIV
	Mason (brick layer) 2nd class	day	2.500	456.20	1140.50	
	Beldar	day	2.500	446.20	1115.50	
	Coolie	day	1.650	446.20	736.23	
	Total				78314.90	
	Add 1 % Water charges				783.15	
					79098.05	
	Add 10 % Contractor's profit				7909.81	
	Add 10% Contractor Overhead				7909.81	
	Cost of 6.22cum				94917.66	
	cost for 1 cum.				15260.07	A
	Cost per Kerb of width 0.45m =A X 0.0279cum (Vol of one Kerb)				426	Per No

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Mangalore Smart City
4.1 Rate Analysis for Water Table (Longitudinal Gutter)

Sr.No.	Description	Unit	Qty	Rate/Unit	Amount	Remarks
1	Providing and laying at or near ground level factory made kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).					
	Kerb Dimension= Top Width=0.075m, Bottom Width=0.1 m, Height =0.3 m Details of cost 100 metre i.e. No. of water table stones = 100/0.45=223 Nos. width =0.45m Precast C.C. Kerb stone M - 20 = 223x(((0.075+0.1)/2)*0.3)*0.45=2.63cum					
	Material					
	Precast C.C. Kerb stone M - 20	Cum	2.630	14622.97	38458.42	Rate attached
	Shuttering Work					
	Mortar 1:3 for fixing joints = 223x1x [(((0.075+0.1)/2)*0.3*0.005] = 0.029cum. Cement mortar 1:3 (1 cement : 3 coarse sand)	Cum	0.029	6996.00	202.88	KSRB 1.3 Pg No 2
	Mason (brick layer) 1st class	day	2.000	466.20	932.40	KSRB Pg No LIV
	Mason (brick layer) 2nd class	day	2.000	456.20	912.40	
	Beldar	day	2.000	446.20	892.40	
	Coolie	day	1.650	446.20	736.23	
	Total				42134.73	
	Add 1 % Water charges				421.35	
					42556.08	
	Add 10 % Contractor's profit				4255.61	
	Add 10% Contractor Overhead				4255.61	
	Cost of 2.63cum				51067.30	
	cost for 1 cum.				19417.22	A
	Cost per Kerb of width 0.45m =A X 0.0118cum (Vol of one Kerb)				229	Per No

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4.2 Rate Analysis for Kerb Stone 900 mm High

Sr.No.	Description	Unit	Qty	Rate/Unit	Amount	Remarks
1	Providing and laying at or near ground level factory made kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).					
	Kerb Dimension= Top Width=0.25m, Bottom Width=0.3 m, Height =0.9 m Details of cost 100 metre i.e. No. of kerb stones = 100/0.405=247 Nos. width of kerb stone =0.4m Precast C.C. Kerb stone M - 20 = 247x(((0.25+0.3)/2)*0.6+0.3*0.3)*0.405=25.5cum					
	Material					
	Precast C.C. Kerb stone M - 20	Cum	25.500	14381.53	366729.05	Rate attached
	Mortar 1:3 for fixing joints = 246x1x [(((0.250+0.30)/2)*0.60*0.005] + (0.30x0.30x0.005) = 0.313cum. Cement mortar 1:3 (1 cement : 3 coarse sand)	Cum	0.300	5666.00	1699.80	KSRB 1.3 Pg No 2
	Mason (brick layer) 1st class	day	2.500	466.20	1165.50	KSRB Pg No LIV
	Mason (brick layer) 2nd class	day	2.500	456.20	1140.50	
	Beldar	day	2.500	446.20	1115.50	
	Coolie	day	1.650	446.20	736.23	
	Total				372586.58	
	Add 1 % Water charges				3725.87	
					376312.45	
	Add 10 % Contractor's profit				37631.24	
	Add 10% Contractor Overhead				37631.24	
	Cost of 25.5 cum				451574.93	
	cost for 1 cum.				17708.82	A
	Cost per Kerb of width 0.405m =A X 0.102cum (Vol of one Kerb)				1806	Per No

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Name of the Work :- Mangalore Smart City						
4.3 Rate Analysis of Dry Lean Concrete - Footpath						
	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
	Dry Lean Cement Concrete Sub- base					
	KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site, Manually laid and compacting with palte compactor ,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)					
	Unit = cum					
	Taking output = 450 cum (990 tonne)					
	a) Labour					
	Mate	day	1.120	446.200	499.74	SI.No.12,Pa ge No.LIV,
	Mazdoor skilled	day	6.000	446.200	2677.20	SI.No.6,Pag e No.LIV,
	Mazdoor	day	22.000	446.200	9816.40	SI.No.6,Pag e No.LIV,
	b) Machinery					
	Front end loader 1 cum bucket capacity	hour	6.000	593.00	3558.00	SI.No.26,Pa ge No.XXXVII
	Cement concrete batch mix plant @ 75 cum per hour	hour	6.000	1525.00	9150.00	SI.No.104,P age No.L
	Electric generator 100 KVA	hour	6.000	534.00	3204.00	SI.No.92,Pa ge No.XXXIX
	Plate Compactor	Day	1.000	254.00	254.00	SI.No.65,Pa ge No.XXXVIII
	Water tanker6 KL capacity	hour	8.000	550.00	4400.00	
	Tipper	tonne.k m	990 x L	4.00	39600.00	
	Add 10 per cent of cost of carriage to cover cost of loading and unloading				3960.00	
	c) Material					
	Crushed stone coarse aggregate of 25 mm and 12.5 mm nominal sizes graded as per table 600-1 @ 0.90 cum/cum of concrete conforming to clause 602.2.4.	cum	405.000	1460.00	591300.00	800.00
	Coarse Sand as per IS: 383 @ 0.45 cum/cum of concrete	cum	203.000	1700.00	345100.00	800.00
	Cement @ 160 kg/cum of concrete	tonne	72.000	4906.00	353232.00	84.00
	Cost of water	KL	48.000	40.00	1920.00	818.00
	d) Overhead charges @ 10 % on (a+b+c)				136867.13	
	e) Contractor's profit @ 10 % on (a+b+c+d)				150553.85	
	Cost for 450 cum = a+b+c+d+e				1656092.33	
	Rate per cum = (a+b+c+d+e)/450				3680.21	
				say	3680.00	
Note	Quantity provided for aggregate is for estimating purpose. Exact quantity shall be as per mix design.					

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4.4 Rate Analysis for Granular Sub Base under Footpath

Sr No	Ref. to MoRTH Spec.	Description	Unit	Quantity	Rate Rs	Cost Rs	Remarks/ Input ref.
4.1	401	Granular Sub-Base with Close Graded Material (Table:- 400-1)					
	A	Plant Mix Method					
		Construction of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per clause 401					
		Unit = cum					
		Taking output = 225 cum (450 tonne)					
		a) Labour					
		Mate	day	0.4	395	158	Sl.No.12,Page No.LIV,
		Mazdoor skilled	day	2	446.2	892.4	Sl.No.6,Page No.LIV,
		Mazdoor	day	8	446.2	3569.6	Sl.No.6,Page No.LIV,
		b) Machinery					
		Wet mix plant @ 60 tonne capacity per hour	hour	3	960	2880	1028
		Electric generator 100KVA	hour	6	534	3204	1321
		Water tanker 6 KL capacity 5 km lead with one trip per hour	hour	4.5	51.5	231.75	1032
		Front end loader 1 cum bucket capacity	hour	6	593	3558	1012
		Tipper 10 tonne	tonne.km	450 x L	4	28800	
		Add 10 per cent of cost of carriage to cover loading and unloading				2880	
		Motor Grader 110 HP	hour	6	2125	12750	
		Plate Compactor	Day	1	254	254	Sl.No.65,Page No.XXXV VIII
		c) Material					
		Close graded Granular sub-base Material as per table 400-1					
		For Grading-II Material					
		53 mm to 9.5 mm @ 50 per cent	cum	144	1460	210240	M-013
		9.5 mm to 2.36 mm @ 20 per cent	cum	57	1340	76380	M-017
		2.36 mm below @ 30 per cent	cum	86.4	1150	99360	M-020
		Cost of water	KL	27	40	1080	Page No.V,Sl.No.758
4.1A	(i)	Rate per cum for grading-II Material					
		d) Overhead charges @ 10% on (a+b+c)				44623.8	
		e) Contractor's profit @ 10% on (a+b+c+d)				49086.2	
		Cost for 225 cum = a+b+c+d+e				539948	
		Rate per cum = (a+b+c+d+e)/225				2399.77	
					say	<u>2400</u>	

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4.5 Rate Analysis of taking out paver block

Sr.No.	Description	Unit	Quantity	Rate	Amount	Reference
1	Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.					
	Details of cost for 10 sqm.					
a	Labour					
b	Beldar	Day	0.25	446.2	111.55	KPWD 18-19 SOR, Pg No.LVI SI No.5
c	Collie	Day	1	446.2	446.2	KPWD18-19 SOR, Pg No.LVI,SI No.6
d	Sundries	LS	2.7	1.73	4.67	CPWD Pg No 29,
	Total				562.42	
e	Add 1% Water Charges				5.62	
	Total				568.04	
f	Add 10 % Contractor's profit				56.8	
g	Add 10 % Contractor's overheads				56.804	
	Cost of 10 sqm				681.644	
	Cost of 1 sqm				68.16	

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4.6 Rate Analysis For Raising Manhole Cover and Frame slab to Proposed RTL									
	Description	Unit	No.	L	B	D	Quantity	Rate Rs	Cost Rs
	Raising manhole cover and frame to the required road top level including the removing existing cover and raising of MH top wall in RCC M25 and refixing the same cover in proper position with complete finish, including cost of all materials, labour, etc. complete.								
	Removing manhole cover and frame refixing the same in cement concrete (1:2:4) band alround including finishing etc., complete.	Nos	1.00				1.000	127.00	127.00
	Concrete-M25	Cum	1.00	1.88	0.20	0.30	0.113	6367.00	720.00
			Cum	kg/Cum	kg	MT			
	Reinforcement	MT	0.11	70.00	7.91	0.01	0.008	56050.00	444.00
	Centring	Sqm	2.00	1.88		0.30	1.130	293.000	332.00
	SubTotal								1623.00
	Add 1% water charges on all except (A)								17.00
	Sub Total								1640.00
	Add 10% Contractor's profit and overheads on all except (A)								164.00
	Sub Total								1804.00

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5.0 Summary for Maintenance		
Sr.No.	description	Total Amount Rs.
1	2nd year Maintenance	4,055,506.00
2	3rd year Maintenance	4,263,514.00
3	4th year Maintenance	4,386,071.00
	Total Maintenance Amount	12,705,091.00
	GST @12% for Maintenance Period on SOR Base Items	921,723.00
	GST @12% for Maintenance Period on Market Base Items	298,012.00
	Total	13,924,826.00

Note:Maintenance cost is approved by KUIDFC

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5.1 Abstract for Maintenance of Road and Other Work for DPR 7-1st Year

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
Civil Works					
1.00	Maintenance for 1st Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)	Sqm	20.00	77.98	1560
2.00	Maintenance for 1st Year: KSRRB M200.Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled material stacking serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)	Cum	0.27	1028.46	,278
3.00	Maintenance for 1st Year: KSRRB M200-Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)	Rmt	20.00	13.73	275
4.00	Maintenance for 1st Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)	Cum	20.00	446.16	8,923
5.00	Maintenance for 1st Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. i)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)	Cum	0.02	401.54	8
6.00	Maintenance for 1st Year: KSRRB M300-14. Excavation for roadwork in all types of soil with hydraulic excavator of 0.9 bucket capacity including cutting and loading in tippers,trimming bottom and side slopes,in accordance with requirements of lines and grades and cross sections,and transporting disposal location up to a lead of 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)	Cum	350.00	57.60	20,160
7.00	Maintenance for 1st Year: KSRRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)	Cum	150.00	137.28	20,592
8.00	Maintenance for 1st Year: KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occurring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3.(KPWD 16-17,SI No.19.64,Pg. No.149)	Sqm	75.00	6.86	,515

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
9.00	Maintenance for 1st Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills , including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)	Cum	6.00	6749.60	40,498
10.00	Maintenance for 1st Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. Close graded granular sub-base material as per 400-1 For Grading- II Material	Cum	11.25	2477.90	,27,876
11.00	Maintenance for 1st Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters conforming to IS 9103-1999 reaffirmed -2008 at machine mixed,concrete laid in layers not exceeding 15cms thick, vibrated for all works in foundation for footings, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)	Cum	31.20	7090.51	2,21,224
12.00	Maintenance for 1st Year: KSRB 4.6.1 Providing and removing centering, shuttering, strutting, propping etc.,and removal of formwork for foundations, footings, bases of columns for mass concrete including cost of all materials,labour complete as per specifications. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)	Sqm	252.00	300.87	75,819
13.00	Maintenance for 1st Year: KSRB 4.9.2 : Providing T.M.T steel reinforcement for RCC work including straightening,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps,hooks and wastage shall not be measured and paid) cost of materials,labour,HOM of machinery complete as per specifications.Specification No. KBS4.6.3. do with TMT bars Fe500	MT	2.50	80974.61	2,02,437
14.00	Maintenance for 1st Year: KSRRB M300- Construction of Subgrade . KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305	Cum	24.50	643.19	15,758
15.00	Maintenance for 1st Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to exceed 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,laid with a paver with electronic sensor,compacting with 8-10 tonnes double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)	Cum	9.80	4630.91	45,383

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
16.00	<p>Maintenance for 1st Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to exceed 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)</p>	Cum	1.60	4209.92	6,736
17.00	<p>Maintenance for 1st Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplastisizer at 3 lts confirming to IS9103-1999 reaffirmed 2008(Coarse and fine aggregate conforming to IS:383) mixed in a batching and mixing plant as per approved mix design,transported to site,laid with a fixed form paver spread,compacted and finished in a continuous operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent primer, joints sealant, debonding strip, dowel bars at 4.5m intervals, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per sprcifications MORTH specification No.602.do with M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)</p>	Cum	11.27	6595.16	,74,327
18.00	<p>Maintenance for 1st Year: Providing and placing joint sealant compound of cold polysulphide in the grooves after widening the groove to required width, sand blasting the groove face if recommended by the sealant manufacturer, cleaning the groove with air compressor, insertion of debonding strip, priming the sides of the sealant if the sealant manufacturer recommends and pouring the sealant all complete including material, manpower (Non SOR Item)</p>	Rmt	5.00	119.60	,598
19.00	<p>Maintenance for 1st Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 Repairs of spalled joints grooves of contraction joints longitudinal joints and expansion joints in concrete pavement using epoxy mortar concrete complete as per specifications.Morth specification No.3005.1 (Page No 257,SI No : 35.8)</p>	Rmt	100.00	378.66	37,866
20.00	<p>Maintenance for 1st Year: Providing and laying at or near ground level factory made kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge). (RA Attached)</p>	Cum	0.05	20258.89	1,013
21.00	<p>Maintenance for 1st Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing, made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	2.51	17710.96	44,455
22.00	<p>Maintenance for 1st Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	0.30	17710.96	5,313

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
23.00	Maintenance for 1st Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	m	100.00	27.46	2,746
24.00	Maintenance for 1st Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)	Sqm	11.55	91.52	1057
25.00	Maintenance for 1st Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.	Nos.	2.00	8395.92	16,792
26.00	Maintenance for 1st Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)	Nos.	4.00	5487.63	21,951
27.00	Maintenance for 1st Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)	Nos.	1.00	6048.15	6,048
28.00	Maintenance for 1st Year: Providing gully pipe lowering,laying of PVC 100 mm dia pipes to the required alignments including specials and grade as indicated in drawings/design and hydraulically testing of the pipe line.The rate shall include all jointing materials,testing apparatus and water for testi g etc as directed by the Engineer in charge (page No.41,Item No.7,KUWSDB SOR 2016-17)	Rmt	3.00	313.58	,941
29.00	Maintenance for 1st Year: KSRRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia , of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16,P.No.86, SI.No.12.89)	Nos.	3.00	949.52	2,849
30.00	Maintenance for 1st Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2015-16,SI.No.24.36)	Rmt	4.00	5745.17	22,981
31.00	Maintenance for 1st Year: Providing and laying Dia 225mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil presuure and other physical properties comforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	150.00	2050.67	3,07,601
32.00	Maintenance for 1st Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil presuure and other physical properties comforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years.(Market Rate)	Rmt	60.00	1111.66	,66,700
33.00	Maintenance for 1st Year: Providing and Fixing Spacers for Power Ducts of size 200 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20.00	1143.42	22,868

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
34.00	Maintenance for 1st Year: Providing and Fixing Spacers for Power Ducts of size 160 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20.00	2219.58	44,392
35.00	Maintenance for 1st Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)	Rmt	40.00	625.35	25,014
36.00	Maintenance for 1st Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and anti-quitting it on top with approved colour. Sealing entire area with concrete sealer.	Sqm	80.00	713.86	,57,109
37.00	Maintenance for 1st Year: Providing and laying heavy duty cobble stones 75mm thick , using cement and coarse sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm thick sand bed (average thickness) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications. (Page No 101, SI No : 14.7)	Sqm	30.00	1274.42	38,233
38.00	Maintenance for 1st Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen (KPWD 16-17, S.I.No.21.17.1, Page No.163)	Cum	1.13	8967.82	10,134
39.00	Maintenance for 1st Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen	Cum	0.30	10022.58	3,007
40.00	Maintenance for 1st Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lens reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications	Nos.	5.00	330.62	1,653

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
41.00	<p>Maintenance for 1st Year: Supply & Installation of Solar Raised Pavement Markers made of polycarbonate molded body with circular shape, solar powered, LED self illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens in passive mode. The marker shall support a load of 20000 kg tested in accordance to IRC 37 and shall be resistant to dust and water ingress according to IP 65 (Ingress Protection 65 is a test which is conducted to check if solar road stud is protected from total dust Ingress and low pressure water jets from any direction) standards and should withstand temperatures in the range of 0 C to 70 C. Color of lighting could be provided in red or yellow (amber) as per requirement and typical frequency of blinking is 1 Hz. There should be current losses of less than 20 micro-amperes at 2.4 V in sleep-charging mode to enhance the life of the marker and a full charge should provide for a minimum autonomy of 50 hours. The height, width and length of the marker shall not be less than 10 mm x 100 mm x 100 mm. Also, the surface diameter of the marker shall not be less than 100 mm respectively. The weight of the marker shall not exceed 0.5 Kilograms. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer.</p>	Nos.	2.00	3387.38	6,775
42.00	<p>Maintenance for 1st Year: Road Marking with hot applied Thermoplastic Compound with Reflecting Glass Beads on Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5mm thick including reflectorising glass beads at 250 gms and 2 ltr of primer per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streak and holes complete as per specifications. MORTH specification No.803 (Page No 192, SI No : 24.57)</p>	Sqm	30.00	490.78	14,723
43.00	<p>Maintenance for 1st Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.</p>	Nos	4.00	63648.00	2,54,592
44.00	<p>Maintenance for 1st Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)</p>	Nos.	2.00	4680.00	9,360
45.00	<p>Maintenance for 1st Year: Providing and fixing of railing as detail design in MS HOLLOW SECTION and bars (shop drawing to be approved), with vertical support of 0.9m @ 2.2mc/c , all complete to the satisfaction of the Landscape architect. (Non SOR Item)</p>	MT	0.30	104000.00	31,200
46.00	<p>Maintenance for 1st Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.</p>	Cum	1452.22	186.16	2,70,345
47.00	<p>Maintenance for 1st Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Earth</p>	Cum	200.00	107.08	21,416
48.00	<p>Maintenance for 1st Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Debris</p>	Cum	70.00	107.54	7,528
	Electrical Works				
49.00	<p>Maintenance for 1st Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))</p>	Nos.	1.00	1747.88	1748

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
50.00	Maintenance for 1st Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 m pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 155 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No. 5.14.5)	Nos.	1.00	12916.80	12,917
51.00	Maintenance for 1st Year: Lighting Pole, 4 m Fabrication, supply and erection of 4 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 4 pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 130 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No.5.14.2)	Nos.	1.00	7693.92	7,694
52.00	Maintenance for 1st Year: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Double Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.5)	Nos.	1.00	3681.60	3,682
53.00	Maintenance for 1st Year: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)	Nos.	1.00	2496.00	2,496
54.00	Maintenance for 1st Year: Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-8mtr and above street light pole (Ref Electrical SOR SI No.16.28.3)	Nos.	241.00	644.80	155,397
55.00	Maintenance for 1st Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets	Nos.	70.00	12254.24	857,797
56.00	Maintenance for 1st Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)	Nos.	1.00	1608.88	1,609
	LT Cable				
57.00	Maintenance for 1st Year: Supplying of 1.1 kV LT cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanised, steel strips (except 2C x 10 sq. mm wire armoured) as per IS-3975:1990 and extruded PVC outer sheathed armoured cable as per IS - 1554 Part 1:1988 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)	m	60.00	121.68	7,301

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
58.00	Maintenance for 1st Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)	m	10.00	84.86	849
59.00	Maintenance for 1st Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)	Nos	10.00	11.76	118
60.00	Maintenance for 1st Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)	Nos	8.00	3.24	26
	Earthing system				
61.00	Maintenance for 1st Year: Chemical Earthing for grounding,conduits,IC cut outs and otherequipmentson the mter boardby using copper /SS rod with earth enhancing backfill compound which is non corrosive ,thermally,conductive,potential,to permissible,limits,superior,fault,conductive capacity,non toxic,weather resistance and capable of achieving ohmic value less than one ohm (Ref Electrical SOR Pg.No.64,SI No.7.23.6)	Kit	1.00	5720.00	5,720
62.00	Maintenance for 1st Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)	Rmt	50.00	20.28	1,014
	Landcaping Works				
	SOIL MIXES and Ground Preparation				
63.00	Maintenance for 1st Year: Supplying and stacking of good earth at site including royalty and carriage upto 5 k.m. lead complete (earth measured in stacks will be reduced by 20% for payment). (Non SOR Item)	Cum	1.50	145.60	218
64.00	Maintenance for 1st Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)	Cum	0.75	233.38	175
65.00	Maintenance for 1st Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. Spreading of sludge farm yard manure or/ and good earth in required thickness (cost of sludge, farm yard manure or/and good earth to be paid for separately) complete as per specifications. MORTH Specification No. 307 (KPWD SR 16-17,Page No.150,SI No.19.77)	Cum	2.00	117.83	236
66.00	Maintenance for 1st Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)	Cum	2.00	24.87	50
	Soil preparation of Lawn				
67.00	Maintenance for 2nd Year: Maintenance of lawns or Turfing of slopes (rough grassing) for a period of one year including watering etc complete including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Sqm	382.19	117.83	45,033
	TURF				
68.00	Maintenance for 1st Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	3.00	163.07	489
	IRRIGATION				

Sr. No.	Specification	Unit	Total Qty.	Rate	Amount
69.00	Maintenance for 1st Year: Watering with tanker to landscape area and plants for one year	Year	1.00	31085.11	31,085
70.00	Maintenance for 1st Year: supply and fixing of irrigation lines such that all the green areas and plants are adequately watered; by means of drip irrigation for trees , sub surface for shrubs and lawn areas / ground covers and pop up sprinklers for lawn areas. (Equipment make - Rainbird or equivalent) All material used should be comply to BSI code. All the necessary value and pump required for complete commissioning to be installed. (Non SOR Item)	Sqm	3.00	582.40	1,747
				Total	32,57,030

Assistant Engineer
MSCL Mangaluru

Assistant Executive Engineer
MSCL Mangaluru

Executive Engineer
MSCL Mangaluru

General Manager Technical
MSCL Mangaluru

Name of the Work :- Mangalore Smart City
5.2 M.S. For Maintenance of Road and Other Work for DPR 7 -1st Year

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
Civil Works							
1.00	Maintenance for 1st Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)	Sqm	1	10	2		20.00
2.00	Maintenance for 1st Year: KSRRB M200. Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled material stacking serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)	Cum	1	1	1	0.27	0.27
3.00	Maintenance for 1st Year: KSRRB M200- Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)	Rmt	1	20			20.00
4.00	Maintenance for 1st Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)	Cum	1	40	1	0.5	20.00
5.00	Maintenance for 1st Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. i)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)	Cum	1	1	0.2	0.1	0.02
6.00	Maintenance for 1st Year: KSRRB M300-14. Excavation for roadwork in all types of soil with hydraulic excavator of 0.9 bucket capacity including cutting and loading in tippers,trimming bottom and side slopes,in accordance with requirements of lines and grades and cross sections,and transporting disposal location up to a lead of 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)	Cum	1.00	100	7	0.5	350.00
7.00	Maintenance for 1st Year: KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)	Cum	1.00	60	5	0.5	150.00
8.00	Maintenance for 1st Year: KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occurring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3.(KPWD 16-17,SI No.19.64,Pg. No.149)	Sqm	1.00	15		5	75.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
9.00	Maintenance for 1st Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills , including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)	Cum	1.00	10	6	0.1	6.00
10.00	Maintenance for 1st Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material	Cum	1.00	30	2.5	0.15	11.25
11.00	Maintenance for 1st Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters conforming to IS 9103-1999 reaffirmed -2008 at machine mixed,concrete laid in layers not exceeding 15cms thick, vibrated for all works in foundation for footings, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnspillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)	Cum	1.00	130	0.2	1.2	31.20
12.00	Maintenance for 1st Year: KSRB 4.6.1 Providing and removing centering, shuttering, strutting, propping etc.,and removal of formwork for foundations, footings, bases of columns for mass concrete including cost of all materials,labour complete as per specifications. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)	Sqm	2.00	140		0.9	252.00
13.00	Maintenance for 1st Year: KSRB 4.9.2 : Providing T.M.T steel reinforcement for RCC work including straightening,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to thr adjoining members wherever necessary complete as per design (laps,hooks and wastage shall not be measured and paid) cost of materials,labour,HOM of machinery complete as per specifications.Specification No. KBS4.6.3. do with TMT bars Fe500	MT	1.00	2.50			2.50
14.00	Maintenance for 1st Year: KSRRB M300- Construction of Subgrade . KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305	Cum	4.00	3.5	3.5	0.5	24.50
15.00	Maintenance for 1st Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,laid with a paver with electronic sensor,compacting with 8-10 tonnes double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)	Cum	4.00	7	3.5	0.1	9.80

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
16.00	<p>Maintenance for 1st Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)</p>	Cum	1.00	8	2	0.1	1.60
17.00	<p>Maintenance for 1st Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplastisizer at 3 lts confirming to IS9103-1999 reaffirmed 2008(Coarse and fine aggregate conforming to IS:383) mixed in a batching and mixing plant as per approved mix design,transported to site,laid with a fixed form paver spread,compacted and finished in a continuous operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent primer, joints sealant, debonding strip, dowel bars at 4.5m intervals, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per sprcifications MORTH specification No.602.do with M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)</p>	Cum	4.00	3.5	3.5	0.23	11.27
18.00	<p>Maintenance for 1st Year: Providing and placing joint sealant compound of cold polysulphide in the grooves after widening the groove to required width, sand blasting the groove face if recommended by the sealant manufacturer, cleaning the groove with air compressor, insertion of debonding strip, priming the sides of the sealant if the sealant manufacturer recommends and pouring the sealant all complete including material, manpower (Non SOR Item)</p>	Rmt	1.00	5			5.00
19.00	<p>Maintenance for 1st Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 Repairs of spalled joints grooves of contraction joints longitudinal joints and expansion joints in concrete pavement using epoxy mortar concrete complete as per specifications.Morth specification No.3005.1 (Page No 257,SI No : 35.8)</p>	Rmt	1.00	100			100.00
20.00	<p>Maintenance for 1st Year: Providing and laying at or near ground level factory made kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge). (RA Attached)</p>	Cum	0.5	1	0.103		0.05
21.00	<p>Maintenance for 1st Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	1	90	0.0279		2.51
22.00	<p>Maintenance for 1st Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	1	25	0.0118		0.30
23.00	<p>Maintenance for 1st Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.</p>	Rmt	100				100.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
24.00	Maintenance for 1st Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)	Sqm	1	70	0.165		11.55
25.00	Maintenance for 1st Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.	Nos.	2.00				2.00
26.00	Maintenance for 1st Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)	Nos.	4.00				4.00
27.00	Maintenance for 1st Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)	Nos.	1.00				1.00
28.00	Maintenance for 1st Year: Providing gully pipe lowering, laying of PVC 100 mm dia pipes to the required alignments including specials and grade as indicated in drawings/design and hydraulically testing of the pipe line. The rate shall include all jointing materials, testing apparatus and water for testing etc as directed by the Engineer in charge (page No.41, Item No.7, KUWSDB SOR 2016-17)	Rmt	1.00	3.00			3.00
29.00	Maintenance for 1st Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia , of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16,P.No.86, SI.No.12.89)	Nos.	1.00	3			3.00
30.00	Maintenance for 1st Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2015-16,SI.No.24.36)	Rmt	1	4.00			4.00
31.00	Maintenance for 1st Year: Providing and laying Dia 225mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the overburden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	1	150			150.00
32.00	Maintenance for 1st Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the overburden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	1	60			60.00
33.00	Maintenance for 1st Year: Providing and Fixing Spacers for Power Ducts of size 200 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20				20.00
34.00	Maintenance for 1st Year: Providing and Fixing Spacers for Power Ducts of size 160 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20				20.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
35.00	<p>Maintenance for 1st Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)</p>	Rmt	1	40			40.00
36.00	<p>Maintenance for 1st Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.</p>	Sqm	1	40	2		80.00
37.00	<p>Maintenance for 1st Year: Providing and laying heavy duty cobble stones 75mm thick, using cement and course sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm thick sand bed (average thickness) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications. (Page No 101, SI No : 14.7)</p>	Sqm	1.00	20	1.5		30.00
38.00	<p>Maintenance for 1st Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen (KPWD 16-17, S.I.No.21.17.1, Page No.163)</p>	Cum	1.00	2.5	3	0.15	1.13
39.00	<p>Maintenance for 1st Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen</p>	Cum	1.00	2.5	3	0.04	0.30
40.00	<p>Maintenance for 1st Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications</p>	Nos.	5.00				5.00
41.00	<p>Maintenance for 1st Year: Supply & Installation of Solar Raised Pavement Markers made of polycarbonate molded body with circular shape, solar powered, LED self illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens in passive mode. The marker shall support a load of 20000 kg tested in accordance to IRC 37 and shall be resistant to dust and water ingress according to IP 65 (Ingress Protection 65 is a test which is conducted to check if solar road stud is protected from total dust Ingress and low pressure water jets from any direction) standards and should withstand temperatures in the range of 0 C to 70 C. Color of lighting could be provided in red or yellow (amber) as per requirement and typical frequency of blinking is 1 Hz. There should be current losses of less than 20 micro-amperes at 2.4 V in sleep-charging mode to enhance the life of the marker and a full charge should provide for a minimum autonomy of 50 hours. The height, width and length of the marker shall not be less than 10 mm x 100 mm x 100 mm. Also, the surface diameter of the marker shall not be less than 100 mm respectively. The weight of the marker shall not exceed 0.5 Kilograms. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer.</p>	Nos.	2.00				2.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
42.00	Maintenance for 1st Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5mm thick including reflectorising glass beads at 250 gms and 2 ltr of primer per sqm area,thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35.The finished surface to be level,uniform and free from streak and holes complete as per specifications.MORTH specification No.803 (Page No 192,SI No : 24.57)	Sqm	1.00	200	0.15		30.00
43.00	Maintenance for 1st Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.	Nos	4.00				4.00
44.00	Maintenance for 1st Year: Providing and fixing of S.S. Bollards (SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)	Nos.	2.00				2.00
45.00	Maintenance for 1st Year: Providing and fixing of railing as detail design in MS HOLLOW SECTION and bars (shop drawing to be approved),with vertical support of 0.9m @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)	MT	1.00	0.3			0.30
46.00	Maintenance for 1st Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Cum	2.00	10373	0.7	0.1	1452.22
47.00	Maintenance for 1st Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Earth	Cum	1.00	200			200.00
48.00	Maintenance for 1st Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Debris	Cum	1.00	70			70.00
Electrical Works							
49.00	Maintenance for 1st Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))	Nos.	1				1.00
50.00	Maintenance for 1st Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, icluding suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 m pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 155 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No. 5.14.5)	Nos.	1				1.00
51.00	Maintenance for 1st Year: Lighting Pole, 4 m Fabrication, supply and erection of 4 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangement, icluding suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 4 pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 130 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No.5.14.2)	Nos.	1				1.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
52.00	Maintenance for 1st Year: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Double Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.5)	Nos.	1				1.00
53.00	Maintenance for 1st Year: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)	Nos.	1				1.00
54.00	Maintenance for 1st Year: Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-8mtr and above street light pole (Ref Electrical SOR SI No.16.28.3)	Nos.	241.00				241.00
55.00	Maintenance for 1st Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets	Nos.	70.00				70.00
56.00	Maintenance for 1st Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)	Nos.	1.00				1.00
	LT Cable						
57.00	Maintenance for 1st Year: Supplying of 1.1 kV LT cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanised, steel strips (except 2C x 10 sq. mm wire armoured) as per IS-3975:1990 and extruded PVC outer sheathed armoured cable as per IS - 1554 Part 1:1988 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)	m	1	60.00			60.00
58.00	Maintenance for 1st Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)	m	1	10.00			10.00
59.00	Maintenance for 1st Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)	Nos	10				10.00
60.00	Maintenance for 1st Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)	Nos	8				8.00
	Earthing system						
61.00	Maintenance for 1st Year: Chemical Earthing for grounding,conduits,IC cut outs and otherequipmentson the mter boardby using copper /SS rod with earth enhancing backfill compound which is non corrosive ,thermally,conductive,potential,to permissible,limits,superior,fault,conductive capacity,non toxic,weather resistance and capable of achieving ohmic value less than one ohm (Ref Electrical SOR Pg.No.64,SI No.7.23.6)	Kit	1				1.00
62.00	Maintenance for 1st Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)	Rmt	1	50			50.00
	Landcaping Works						
	SOIL MIXES and Ground Preparation						

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
63.00	Maintenance for 1st Year: Supplying and stacking of good earth at site including royalty and carriage upto 5 k.m. lead complete (earth measured in stacks will be reduced by 20% for payment). (Non SOR Item)	Cum	1	20	0.5	0.15	1.50
64.00	Maintenance for 1st Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)	Cum	1	15	0.5	0.1	0.75
65.00	Maintenance for 1st Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. Spreading of sludge farm yard manure or/ and good earth in required thickness (cost of sludge, farm yard manure or/and good earth to be paid for separately) complete as per specifications. MORTH Specification No. 307 (KPWD SR 18-19,Page No.150,SI No.19.77)	Cum	1	40	0.5	0.1	2.00
66.00	Maintenance for 1st Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)	Cum	1	40	0.5	0.1	2.00
Soil preparation of Lawn							
67.00	Maintenance for 2nd Year: Maintenance of lawns or Turfing of slopes (rough grassing) for a period of one year including watering etc complete including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Sqm	1.00	382.19			382.19
TURF							
68.00	Maintenance for 1st Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	1	5	0.6		3.00
IRRIGATION							
69.00	Maintenance for 1st Year: Watering with tanker to landscape area and plants for one year						
70.00	Maintenance for 1st Year: supply and fixing of irrigation lines such that all the green areas and plants are adequately watered; by means of drip irrigation for trees , sub surface for shrubs and lawn areas / ground covers and pop up sprinklers for lawn areas. (Equipment make - Rainbird or equivalent) All material used should be comply to BSI code. All the necessary value and pump required for complete commissioning to be installed. (Non SOR Item)	Sqm	1	5	0.6		3.00

**Assistant Engineer
MSCL Mangaluru**

**Assistant Executive Engineer
MSCL Mangaluru**

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

**Name of the Work :- Mangalore Smart City
5.3 R.A. For Maintenance of 1st Year- DPR 7**

1	Maintenance for 1st Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)			
	Basic rate		68.16	
	Maintenance -1st year escalation of 4%		2.73	
	Add 10% For area weightage (Mangalore City)		7.09	
		Rate	77.98	Sqm
2	Maintenance for 1st Year: KSRRB M200.Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled material stacking serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)			
	Basic rate		899	
	Maintenance -1st year escalation of 4%		35.96	
	Add 10% For area weightage (Mangalore City)		93.5	
		Rate	1028.46	Cum
3	Maintenance for 1st Year: KSRRB M200-Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)			
	Basic rate		12.00	
	Maintenance -1st year escalation of 4%		0.48	
	Add 10% For area weightage (Mangalore City)		1.25	
		Rate	13.73	Rmt
4	Maintenance for 1st Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 18-19,18.20,Page No.137)			
	Basic rate		390	
	Maintenance -1st year escalation of 4%		15.6	
	Add 10% For area weightage (Mangalore City)		40.56	
		Rate	446.16	Cum
5	Maintenance for 1st Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. i)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)			
	Basic rate		351	
	Maintenance -1st year escalation of 4%		14.04	
	Add 10% For area weightage		36.5	
		Rate	401.54	Cum

6	<p>Maintenance for 1st Year: KSRRB M300-14. Excavation for roadwork in all types of soil with hydraulic excavator of 0.9 bucket capacity including cutting and loading in tippers,trimming bottom and side slopes,in accordance with requirements of lines and grades and cross sections,and transporting disposal location up to a lead of 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)</p>				
	Basic rate			41	
				10.24	
	Maintenance -1st year escalation of 4%			2.05	
	Add 10% For area weightage (Mangalore City)			4.31	
			Rate	57.60	Cum
7	<p>Maintenance for 1st Year: KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 18-19,SI No.2.11,Pg. No.6)</p>				
	Basic rate			120	
	Maintenance -1st year escalation of 4%			4.8	
	Add 10% For area weightage (Mangalore City)			12.48	
			Rate	137.28	Cum
8	<p>Maintenance for 1st Year: KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occuring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3.(KPWD 18-19,SI No.19.64,Pg. No.149)</p>				
	Basic rate			6	
	Maintenance -1st year escalation of 4%			0.24	
	Add 10% For area weightage (Mangalore City)			0.62	
			Rate	6.86	Sqm
9	<p>Maintenance for 1st Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2018-19)</p>				
	Basic Rate			5900	
	Maintenance -1st year escalation of 4%			236	
	Add 10% For area weightage (Mangalore City)			613.6	
			Rate	6749.60	Cum
10	<p>Maintenance for 1st Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechaical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading-II Material</p>				
	Basic Rate			2166	
	Maintenance -1st year escalation of 4%			86.64	
	Add 10% For area weightage (Mangalore City)			225.26	
			Rate	2477.90	Cum

11	<p>Maintenance for 1st Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters confirming to IS 9103-1999 reaffirmed -2008 at machine mixed,concrete laid in layers not exceeding 15cms thick, vibrated for all works in foundation for footings, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)</p>				
	Basic Rate			6198	
	Maintenance -1st year escalation of 4%			247.92	
	Add 10% For area weightage (Mangalore City)			644.59	
			Rate	7090.51	Cum
12	<p>Maintenance for 1st Year: KSRB 4.6.1 Providing and removing centering, shuttering, strutting, propping etc.,and removal of formwork for foundations, footings, bases of columns for mass concrete including cost of all materials,labour complete as per specifications. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)</p>				
	Basic Rate			263	
	Maintenance -1st year escalation of 4%			10.52	
	Add 10% For area weightage (Mangalore City)			27.35	
			Rate	300.87	Sqm
13	<p>Maintenance for 1st Year: KSRB 4.9.2 :Providing T.M.T steel reinforcement for RCC work including straighting,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to thr adjoing members wherever necessary complete as per design (laps,hooks and wastage shall not be measured and paid) cost of materials,labour,HOM of machinery complete as per specifications.Specification No. KBS4.6.3. do with TMT bars Fe500</p>				
	Basic Rate			70782	
	Maintenance -1st year escalation of 4%			2831.28	
	Add 10% For area weightage (Mangalore City)			7361.33	
			Rate	80974.61	MT
14	<p>Maintenance for 1st Year: KSRRB M300-Construction of Subgrade. KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305</p>				
	Basic Rate			513	
	Maintenance -1st year escalation of 4%			20.52	
	Add 20km lead (17.4 KSRRB M100-4.1-Cost of haulage excluding loading and unloading MORTH-100/Chapter 1-case 1-Surface Road)=2.5 Rs/ Tkm x 1.28 T x 20km			51.2	
	Sub Total			584.72	
	Add 10% For area weightage (Mangalore City)			58.47	
			Rate	643.19	Cum

15	<p>Maintenance for 1st Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,laid with a paver with electronic sensor,compacting with 8-10 tonnes double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)</p>				
	Basic Rate			4048	
	Maintenance -1st year escalation of 4%			161.92	
	Add 10% For area weightage (Mangalore City)			420.99	
			Rate	4630.91	Cum
16	<p>Maintenance for 1st Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)</p>				
	Basic Rate			3680	
	Maintenance -1st year escalation of 4%			147.2	
	Add 10% For area weightage (Mangalore City)			382.72	
			Rate	4209.92	Cum
17	<p>Maintenance for 1st Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplastisizer at 3 lts confirming to IS9103-1999 reaffirmed 2008(Coarse and fine aggregate conforming to IS:383) mixed in a batching and mixing plant as per approved mix design,transported to site,laid with a fixed form paver spread,compacted and finished in a continuos operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent primer, joints sealant, debonding strip, dowel bars at 4.5m intervals, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per sprcifications MORTH specification No.602.do with M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)</p>				
	Basic Rate			5765	
	Maintenance -1st year escalation of 4%			230.6	
	Add 10% For area weightage (Mangalore City)			599.56	
			Rate	6595.16	Cum
18	<p>Maintenance for 1st Year: Providing and placing joint sealant compound of cold polysulphide in the grooves after widening the groove to required width, sand blasting the groove face if recommended by the sealant manufacturer, cleaning the groove with air compressor, insertion of debonding strip, priming the sides of the sealant if the sealant manufacturer recommends and pouring the sealant all complete including material, manpower (Non SOR Item)</p>				
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.2			115	
	Maintenance -1st year escalation of 4%			4.6	
			Rate	119.6	Rmt

19	<p>Maintenance for 1st Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 Repairs of spalled joints grooves of contraction joints longitudinal joints and expansion joints in concrete pavement using epoxy mortar concrete complete as per specifications.Morth specification No.3005.1 (Page No 257,SI No : 35.8)</p>				
	Basic Rate			331	
	Maintenance -1st year escalation of 4%			13.24	
	Add 10% For area weightage (Mangalore City)			34.42	
			Rate	378.66	Rmt
20	<p>Maintenance for 1st Year: Providing and laying at or near ground level factory made kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge). (RA Attached)</p>				
	Rate Arrived as per Rate analysis				
	Basic Rate			17708.82	
	Maintenance -1st year escalation of 4%			708.35	
	Add 10% For area weightage (Mangalore City)			1841.72	
			Rate	20258.89	Cum
21	<p>Maintenance for 1st Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>				
	Basic rate			15481.61	
	Maintenance -1st year escalation of 4%			619.26	
	Add 10% For area weightage			1610.09	
			Rate	17710.96	Cum
22	<p>Maintenance for 1st Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>				
	Basic rate			15481.61	
	Maintenance -1st year escalation of 4%			619.26	
	Add 10% For area weightage			1610.09	
			Rate	17710.96	Cum
23	<p>Maintenance for 1st Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.</p>				
	Basic rate			24	
	Maintenance -1st year escalation of 4%			0.96	
	Add 10% For area weightage			2.5	
			Rate	27.46	Rm
24	<p>Maintenance for 1st Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)</p>				
	Basic Rate			80	

	Maintenance -1st year escalation of 4%		3.2	
	Add 10% For area weightage (Mangalore City)		8.32	
		Rate	91.52	Sqm
25	Maintenance for 1st Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.			
	As per Quotation			
	Basic Rate		10764	
	Discount 30%		-3229.2	
	Sub Total		7534.8	
	Fixing Charges @5%		538.2	
	Maintenance -1st year escalation of 4%		322.92	
		Rate	8395.92	Nos.
26	Maintenance for 1st Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)			
	As per Quotation			
	Basic Rate		7179.00	
	Discount 30%		-2153.7	
	Sub Total		5025.3	
	Fixing Charges @5%		251.265	
	Maintenance -1st year escalation of 4%		211.06	
		Rate	5487.63	Nos.
27	Maintenance for 1st Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)			
	As per Quotation			
	Basic Rate		7912.28	
	Discount 30%		-2373.68	
	Sub Total		5538.6	
	Fixing Charges @5%		276.93	
	Maintenance -1st year escalation of 4%		232.62	
		Rate	6048.15	Nos.
28	Maintenance for 1st Year: Providing gully pipe lowering, laying of PVC 100 mm dia pipes to the required alignments including specials and grade as indicated in drawings/design and hydraulically testing of the pipe line. The rate shall include all jointing materials, testing apparatus and water for testing etc as directed by the Engineer in charge (page No.41, Item No.7, KUWSDB SOR 2016-17)			
	Basic Rate		297	
	Maintenance -1st year escalation of 4%		11.88	
	Add 10% on Labor Charges=Rs.47, For area weightage (Mangalore City)		4.7	
		Rate	313.58	Rm
29	Maintenance for 1st Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia, of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-19, P.No.86, SI.No.12.89)			
	Basic Rate		830	
	Maintenance -1st year escalation of 4%		33.2	
	Add 10% For area weightage (Mangalore City)		86.32	
		Rate	949.52	Nos.

30	Maintenance for 1st Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2018-19,Sl.No.24.36)				
	Basic Rate			5022	
	Maintenance -1st year escalation of 4%			200.88	
	Add 10% For area weightage (Mangalore City)			522.29	
			Rate	5745.17	Rm
31	Maintenance for 1st Year: Providing and laying Dia 225mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)				
	Basic Rate (Without GST@18%)			1886	
	Labour Cost for laying and Jointing-KUWSDB,HDPE Pipes,Item No.50,Pg.No.123)			78	
	Add 10% For area weightage (Mangalore City)			7.8	
	Sub Total			1971.8	
	Maintenance -1st year escalation of 4%			78.87	
			Rate	2050.67	Rm
32	Maintenance for 1st Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years.(Market Rate)				
	Basic Rate (Without GST@18%)			996.3	
	Labour Cost for laying and Jointing-KUWSDB,HDPE Pipes,Item No.50,Pg.No.123)			66	
	Add 10% For area weightage (Mangalore City)			6.6	
	Sub Total			1068.9	
	Maintenance -1st year escalation of 4%			42.76	
			Rate	1111.66	Rm
33	Maintenance for 1st Year: Providing and Fixing Spacers for Power Ducts of size 200 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)				
	Basic Rate (Without GST@18%)			1003	
	Contractor Profit@10%			100.3	
	Maintenance -1st year escalation of 4%			40.12	
			Rate	1143.42	Nos.
34	Maintenance for 1st Year: Providing and Fixing Spacers for Power Ducts of size 160 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)				
	Basic Rate (Without GST@18%)			1947	
	Contractor Profit@10%			194.7	
	Maintenance -1st year escalation of 4%			77.88	
			Rate	2219.58	Nos.

35	Maintenance for 1st Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)			
	Basic Rate (Without GST@18%)			561.7
	Labour Cost for laying and Jointing-KUWSDB, HDPE Pipes, Item No.50, Pg.No.123)			36
	Add 10% For area weightage (Mangalore City)			3.6
	Sub Total			601.3
	Maintenance -1st year escalation of 4%			24.05
		Rate		625.35 Rm
36	Maintenance for 1st Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquiting it on top with approved colour. Sealing entire area with concrete sealer.			
	Basic Rate (Without GST@18%)			624.00
	Maintenance -1st year escalation of 4%			24.96
	Add 10% For area weightage (Mangalore City)			64.9
		Rate		713.86 Sqm
37	Maintenance for 1st Year: Providing and laying heavy duty cobble stones 75mm thick, using cement and coarse sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm thick sand bed (average thickness) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications. (Page No 101, SI No : 14.7)			
	Basic rate			1114
	Maintenance -1st year escalation of 4%			44.56
	Add 10% For area weightage (Mangalore City)			115.86
		Rate		1274.42 Sqm
38	Maintenance for 1st Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 18-19, S.I.No.21.17.1, Page No.163)			
	Basic rate			7839
	Maintenance -1st year escalation of 4%			313.56
	Add 10% For area weightage (Mangalore City)			815.26
		Rate		8967.82 Cum
39	Maintenance for 1st Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen			
	Basic rate			8761
	Maintenance -1st year escalation of 4%			350.44
	Add 10% For area weightage (Mangalore City)			911.14
		Rate		10022.58 Cum

40	Maintenance for 1st Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications			
	Basic rate		289	
	Maintenance -1st year escalation of 4%		11.56	
	Add 10% For area weightage (Mangalore City)		30.06	
		Rate	330.62	Nos.
41	Maintenance for 1st Year: Supply & Installation of Solar Raised Pavement Markers made of polycarbonate molded body with circular shape, solar powered, LED self illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens in passive mode. The marker shall support a load of 20000 kg tested in accordance to IRC 37 and shall be resistant to dust and water ingress according to IP 65 (Ingress Protection 65 is a test which is conducted to check if solar road stud is protected from total dust Ingress and low pressure water jets from any direction) standards and should withstand temperatures in the range of 0 C to 70 C. Color of lighting could be provided in red or yellow (amber) as per requirement and typical frequency of blinking is 1 Hz. There should be current losses of less than 20 micro-amperes at 2.4 V in sleep-charging mode to enhance the life of the marker and a full charge should provide for a minimum autonomy of 50 hours. The height, width and length of the marker shall not be less than 10 mm x 100 mm x 100 mm. Also, the surface diameter of the marker shall not be less than 100 mm respectively. The weight of the marker shall not exceed 0.5 Kilograms. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer.			
	Basic rate		2961	
	Maintenance -1st year escalation of 4%		118.44	
	Add 10% For area weightage (Mangalore City)		307.94	
		Rate	3387.38	Nos.
42	Maintenance for 1st Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5mm thick including reflectorising glass beads at 250 gms and 2 ltr of primer per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streak and holes complete as per specifications. MORTH specification No.803 (Page No 192, SI No : 24.57)			
	Basic Rate		429	
	Maintenance -1st year escalation of 4%		17.16	
	Add 10% For area weightage (Mangalore City)		44.62	
		Rate	490.78	Sqm
43	Maintenance for 1st Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.			
	Baisc rate		61200	
	Maintenance -1st year escalation of 4%		2448	
	Rate Approved as per EOI by MD MSCL Mangalore, Refer Sr.No.1	Rate	63648	Nos.
44	Maintenance for 1st Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore, Refer Sr.No.13		4500.00	
	Maintenance -1st year escalation of 4%		180	
		Rate	4680	Nos.

45	Maintenance for 1st Year: Providing and fixing of railing as detail design in MS HOLLOW SECTION and bars (shop drawing to be approved),with vertical support of 0.9m @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.26			100000.00
	Maintenance -1st year escalation of 4%			4000
		Rate		104000 MT
46	Maintenance for 1st Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.			
	Basic Rate			179.00
	Maintenance -1st year escalation of 4%			7.16
		Rate		186.16 Nos.
47	Maintenance for 1st Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Earth			
	Earth		2.0x1.28x10km	
	Basic rate			25.60
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)			68.00
	Sub Total-1			93.60
	Add 10% For area weightage (Mangalore City)			9.36
	Sub Total-2			102.96
	Maintenance -1st year escalation of 4%			4.12
		Rate		107.08 Cum
48	Maintenance for 1st Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Debris			
	Debris		2.0x1.30x10Km	
	Basic rate			26.00
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)			68.00
	Sub Total-1			94.00
	Add 10% For area weightage (Mangalore City)			9.4
	Sub Total-2			103.40
	Maintenance -1st year escalation of 4%			4.14
		Rate		107.54 Cum
	Lighting Poles			
49	Maintenance for 1st Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))			
	Basic Rate			1,681
	Maintenance -1st year escalation of 4%			67.23
		Rate		1747.8756 Nos.

50	Maintenance for 1st Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, icluding suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 m pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 155 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No. 5.14.5)				
	Basic rate			12420	
	Maintenance -1st year escalation of 4%			496.8	
			Rate	12,916.80	Nos.
51	Maintenance for 1st Year: Lighting Pole, 4 m Fabrication, supply and erection of 4 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangement, icluding suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 4 pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 130 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No.5.14.2)				
	Basic rate			7398	
	Maintenance -1st year escalation of 4%			295.92	
			Rate	7,693.92	Nos.
52	Maintenance for 1st Year: Supplying and fixing of hot dip Galvinized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Double Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.5)				
	Basic rate			3540	
	Maintenance -1st year escalation of 4%			141.6	
			Rate	3,681.60	Nos.
53	Maintenance for 1st Year: Supplying and fixing of hot dip Galvinized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)				
	Basic rate			2400	
	Maintenance -1st year escalation of 4%			96	
			Rate	2,496	Nos.
54	Maintenance for 1st Year: Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-8mtr and above street light pole (Ref Electrical SOR SI No.16.28.2)				
	Basic rate			620	
	Maintenance -1st year escalation of 4%			24.8	
			Rate	645	Nos.
	Outdoor Box and Switch Gear				
55	Maintenance for 1st Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets				
	Price list (Considering 30% discount , 18% GST & 10% profit)			11782.92	
	Maintenance -1st year escalation of 4%			471.32	
			Rate	12,254	Nos.

56	Maintenance for 1st Year: Supply and fixing of miniature circuit breaker on existing board using necessary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required conforming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)				
	Basic rate			1547	
	Maintenance -1st year escalation of 4%			61.88	
		Rate		1,609	Nos.
	LT Cable				
57	Maintenance for 1st Year: Supplying of 1.1 kV LT cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanised, steel strips (except 2C x 10 sq. mm wire armoured) as per IS-3975:1990 and extruded PVC outer sheathed armoured cable as per IS - 1554 Part 1:1988 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)				
	Basic rate			117	
	Maintenance -1st year escalation of 4%			4.68	
		Rate		121.68	Rm
58	Maintenance for 1st Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)				
	Basic rate			81.6	
	Maintenance -1st year escalation of 4%			3.26	
		Rate		84.86	Rm
59	Maintenance for 1st Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)				
	Basic rate			11.31	
	Maintenance -1st year escalation of 4%			0.45	
		Rate		11.76	Nos.
60	Maintenance for 1st Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)				
	Basic rate			3.12	
	Maintenance -1st year escalation of 4%			0.12	
		Rate		3.24	Nos.
61	Maintenance for 1st Year: Chemical Earthing for grounding, conduits, IC cut outs and other equipment on the meter board by using copper /SS rod with earth enhancing backfill compound which is non corrosive, thermally, conductive, potential, to permissible, limits, superior, fault, conductive capacity, non toxic, weather resistance and capable of achieving ohmic value less than one ohm (Ref Electrical SOR Pg.No.64, SI No.7.23.6)				
	Basic rate			5500	
	Maintenance -1st year escalation of 4%			220	
		Rate		5720	Kit
62	Maintenance for 1st Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)				

	Basic rate		19.5	
	Maintenance -1st year escalation of 4%		0.78	
		Rate	20.28	Rmt
63	Maintenance for 1st Year: Supplying and stacking of good earth at site including royalty and carriage upto 5 k.m. lead complete (earth measured in stacks will be reduced by 20% for payment). (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.27		140.00	
	Maintenance -1st year escalation of 4%		5.6	
		Rate	145.60	Cum
64	Maintenance for 1st Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,Sl.No.19.90)			
	Basic rate		204	
	Maintenance -1st year escalation of 4%		8.16	
	Add 10% For area weightage		21.22	
		Rate	233.38	Cum
65	Maintenance for 1st Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. Spreading of sludge farm yard manure or/ and good earth in required thickness (cost of sludge, farm yard manure or/and good earth to be paid for separately) complete as per specifications. MORTH Specification No. 307 (KPWD SR 16-17,Page No.150,SI No.19.77)			
	Basic rate		103	
	Maintenance -1st year escalation of 4%		4.12	
	Add 10% For area wightage		10.71	
		Rate	117.83	Cum
66	Maintenance for 1st Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.28		23.91	
	Maintenance -1st year escalation of 4%		0.96	
		Rate	24.87	Cum
67	Maintenance for 1st Year: Maintenance of lawns or Turfing of slopes (rough grassing) for a period of one year including watering etc complete including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.			
	Basic rate		103	
	Maintenance -1st year escalation of 4%		4.12	
	Add 10% For area wightage		10.71	
		Rate	117.83	Sqm
	TURF			
68	Maintenance for 1st Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.32		156.80	
	Maintenance -1st year escalation of 4%		6.27	
		Rate	163.07	Sqm
	IRRIGATION			

69	Maintenance for 1st Year: Watering with tanker to landscape area and plants for one year			
	Water Tanker =61 Rs/ Hour,One Year Cost=92 days x 3 hrs/day x 61rs/hr (365days-90 days of mansoon=275 days/3 days=92 days,consider watering at every 3 days)		16836	
	Mazdoor = 0.5 days x 258.88		11908.48	
	Add 10% For area wightage		1190.848	
	Maintenance -1st year escalation of 4%		1149.78	
		Rate	31085.11	Sqm
70	Maintenance for 1st Year: supply and fixing of irrigation lines such that all the green areas and plants are adequately watered; by means of drip irrigation for trees , sub surface for shrubs and lawn areas / ground covers and pop up sprinklers for lawn areas. (Equipment make - Rainbird or equivalent) All material used should be comply to BSI code. All the necessary value and pump required for complete commissioning to be installed. (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.34		560.00	
	Maintenance -1st year escalation of 4%		22.4	
		Rate	582.40	Sqm

**Assistant Engineer
MSCL Mangaluru**

**Assistant Executive Engineer
MSCL Mangaluru**

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

Name of the Work :- Mangalore Smart City

6.1 Abstract for Maintenance of Road and Other Work for DPR 7 -2nd Year

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
Civil Works					
1.00	Maintenance for 2nd Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)	Sqm	14.00	80.97	1134
2.00	Maintenance for 2nd Year: KSRRB M200. Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled material stacking serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)	Cum	0.30	1068.01	,320
3.00	Maintenance for 2nd Year: KSRRB M200- Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)	Rmt	20.00	14.26	285
4.00	Maintenance for 2nd Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 18-19,18.20,Page No.137)	Cum	20.00	463.32	9,266
5.00	Maintenance for 2nd Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. i)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)	Cum	0.23	416.99	,96
6.00	Maintenance for 2nd Year: KSRRB M300-14. Excavation for roadwork in all types of soil with hydraulic excavator of 0.9 bucket capacity including cutting and loading in tippers,trimming bottom and side slopes,in accordance with requirements of lines and grades and cross sections,and transporting disposal location up to a lead of 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)	Cum	250.00	48.71	12,178
7.00	Maintenance for 2nd Year: KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)	Cum	75.00	142.56	10,692
8.00	Maintenance for 2nd Year: KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occurring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3.(KPWD 18-19,SI No.19.64,Pg. No.149)	Sqm	500.00	7.13	3,565

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
9.00	Maintenance for 2nd Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills , including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2018-19)	Cum	7.50	7009.20	52,569
10.00	Maintenance for 2nd Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material	Cum	37.50	2573.21	96,495
11.00	Maintenance for 2nd Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters conforming to IS 9103-1999 reaffirmed -2008 at machine mixed,concrete laid in layers not exceeding 15cms thick, vibrated for all works in foundation for footings, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)	Cum	48.00	7363.22	3,53,435
12.00	Maintenance for 2nd Year: KSRB 4.6.1 Providing and removing centering, shuttering, strutting, propping etc.,and removal of formwork for foundations, footings, bases of columns for mass concrete including cost of all materials,labour complete as per specifications. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)	Sqm	360.00	312.44	1,12,478
13.00	Maintenance for 2nd Year: KSRB 4.9.2 : Providing T.M.T steel reinforcement for RCC work including straightening,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps,hooks and wastage shall not be measured and paid) cost of materials,labour,HOM of machinery complete as per specifications.Specification No. KBS4.6.3. do with TMT bars Fe500	MT	3.84	84089.02	3,22,902
14.00	Maintenance for 2nd Year: KSRRB M300- Construction of Subgrade . KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305	Cum	61.25	665.76	40,778

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
15.00	<p>Maintenance for 2nd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,laid with a paver with electronic sensor,compacting with 8-10 tonnes double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)</p>	Cum	12.25	4809.02	58,910
16.00	<p>Maintenance for 2nd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)</p>	Cum	20.00	4371.84	87,437
17.00	<p>Maintenance for 2nd Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplastisizer at 3 lts confirming to IS9103-1999 reaffirmed 2008(Coarse and fine aggregate conforming to IS:383) mixed in a batching and mixing plant as per approved mix design,transported to site,laid with a fixed form paver spread,compacted and finished in a continuous operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent primer, joints sealant, debonding strip, dowel bars at 4.5m intervals, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per sprcifications MORTH specification No.602.do with M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)</p>	Cum	28.18	6848.82	1,93,000
18.00	<p>Maintenance for 2nd Year: Providing and placing joint sealant compound of cold polysulphide in the grooves after widening the groove to required width, sand blasting the groove face if recommended by the sealant manufacturer, cleaning the groove with air compressor, insertion of debonding strip, priming the sides of the sealant if the sealant manufacturer recommends and pouring the sealant all complete including material, manpower (Non SOR Item)</p>	Rmt	650.00	124.20	80,730
19.00	<p>Maintenance for 2nd Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 Repairs of spalled joints grooves of contraction joints longitudinal joints and expansion joints in concrete pavement using epoxy mortar concrete complete as per specifications.Morth specification No.3005.1 (Page No 257,SI No : 35.8)</p>	Rmt	650.00	393.23	2,55,600

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
20.00	<p>Maintenance for 2nd Year: Providing and laying at or near ground level factory made kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge). (RA Attached)</p>	Cum	0.10	21038.08	2,104
21.00	<p>Maintenance for 2nd Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	2.79	18392.15	51,314
22.00	<p>Maintenance for 2nd Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	1.18	18392.15	21,703
23.00	<p>Maintenance for 2nd Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.</p>	Rmt	100.00	28.51	2,851
24.00	<p>Maintenance for 2nd Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)</p>	Sqm	82.50	95.04	7,841
25.00	<p>Maintenance for 2nd Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.</p>	Nos.	5.00	9900.72	49,504
26.00	<p>Maintenance for 2nd Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)</p>	Nos.	5.00	5698.70	28,493
27.00	<p>Maintenance for 2nd Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)</p>	Nos.	5.00	6280.77	31,404
28.00	<p>Maintenance for 2nd Year: Providing gully pipe lowering,laying of PVC 100 mm dia pipes to the required alignments including specials and grade as indicated in drawings/design and hydraulically testing of the pipe line.The rate shall include all jointing materials,testing apparatus and water for testi g etc as directed by the Engineer in charge (page No.41,Item No.7,KUWSDB SOR 2016-17)</p>	Rmt	20.00	325.46	6,509
29.00	<p>Maintenance for 2nd Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia, of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2018-19,P.No.86, SI.No.12.89)</p>	Nos.	20.00	986.04	19,721

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
30.00	<p>Maintenance for 2nd Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2018-19,SI.No.24.36)</p>	Rmt	20.00	5966.14	1,19,323
31.00	<p>Maintenance for 2nd Year: Providing and laying Dia 225mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)</p>	Rmt	150.00	2129.54	3,19,431
32.00	<p>Maintenance for 2nd Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)</p>	Rmt	100.00	1154.41	1,15,441
33.00	<p>Maintenance for 2nd Year: Providing and Fixing Spacers for Power Ducts of size 200 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)</p>	Nos.	20.00	1183.54	23,671
34.00	<p>Maintenance for 2nd Year: Providing and Fixing Spacers for Power Ducts of size 160 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)</p>	Nos.	20.00	2297.46	45,949
35.00	<p>Maintenance for 2nd Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)</p>	Rmt	40.00	649.40	25,976
36.00	<p>Maintenance for 2nd Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.</p>	Sqm	200.00	741.31	1,48,262
37.00	<p>Maintenance for 2nd Year: Providing and laying heavy duty cobble stones 75mm thick, using cement and coarse sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm thick sand bed (average thickness) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications. (Page No 101,SI No : 14.7)</p>	Sqm	75.00	1323.43	99,257

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
38.00	Maintenance for 2nd Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 16-17,S.I.No.21.17.1,Page No.163)	Cum	6.00	9312.73	55,876
39.00	Maintenance for 2nd Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen	Cum	1.60	10408.07	16,653
40.00	Maintenance for 2nd Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications	Nos.	50.00	343.33	17,167
41.00	Maintenance for 2nd Year: Supply & Installation of Solar Raised Pavement Markers made of polycarbonate molded body with circular shape, solar powered, LED self illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens in passive mode. The marker shall support a load of20000 kg tested in accordance to IRC 37 and shall be resistantto dust and water ingress according to IP 65 (Ingress Protection 65 is a test which is conducted to check if solar road stud is protected from total dust Ingress and low pressure water jets from any direction) standards and should withstand temperatures in the range of 0 C to 70 C. Color of lighting could be provided in red or yellow (amber) as per requirement and typical frequency of blinking is 1 Hz. There should be current losses of less than 20 micro-amperes at 2.4 V in sleep-charging mode to enhance the life of the marker and a full charge should provide for a minimum autonomy of 50 hours. The height, width and length of the marker shall not be less than 10 mm x 100 mm x 100 mm. Also, the surface diameter of the marker shall not be less than 100 mm respectively. The weight of the marker shall not exceed 0.5 Kilograms. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer.	Nos.	10.00	3517.67	35,177
42.00	Maintenance for 2nd Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5mm thick including reflectorising glass beads at 250 gms and 2 ltr of primer per sqm area,thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35.The finished surface to be level,uniform and free from streak and holes complete as per specifications.MORTH specification No.803 (Page No 192,SI No : 24.57)	Sqm	600.00	509.65	3,05,790
43.00	Maintenance for 1st Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.	Nos	4.00	66096.00	2,64,384
44.00	Maintenance for 2nd Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)	Nos.	2.00	4860.00	9,720
45.00	Maintenance for 2nd Year: Providing and fixing of railing as detail design in MS HOLLOW SECTION and bars (shop drawing to be approved),with vertical support of 0.9m @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)	MT	0.10	108000.00	10,800

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
46.00	Maintenance for 2nd Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Cum	1015.00	193.32	1,96,220
47.00	Maintenance for 2nd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Earth	Cum	200.00	111.20	22,240
48.00	Maintenance for 2nd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Debris	Cum	70.00	111.67	7,817
Electrical Works					
49.00	Maintenance for 2nd Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))	Nos.	1.00	1815.10	1,815
50.00	Maintenance for 2nd Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 m pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 155 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No. 5.14.5)	Nos.	1.00	13413.60	13,414
51.00	Maintenance for 2nd Year: Lighting Pole, 4 m Fabrication, supply and erection of 4 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 4 pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 130 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No.5.14.2)	Nos.	1.00	7989.84	7,990
52.00	Maintenance for 2nd Year: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Double Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.5)	Nos.	1.00	3823.20	3,823
53.00	Maintenance for 2nd Year: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)	Nos.	1.00	2592.00	2,592
54.00	Maintenance for 2nd Year: Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-8mtr and above street light pole (Ref Electrical SOR SI No.16.28.3)	Nos.	241.00	669.60	161,374
55.00	Maintenance for 2nd Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets	Nos.	1.00	12725.55	12,726

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
56.00	Maintenance for 2nd Year: Supply and fixing of miniature circuit breaker on existing board using necessary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required conforming to IEC 60898 5- 32A TPN (Electrical SOR- 6.16.5)	Nos.	1.00	1670.76	1,671
	LT Cable				
57.00	Maintenance for 2nd Year: Supplying of 1.1 kV LT cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanised, steel strips (except 2C x 10 sq. mm wire armoured) as per IS-3975:1990 and extruded PVC outer sheathed armoured cable as per IS - 1554 Part 1:1988 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)	m	60.00	126.36	7,582
58.00	Maintenance for 2nd Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)	m	10.00	88.13	881
59.00	Maintenance for 2nd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)	Nos	10.00	12.21	122
60.00	Maintenance for 2nd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)	Nos	8.00	3.37	27
	Earthing system				
61.00	Maintenance for 2nd Year: Chemical Earthing for grounding, conduits, IC cut outs and other equipments on the meter board by using copper /SS rod with earth enhancing backfill compound which is non corrosive, thermally, conductive, potential, to permissible, limits, superior, fault, conductive capacity, non toxic, weather resistance and capable of achieving ohmic value less than one ohm (Ref Electrical SOR Pg.No.64, SI No.7.23.6)	Kit	1.00	5940.00	5,940
62.00	Maintenance for 2nd Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)	Rmt	50.00	21.06	1,053
	Landcaping Works				
	SOIL MIXES and Ground Preparation				
63.00	Maintenance for 2nd Year: Supplying and stacking of good earth at site including royalty and carriage upto 5 k.m. lead complete (earth measured in stacks will be reduced by 20% for payment). (Non SOR Item)	Cum	1.50	151.20	227
64.00	Maintenance for 2nd Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stacking complete as per specifications. MORTH Specification No. 308.2(Page No.152, SI.No.19.90)	Cum	0.75	242.35	182
65.00	Maintenance for 2nd Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. Spreading of sludge farm yard manure or/ and good earth in required thickness (cost of sludge, farm yard manure or/and good earth to be paid for separately) complete as per specifications. MORTH Specification No. 307 (KPWD SR 16-17, Page No.150, SI No.19.77)	Cum	2.00	122.36	245

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
66.00	Maintenance for 2nd Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)	Cum	2.00	25.82	52
	Soil preparation of Lawn				
67.00	Maintenance for 2nd Year: Maintenance of lawns or Turfing of slopes (rough grassing) for a period of one year including watering etc complete including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Sqm	382.19	122.36	46,765
	TURF				
68.00	Maintenance for 2nd Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	3.00	169.34	508
	IRRIGATION				
69.00	Maintenance for 2nd Year: Watering with tanker to landscape area and plants for one year	Year	1.00	32234.89	32,235
70.00	Maintenance for 2nd Year: supply and fixing of irrigation lines such that all the green areas and plants are adequately watered; by means of drip irrigation for trees , sub surface for shrubs and lawn areas / ground covers and pop up sprinklers for lawn areas. (Equipment make - Rainbird or equivalent) All material used should be comply to BSI code. All the necessary value and pump required for complete commissioning to be installed. (Non SOR Item)	Sqm	3.00	604.80	1,814
				Total	40,55,506

**Assistant Engineer
MSCL Mangaluru**

**Assistant Executive Engineer
MSCL Mangaluru**

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

**Name of the Work :- Mangalore Smart City
6.2 M.S. For Maintenance of Road and Other Work for DPR 7 -2nd Year**

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
Civil Works							
1.00	Maintenance for 2nd Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)	Sqm	1	7	2		14.00
2.00	Maintenance for 2nd Year: KSRRB M200. Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled material stacking serviceable and unserviceable materials separately complete as per specifications. MORTH specification No.202.(Including transporting charges, loading and unloading for lead 5km-Extra) (Page No 138, SI No : 18.47)	Cum	1	1	1	0.3	0.30
3.00	Maintenance for 2nd Year: KSRRB M200- Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications. MORTH Specification No.202. (Page No.139,S.I.No.18.49)	Rmt	1	20			20.00
4.00	Maintenance for 2nd Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)	Cum	1	40	1	0.5	20.00
5.00	Maintenance for 2nd Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. i)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)	Cum	2	1	0.5	0.23	0.23
6.00	Maintenance for 2nd Year: KSRRB M300-14. Excavation for roadwork in all types of soil with hydraulic excavator of 0.9 bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines and grades and cross sections, and transporting disposal location up to a lead of 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)	Cum	1.00	100	5	0.5	250.00
7.00	Maintenance for 2nd Year: KSRRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)	Cum	1.00	30	5	0.5	75.00
8.00	Maintenance for 2nd Year: KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occurring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3.(KPWD 16-17,SI No.19.64,Pg. No.149)	Sqm	1.00	100		5	500.00
9.00	Maintenance for 2nd Year: KSRRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills , including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)	Cum	1.00	15	5	0.1	7.50
10.00	Maintenance for 2nd Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading-II Material	Cum	1.00	50	5	0.15	37.50

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
11.00	<p>Maintenance for 2nd Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters conforming to IS 9103-1999 reaffirmed -2008 at machine mixed,concrete laid in layers not exceeding 15cms thick, vibrated for all works in foundation for footings, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)</p>	Cum	1.00	200	0.2	1.2	48.00
12.00	<p>Maintenance for 2nd Year: KSRB 4.6.1 Providing and removing centering, shuttering, strutting, propping etc.,and removal of formwork for foundations, footings, bases of columns for mass concrete including cost of all materials,labour complete as per specifications. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)</p>	Sqm	2.00	200		0.9	360.00
13.00	<p>Maintenance for 2nd Year: KSRB 4.9.2 :Providing T.M.T steel reinforcement for RCC work including straighting,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to thr adjoining members wherever necessary complete as per design (laps,hooks and wastage shall not be measured and paid) cost of materials,labour,HOM of machinery complete as per specifications.Specification No. KBS4.6.3. do with TMT bars Fe500</p>	MT	1.00	3.84			3.84
14.00	<p>Maintenance for 2nd Year: KSRRB M300-Construction of Subgrade. KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murrum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305</p>	Cum	10.00	3.5	3.5	0.5	61.25
15.00	<p>Maintenance for 2nd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate conforming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,laid with a paver with electronic sensor,compacting with 8-10 tonnes double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)</p>	Cum	10.00	3.5	3.5	0.1	12.25
16.00	<p>Maintenance for 2nd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate conforming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)</p>	Cum	1.00	100	2	0.1	20.00
17.00	<p>Maintenance for 2nd Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplastisizer at 3 Its conforming to IS9103-1999 reaffirmed 2008(Coarse and fine aggregate conforming to IS:383) mixed in a batching and mixing plant as per approved mix design,transported to site,laid with a fixed form or paver spread,compacted and finished in a continuous operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent primer, joints sealant, debonding strip, dowel bars at 4.5m intervals, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per sprcifications MORTH specification No.602.do with M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)</p>	Cum	10.00	3.5	3.5	0.23	28.18

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
18.00	Maintenance for 2nd Year: Providing and placing joint sealant compound of cold polysulphide in the grooves after widening the groove to required width, sand blasting the groove face if recommended by the sealant manufacturer, cleaning the groove with air compressor, insertion of debonding strip, priming the sides of the sealant if the sealant manufacturer recommends and pouring the sealant all complete including material, manpower (Non SOR Item)	Rmt	1.00	650			650.00
19.00	Maintenance for 2nd Year: Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 Repairs of spalled joints grooves of contraction joints longitudinal joints and expansion joints in concrete pavement using epoxy mortar concrete complete as per specifications.Morth specification No.3005.1 (Page No 257,SI No : 35.8)	Rmt	1.00	650			650.00
20.00	Maintenance for 2nd Year: Providing and laying at or near ground level factory made kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge). (RA Attached)	Cum	1	1	0.103		0.10
21.00	Maintenance for 2nd Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)	Cum	1	100	0.0279		2.79
22.00	Maintenance for 2nd Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)	Cum	1	100	0.0118		1.18
23.00	Maintenance for 2nd Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Rmt	100				100.00
24.00	Maintenance for 2nd Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)	Sqm	1	500	0.165		82.50
25.00	Maintenance for 2nd Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.	Nos.	5.00				5.00
26.00	Maintenance for 2nd Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)	Nos.	5.00				5.00
27.00	Maintenance for 2nd Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)	Nos.	5.00				5.00
28.00	Maintenance for 2nd Year: Providing gully pipe lowering,laying of PVC 100 mm dia pipes to the required alignments including specials and grade as indicated in drawings/design and hydraulically testing of the pipe line.The rate shall include all jointing materials,testing apparatus and water for testi g etc as directed by the Engineer in charge (page No.41,Item No.7,KUWSDB SOR 2016-17)	Rmt	20.00	1.00			20.00
29.00	Maintenance for 2nd Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia , of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16,P.No.86, SI.No.12.89)	Nos.	20.00				20.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
30.00	Maintenance for 2nd Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SP 2015-16,SI No.24.26)	Rmt	1	20.00			20.00
31.00	Maintenance for 2nd Year: Providing and laying Dia 225mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	1	150			150.00
32.00	Maintenance for 2nd Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years.(Market Rate)	Rmt	1	100			100.00
33.00	Maintenance for 2nd Year: Providing and Fixing Spacers for Power Ducts of size 200 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20				20.00
34.00	Maintenance for 2nd Year: Providing and Fixing Spacers for Power Ducts of size 160 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20				20.00
35.00	Maintenance for 2nd Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling,lowering into trenches,laying true to line and jointing of pipe etc.Complete. (Market Rate)	Rmt	1	40			40.00
36.00	Maintenance for 2nd Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level,shape and size using approved colour shade and stamping it using approved stamp pattern and antiquiting it on top with approved colour.Sealing entire area with concrete sealer.	Sqm	1	100	2		200.00
37.00	Maintenance for 2nd Year: Providing and laying heavy duty cobble stones 75mm thick , using cement and coarse sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm thick sand bed (average thickness) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications. (Page No 101,SI No : 14.7)	Sqm	1.00	50	1.5		75.00
38.00	Maintenance for 2nd Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.- MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 16-17,S.I.No.21.17.1,Page No.163)	Cum	2.00	2.5	8	0.15	6.00
39.00	Maintenance for 2nd Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen	Cum	2.00	2.5	8	0.04	1.60

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
40.00	Maintenance for 2nd Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications	Nos.	50.00				50.00
41.00	Maintenance for 2nd Year: Supply & Installation of Solar Raised Pavement Markers made of polycarbonate molded body with circular shape, solar powered, LED self illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens in passive mode. The marker shall support a load of 20000 kg tested in accordance to IRC 37 and shall be resistant to dust and water ingress according to IP 65 (Ingress Protection 65 is a test which is conducted to check if solar road stud is protected from total dust Ingress and low pressure water jets from any direction) standards and should withstand temperatures in the range of 0 C to 70 C. Color of lighting could be provided in red or yellow (amber) as per requirement and typical frequency of blinking is 1 Hz. There should be current losses of less than 20 micro-amperes at 2.4 V in sleep-charging mode to enhance the life of the marker and a full charge should provide for a minimum autonomy of 50 hours. The height, width and length of the marker shall not be less than 10 mm x 100 mm x 100 mm. Also, the surface diameter of the marker shall not be less than 100 mm respectively. The weight of the marker shall not exceed 0.5 Kilograms. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer.	Nos.	10.00				10.00
42.00	Maintenance for 2nd Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5mm thick including reflectorising glass beads at 250 gms and 2 ltr of primer per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35.The finished surface to be level,uniform and free from streak and holes complete as per specifications.MORTH specification No.803 (Page No 192,SI No : 24.57)	Sqm	1.00	4000	0.15		600.00
43.00	Maintenance for 2nd Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.	Nos	4.00				4.00
44.00	Maintenance for 2nd Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)	Nos.	2.00				2.00
45.00	Maintenance for 2nd Year: Providing and fixing of railing as detail design in MS HOLLOW SECTION and bars (shop drawing to be approved),with vertical support of 0.9m @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)	MT	1.00	0.1			0.10
46.00	Maintenance for 2nd Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Cum	2.00	7250	0.7	0.1	1015.00
47.00	Maintenance for 2nd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Earth	Cum	1.00	200			200.00
48.00	Maintenance for 2nd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Debris	Cum	1.00	70			70.00
	Electrical Works						
49.00	Maintenance for 2nd Year: Dismantling, removal, transportation to client's storage place existing lighting poles (Non SOR Item)	Nos.	1				1.00
50.00	Maintenance for 2nd Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 m pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 155 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No. 5.14.5)	Nos.	1				1.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
51.00	Maintenance for 2nd Year: Lighting Pole, 4 m Fabrication, supply and erection of 4 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 4 pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 130 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No.5.14.2)	Nos.	1				1.00
52.00	Maintenance for 2nd Year: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Double Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.5)	Nos.	1				1.00
53.00	Maintenance for 2nd Year: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)	Nos.	1				1.00
54.00	Maintenance for 2nd Year: Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-8mtr and above street light pole (Ref Electrical SOR SI No.16.28.3)	Nos.	241.00				241.00
55.00	Maintenance for 2nd Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets	Nos.	1.00				1.00
56.00	Maintenance for 2nd Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)	Nos.	1.00				1.00
LT Cable							
57.00	Maintenance for 2nd Year: Supplying of 1.1 kV LT cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanised, steel strips (except 2C x 10 sq. mm wire armoured) as per IS-3975:1990 and extruded PVC outer sheathed armoured cable as per IS - 1554 Part 1:1988 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)	m	1	60.00			60.00
58.00	Maintenance for 2nd Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)	m	1	10.00			10.00
59.00	Maintenance for 2nd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)	Nos	10				10.00
60.00	Maintenance for 2nd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)	Nos	8				8.00
Earthing system							
61.00	Maintenance for 2nd Year: Chemical Earthing for grounding,conduits,IC cut outs and otherequipments on the mter boardby using copper /SS rod with earth enhancing backfill compound which is non corrosive, thermally,conductive,potential,to permissible,limits,superior,fault,conductive capacity,non toxic,weather resistance and capable of achieving ohmic value less than one ohm (Ref Electrical SOR Pg.No.64,SI No.7.23.6)	Kit	1				1.00
62.00	Maintenance for 2nd Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)	Rmt	1	50			50.00
Landcaping Works							

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
SOIL MIXES and Ground Preparation							
63.00	Maintenance for 2nd Year: Supplying and stacking of good earth at site including royalty and carriage upto 5 k.m. lead complete (earth measured in stacks will be reduced by 20% for payment). (Non SOR Item)	Cum	1	20	0.5	0.15	1.50
64.00	Maintenance for 2nd Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)	Cum	1	15	0.5	0.1	0.75
65.00	Maintenance for 2nd Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. Spreading of sludge farm yard manure or/ and good earth in required thickness (cost of sludge, farm yard manure or/and good earth to be paid for separately) complete as per specifications. MORTH Specification No. 307 (KPWD SR 16-17,Page No.150,SI No.19.77)	Cum	1	40	0.5	0.1	2.00
66.00	Maintenance for 2nd Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)	Cum	1	40	0.5	0.1	2.00
Soil preparation of Lawn							
67.00	Maintenance for 2nd Year: Maintenance of lawns or Turfing of slopes (rough grassing) for a period of one year including watering etc complete including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Sqm	1.00	382.19			382.19
TURF							
68.00	Maintenance for 2nd Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	1	5	0.6		3.00
IRRIGATION							
69.00	Maintenance for 2nd Year: Watering with tanker to landscape area and plants for one year	Year	1.00				1.00
70.00	Maintenance for 2nd Year: supply and fixing of irrigation lines such that all the green areas and plants are adequately watered; by means of drip irrigation for trees , sub surface for shrubs and lawn areas / ground covers and pop up sprinklers for lawn areas. (Equipment make - Rainbird or equivalent) All material used should be comply to BSI code. All the necessary value and pump required for complete commissioning to be installed. (Non SOR Item)	Sqm	1	5	0.6		3.00

Assistant Engineer
MSCL Mangaluru

Assistant Executive Engineer
MSCL Mangaluru

Executive Engineer
MSCL Mangaluru

General Manager Technical
MSCL Mangaluru

**Name of the Work :- Mangalore Smart City
6.3 R.A. For Maintenance of 2nd Year - DPR 7**

1	Maintenance for 2nd Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)			
	Basic rate		68.16	
	Maintenance- 2nd year escalation of 8%		5.45	
	Add 10% For area weightage (Mangalore City)		7.36	
		Rate	80.97	Sqm
2	Maintenance for 2nd Year: KSRRB M200.Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled material stacking serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)			
	Basic rate		899	
	Maintenance- 2nd year escalation of 8%		71.92	
	Add 10% For area weightage (Mangalore City)		97.09	
		Rate	1068.01	Cum
3	Maintenance for 2nd Year: KSRRB M200-Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)			
	Basic rate		12.00	
	Maintenance- 2nd year escalation of 8%		0.96	
	Add 10% For area weightage (Mangalore City)		1.3	
		Rate	14.26	Rmt
4	Maintenance for 2nd Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)			
	Basic rate		390	
	Maintenance- 2nd year escalation of 8%		31.2	
	Add 10% For area weightage (Mangalore City)		42.12	
		Rate	463.32	Cum
5	Maintenance for 2nd Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. i)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)			
	Basic rate		351	
	Maintenance- 2nd year escalation of 8%		28.08	
	Add 10% For area weightage		37.91	
		Rate	416.99	Cum
6	Maintenance for 2nd Year: KSRRB M300-14. Excavation for roadwork in all types of soil with hydraulic excavator of 0.9 bucket capacity including cutting and loading in tippers,trimming bottom and side slopes,in accordance with requirements of lines and grades and cross sections,and transporting disposal location up to a lead of 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)			

	Basic rate		41	
	Maintenance- 2nd year escalation of 8%		3.28	
	Add 10% For area weightage (Mangalore City)		4.43	
		Rate	48.71	Cum
7	Maintenance for 2nd Year: KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)			
	Basic rate		120	
	Maintenance- 2nd year escalation of 8%		9.6	
	Add 10% For area weightage (Mangalore City)		12.96	
		Rate	142.56	Cum
8	Maintenance for 2nd Year: KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occurring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3.(KPWD 16-17,SI No.19.64,Pg. No.149)			
	Basic rate		6	
	Maintenance- 2nd year escalation of 8%		0.48	
	Add 10% For area weightage (Mangalore City)		0.65	
		Rate	7.13	Sqm
9	Maintenance for 2nd Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)			
	Basic Rate		5900	
	Maintenance- 2nd year escalation of 8%		472	
	Add 10% For area weightage (Mangalore City)		637.2	
		Rate	7009.20	Cum
10	Maintenance for 2nd Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechaical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material			
	Basic Rate		2166	
	Maintenance- 2nd year escalation of 8%		173.28	
	Add 10% For area weightage (Mangalore City)		233.93	
		Rate	2573.21	Cum
11	Maintenance for 2nd Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters conforming to IS 9103-1999 reaffirmed -2008 at machine mixed,concrete laid in layers not exceeding 15cms thick, vibrated for all works in foundation for footings, pedastals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)			
	Basic Rate		6198	
	Maintenance- 2nd year escalation of 8%		495.84	
	Add 10% For area weightage (Mangalore City)		669.38	
		Rate	7363.22	Cum

12	<p>Maintenance for 2nd Year: KSRB 4.6.1 Providing and removing centering, shuttering, strutting, propping etc.,and removal of formwork for foundations, footings, bases of columns for mass concrete including cost of all materials,labour complete as per specifications. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)</p>			
	Basic Rate			263
	Maintenance- 2nd year escalation of 8%			21.04
	Add 10% For area weightage (Mangalore City)			28.4
		Rate	312.44	Sqm
13	<p>Maintenance for 2nd Year: KSRB 4.9.2 :Providing T.M.T steel reinforcement for RCC work including straighting,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to thr adjoining members wherever necessary complete as per design (laps,hooks and wastage shall not be measured and paid) cost of materials,labour,HOM of machinery complete as per specifications.Specification No. KBS4.6.3. do with TMT bars Fe500</p>			
	Basic Rate			70782
	Maintenance- 2nd year escalation of 8%			5662.56
	Add 10% For area weightage (Mangalore City)			7644.46
		Rate	84089.02	MT
14	<p>Maintenance for 2nd Year: KSRRB M300-Construction of Subgrade. KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murrum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305</p>			
	Basic Rate			513
	Maintenance- 2nd year escalation of 8%			41.04
	Add 20km lead (17.4 KSRRB M100-4.1-Cost of haulage excluding loading and unloading MORTH-100/Chapter 1-case 1-Surface Road)=2.5 Rs/ Tkm x 1.28 T x 20km			51.2
	Sub Total			605.24
	Add 10% For area weightage (Mangalore City)			60.52
		Rate	665.76	Cum
15	<p>Maintenance for 2nd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,laid with a paver with electronic sensor,compacting with 8-10 tonnes double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)</p>			
	Basic Rate			4048
	Maintenance- 2nd year escalation of 8%			323.84
	Add 10% For area weightage (Mangalore City)			437.18
		Rate	4809.02	Cum
16	<p>Maintenance for 2nd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)</p>			
	Basic Rate			3680

	Maintenance- 2nd year escalation of 8%		294.4	
	Add 10% For area weightage (Mangalore City)		397.44	
		Rate	4371.84	Cum
17	Maintenance for 2nd Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplasticizer at 3 lts conforming to IS9103-1999 reaffirmed 2008(Coarse and fine aggregate conforming to IS:383) mixed in a batching and mixing plant as per approved mix design,transported to site,laid with a fixed form paver spread,compacted and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints,including groove cutting charges, joints filler,separation memberane, sealant primer, joints sealant, debonding strip, dowel bars at 4.5m intervals, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per specifications MORTH specification No.602.do with M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)			
	Basic Rate		5765	
	Maintenance- 2nd year escalation of 8%		461.2	
	Add 10% For area weightage (Mangalore City)		622.62	
		Rate	6848.82	Cum
18	Maintenance for 2nd Year: Providing and placing joint sealant compound of cold polysulphide in the grooves after widening the groove to required width, sand blasting the groove face if recommended by the sealant manufacturer, cleaning the groove with air compressor, insertion of debonding strip, priming the sides of the sealant if the sealant manufacturer recommends and pouring the sealant all complete including material, manpower (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.2		115	
	Maintenance- 2nd year escalation of 8%		9.2	
		Rate	124.2	Rmt
19	Maintenance for 2nd Year: KSSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSSRRB M3000-8 Repairs of spalled joints grooves of contraction joints longitudinal joints and expansion joints in concrete pavement using epoxy mortar concrete complete as per specifications.Morth specification No.3005.1			
	Basic Rate		331	
	Maintenance- 2nd year escalation of 8%		26.48	
	Add 10% For area weightage (Mangalore City)		35.75	
		Rate	393.23	Rmt
20	Maintenance for 2nd Year: Providing and laying at or near ground level factory made kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge). (RA Attached)			
	Rate Arrived as per Rate analysis			
	Basic Rate		17708.82	
	Maintenance- 2nd year escalation of 8%		1416.71	
	Add 10% For area weightage (Mangalore City)		1912.55	
		Rate	21038.08	Cum
21	Maintenance for 2nd Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)			
	Basic rate		15481.61	

	Maintenance- 2nd year escalation of 8%		1238.5288	
	Add 10% For area weightage		1672.01	
		Rate	18392.15	Cum
22	Maintenance for 2nd Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)			
	Basic rate		15481.61	
	Maintenance- 2nd year escalation of 8%		1238.5288	
	Add 10% For area weightage		1672.01	
		Rate	18392.15	Cum
23	Maintenance for 2nd Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.			
	Basic rate		24	
	Maintenance- 2nd year escalation of 8%		1.92	
	Add 10% For area weightage		2.59	
		Rate	28.51	Nos.
24	Maintenance for 2nd Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)			
	Basic Rate		80	
	Maintenance- 2nd year escalation of 8%		6.4	
	Add 10% For area weightage (Mangalore City)		8.64	
		Rate	95.04	Sqm
25	Maintenance for 1st Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.			
	As per Quotation			
	Basic Rate		10764	
	Discount 30%		-3229.2	
	Sub Total		7534.8	
	GST 18%		1356.26	
	Fixing Charges @5%		376.74	
	Maintenance- 2nd year escalation of 8%		632.92	
		Rate	9900.72	Nos.
26	Maintenance for 2nd Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.			
	As per Quotation			
	Basic Rate		7179.00	
	Discount 30%		-2153.7	
	Sub Total		5025.3	
	Fixing Charges @5%		251.265	
	Maintenance- 2nd year escalation of 8%		422.13	
		Rate	5698.70	Nos.
27	Maintenance for 2nd Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)			
	As per Quotation			
	Basic Rate		7912.28	
	Discount 30%		-2373.68	
	Sub Total		5538.6	
	Fixing Charges @5%		276.93	

	Maintenance- 2nd year escalation of 8%		465.24	
		Rate	6280.77	Nos.
28	Maintenance for 2nd Year: Providing gully pipe lowering, laying of PVC 100 mm dia pipes to the required alignments including specials and grade as indicated in drawings/design and hydraulically testing of the pipe line. The rate shall include all jointing materials, testing apparatus and water for testing etc as directed by the Engineer in charge (page No.41, Item No.7, KUWSDB SOR 2016-17)			
	Basic Rate		297	
	Maintenance- 2nd year escalation of 8%		23.76	
	Add 10% on Labor Charges=Rs.47, For area weightage (Mangalore City)		4.7	
		Rate	325.46	Rm
29	Maintenance for 2nd Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia, of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16, P.No.86, SI.No.12.89)			
	Basic Rate		830	
	Maintenance- 2nd year escalation of 8%		66.4	
	Add 10% For area weightage (Mangalore City)		89.64	
		Rate	986.04	Nos.
30	Maintenance for 2nd Year: KSRRB M800-29.3. Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2015-16, SI.No.24.36)			
	Basic Rate		5022	
	Maintenance- 2nd year escalation of 8%		401.76	
	Add 10% For area weightage (Mangalore City)		542.38	
		Rate	5966.14	Rm
31	Maintenance for 2nd Year: Providing and laying Dia 225mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)			
	Basic Rate		1886	
	Labour Cost for laying and Jointing-KUWSDB, HDPE Pipes, Item No.50, Pg.No.123)		78	
	Add 10% For area weightage (Mangalore City)		7.8	
	Contractor Profit@10%		196.4	
	Sub Total		1971.8	
	Maintenance- 2nd year escalation of 8%		157.74	
		Rate	2129.54	Rm
32	Maintenance for 2nd Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)			
	Basic Rate		996.3	

	Labour Cost for laying and Jointing-KUWSDB,HDPE Pipes,Item No.50,Pg.No.123)		66	
	Add 10% For area weightage (Mangalore City)		6.6	
	Contractor Profit@10%		106.23	
	Sub Total		1068.9	
	Maintenance- 2nd year escalation of 8%		85.51	
		Rate	1154.41	Rm
33	Maintenance for 2nd Year: Providing and Fixing Spacers for Power Ducts of size 200 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			
	Basic Rate		1003	
	Contractor Profit@10%		100.3	
	Maintenance- 2nd year escalation of 8%		80.24	
		Rate	1183.54	Nos.
34	Maintenance for 2nd Year: Providing and Fixing Spacers for Power Ducts of size 160 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			
	Basic Rate		1947	
	Contractor Profit@10%		194.7	
	Maintenance- 2nd year escalation of 8%		155.76	
		Rate	2297.46	Nos.
35	Maintenance for 2nd Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)			
	Basic Rate		561.7	
	Labour Cost for laying and Jointing-KUWSDB,HDPE Pipes,Item No.50,Pg.No.123)		36	
	Add 10% For area weightage (Mangalore City)		3.6	
	Contractor Profit@10%		56.17	
	Sub Total		601.3	
	Maintenance- 2nd year escalation of 8%		48.1	
		Rate	649.40	Rm
36	Maintenance for 2nd Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.			
	Basic rate		624.00	
	Maintenance- 2nd year escalation of 8%		49.92	
	Add 10% For area weightage (Mangalore City)		67.39	
		Rate	741.31	Sqm
37	Maintenance for 2nd Year: Providing and laying heavy duty cobble stones 75mm thick, using cement and coarse sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm thick sand bed (average thickness) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications. (Page No 101, SI No : 14.7)			
	Basic rate		1114	
	Maintenance- 2nd year escalation of 8%		89.12	
	Add 10% For area weightage (Mangalore City)		120.31	
		Rate	1323.43	Sqm

38	<p>Maintenance for 2nd Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 16-17,S.I.No.21.17.1,Page No.163)</p>			
	Basic rate		7839	
	Maintenance- 2nd year escalation of 8%		627.12	
	Add 10% For area weightage (Mangalore City)		846.61	
		Rate	9312.73	Cum
39	<p>Maintenance for 2nd Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen</p>			
	Basic rate		8761	
	Maintenance- 2nd year escalation of 8%		700.88	
	Add 10% For area weightage (Mangalore City)		946.19	
		Rate	10408.07	Cum
40	<p>Maintenance for 2nd Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications</p>			
	Basic rate		289	
	Maintenance- 2nd year escalation of 8%		23.12	
	Add 10% For area weightage (Mangalore City)		31.21	
		Rate	343.33	Nos.
41	<p>Maintenance for 2nd Year: Supply & Installation of Solar Raised Pavement Markers made of polycarbonate molded body with circular shape, solar powered, LED self illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens in passive mode. The marker shall support a load of 20000 kg tested in accordance to IRC 37 and shall be resistant to dust and water ingress according to IP 65 (Ingress Protection 65 is a test which is conducted to check if solar road stud is protected from total dust Ingress and low pressure water jets from any direction) standards and should withstand temperatures in the range of 0 C to 70 C. Color of lighting could be provided in red or yellow (amber) as per requirement and typical frequency of blinking is 1 Hz. There should be current losses of less than 20 micro-amperes at 2.4 V in sleep-charging mode to enhance the life of the marker and a full charge should provide for a minimum autonomy of 50 hours. The height, width and length of the marker shall not be less than 10 mm x 100 mm x 100 mm. Also, the surface diameter of the marker shall not be less than 100 mm respectively. The weight of the marker shall not exceed 0.5 Kilograms. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer.</p>			
	Basic rate		2961	
	Maintenance- 2nd year escalation of 8%		236.88	
	Add 10% For area weightage (Mangalore City)		319.79	
		Rate	3517.67	Nos.
41	<p>Maintenance for 2nd Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface:Providing and laying of hot applied thermoplastic compound 2.5mm thick including reflectorising glass beads at 250 gms and 2 ltr of primer per sqm area,thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35.The finished surface to be level,uniform and free from streak and holes complete as per specifications.MORTH specification No.803 (Page No 192,SI No : 24.57)</p>			

	Basic Rate		429	
	Maintenance- 2nd year escalation of 8%		34.32	
	Add 10% For area weightage (Mangalore City)		46.33	
		Rate	509.65	Sqm
42	Maintenance for 2nd Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.			
	Baisc rate		61200	
	Maintenance- 2nd year escalation of 8%		4896	
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.1	Rate	66096	Nos.
43	Maintenance for 2nd Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.13		4500.00	
	Maintenance- 2nd year escalation of 8%		360	
		Rate	4860	Nos.
44	Maintenance for 2nd Year: Providing and fixing of railing as detail design in MS HOLLOW SECTION and bars (shop drawing to be approved),with vertical support of 0.9m @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.26		100000.00	
	Maintenance- 2nd year escalation of 8%		8000	
		Rate	108000	MT
45	Maintenance for 2nd Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.			
	Basic Rate		179.00	
	Maintenance- 2nd year escalation of 8%		14.32	
		Rate	193.32	Nos.
46	Maintenance for 2nd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Earth			
	Earth	2.0x1.28x10km		
	Baisc rate		25.60	
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)		68.00	
	Sub Total-1		93.60	
	Add 10% For area weightage (Mangalore City)		9.36	
	Sub Total-2		102.96	
	Maintenance- 2nd year escalation of 8%		8.24	
		Rate	111.20	Cum
47	Maintenance for 2nd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Debris			
	Debris	2.0x1.30x10Km		
	Baisc rate		26.00	
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)		68.00	
	Sub Total-1		94.00	
	Add 10% For area weightage (Mangalore City)		9.4	

	Sub Total-2		103.40	
	Maintenance- 2nd year escalation of 8%		8.27	
		Rate	111.67	Cum
	Lighting Poles			
48	Maintenance for 2nd Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))			
	Basic Rate		1,681	
	Maintenance- 2nd year escalation of 8%		134.45	
		Rate	1815.0956	Nos.
49	Maintenance for 2nd Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, icluding suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 m pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 155 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No. 5.14.5)			
	Basic rate		12420	
	Maintenance- 2nd year escalation of 8%		993.6	
		Rate	13,413.60	Nos.
50	Maintenance for 2nd Year: Lighting Pole, 4 m Fabrication, supply and erection of 4 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangement, icluding suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 4 pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 130 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No.5.14.2)			
	Basic rate		7398	
	Maintenance- 2nd year escalation of 8%		591.84	
		Rate	7,989.84	Nos.
51	Maintenance for 2nd Year: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Double Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.5)			
	Basic rate		3540	
	Maintenance- 2nd year escalation of 8%		283.2	
		Rate	3,823.20	Nos.
52	Maintenance for 2nd Year: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)			
	Basic rate		2400	
	Maintenance- 2nd year escalation of 8%		192	
		Rate	2,592	Nos.
53	Maintenance for 2nd Year: Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-8mtr and above street light pole (Ref Electrical SOR SI No.16.28.3)			
	Basic rate		620	
	Maintenance- 2nd year escalation of 8%		49.6	
		Rate	670	Nos.
	Outdoor Box and Switch Gear			

54	Maintenance for 2nd Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets		11782.92	
	Price list (Considering 30% discount , 18% GST & 10% profit)			
	Maintenance- 2nd year escalation of 8%		942.63	
		Rate	12,726	Nos.
55	Maintenance for 2nd Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)			
	Basic rate		1547	
	Maintenance- 2nd year escalation of 8%		123.76	
		Rate	1,671	Nos.
	LT Cable			
56	Maintenance for 2nd Year: Supplying of 1.1 kV LT cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanised, steel strips (except 2C x 10 sq. mm wire armoured) as per IS-3975:1990 and extruded PVC outer sheathed armoured cable as per IS - 1554 Part 1:1988 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)			
	Basic rate		117	
	Maintenance- 2nd year escalation of 8%		9.36	
		Rate	126.36	Rm
57	Maintenance for 2nd Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)			
	Basic rate		81.6	
	Maintenance- 2nd year escalation of 8%		6.53	
		Rate	88.13	Rm
58	Maintenance for 2nd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)			
	Basic rate		11.31	
	Maintenance- 2nd year escalation of 8%		0.9	
		Rate	12.21	Nos.
59	Maintenance for 2nd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)			
	Basic rate		3.12	
	Maintenance- 2nd year escalation of 8%		0.25	
		Rate	3.37	Nos.
60	Maintenance for 2nd Year: Chemical Earthing for grounding,conduits,IC cut outs and otherequipments on the mter boardby using copper /SS rod with earth enhancing backfill compound which is non corrosive ,thermally,conductive,potential,to permissible,limits,superior,fault,conductive capacity,non toxic,weather resistance and capable of achieving ohmic value less than one ohm (Ref Electrical SOR Pg.No.64,SI No.7.23.6)			
	Basic rate		5500	
	Maintenance- 2nd year escalation of 8%		440	
		Rate	5940	Kit

61	Maintenance for 2nd Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)			19.5	
	Basic rate			1.56	
	Maintenance- 2nd year escalation of 8%				
		Rate		21.06	Rmt
62	Maintenance for 2nd Year: Supplying and stacking of good earth at site including royalty and carriage upto 5 k.m. lead complete (earth measured in stacks will be reduced by 20% for payment). (Non SOR Item)				
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.27			140.00	
	Maintenance- 2nd year escalation of 8%			11.2	
		Rate		151.20	Cum
63	Maintenance for 2nd Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)				
	Basic rate			204	
	Maintenance- 2nd year escalation of 8%			16.32	
	Add 10% For area weightage			22.03	
		Rate		242.35	Cum
64	Maintenance for 2nd Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. Spreading of sludge farm yard manure or/ and good earth in required thickness (cost of sludge, farm yard manure or/and good earth to be paid for separately) complete as per specifications. MORTH Specification No. 307 (KPWD SR 16-17,Page No.150,SI No.19.77)				
	Basic rate			103	
	Maintenance- 2nd year escalation of 8%			8.24	
	Add 10% For area wightage			11.12	
		Rate		122.36	Cum
65	Maintenance for 2nd Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)				
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.28			23.91	
	Maintenance- 2nd year escalation of 8%			1.91	
		Rate		25.82	Cum
66	Maintenance for 2nd Year: Maintenance of lawns or Turfing of slopes (rough grassing) for a period of one year including watering etc complete including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.				
	Basic rate			103	
	Maintenance- 2nd year escalation of 8%			8.24	
	Add 10% For area wightage			11.12	
		Rate		122.36	Sqm
	TURF				
67	Maintenance for 2nd Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)				
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.32			156.80	
	Maintenance- 2nd year escalation of 8%			12.54	
		Rate		169.34	Sqm

IRRIGATION			
68	Maintenance for 2nd Year: Watering with tanker to landscape area and plants for one year		
	Water Tanker =61 Rs/ Hour,One Year Cost=92 days x 3 hrs x 61rs/hr (365days-90 days of mansoon=275 days/3 days=92 days,consider watering at every 3 days)		16836
	Mazdoor = 0.5 days x 258.88		11908.48
	Add 10% For area wightage		1190.848
	Maintenance- 2nd year escalation of 8%		2299.56
		Rate	32234.89
			Year
69	Maintenance for 2nd Year: supply and fixing of irrigation lines such that all the green areas and plants are adequately watered; by means of drip irrigation for trees , sub surface for shrubs and lawn areas / ground covers and pop up sprinklers for lawn areas. (Equipment make - Rainbird or equivalent) All material used should be comply to BSI code. All the necessary value and pump required for complete commissioning to be installed. (Non SOR Item)		
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.34		560.00
	Maintenance- 2nd year escalation of 8%		44.8
		Rate	604.80
			Sqm

**Assistant Engineer
MSCL Mangaluru**

**Assistant Executive Engineer
MSCL Mangaluru**

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

Name of the Work :- Mangalore Smart City
7.1 Abstract for Maintenance of Road and Other Work for DPR 7 - 3rd Year

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
Civil Works					
1.00	Maintenance for 3rd Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)	Sqm	14.00	76.34	1069
2.00	Maintenance for 3rd Year: KSRRB M200. Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled material stacking serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)	Cum	0.30	1107.57	,332
3.00	Maintenance for 3rd Year: KSRRB M200- Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)	Rmt	20.00	14.78	296
4.00	Maintenance for 3rd Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)	Cum	20.00	480.48	9,610
5.00	Maintenance for 3rd Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. i)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)	Cum	0.23	432.43	,99
6.00	Maintenance for 3rd Year: KSRRB M300-14. Excavation for roadwork in all types of soil with hydraulic excavator of 0.9 bucket capacity including cutting and loading in tipper,trimming bottom and side slopes,in accordance with requirements of lines and grades and cross sections,and transporting disposal location up to a lead of 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)	Cum	250.00	50.51	12,628
7.00	Maintenance for 3rd Year: KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)	Cum	75.00	147.84	11,088
8.00	Maintenance for 3rd Year: KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occurring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3.(KPWD 16-17,SI No.19.64,Pg. No.149)	Sqm	500.00	7.39	3,695
9.00	Maintenance for 3rd Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills , ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)	Cum	7.50	7268.80	54,516
10.00	Maintenance for 3rd Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material	Cum	37.50	2668.51	100,069

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
11.00	Maintenance for 3rd Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters conforming to IS 9103-1999 reaffirmed -2008 at machine mixed,concrete laid in layers not exceeding 15cms thick, vibrated for all works in foundation for footings, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)	Cum	48.00	7635.94	3,66,525
12.00	Maintenance for 3rd Year: KSRB 4.6.1 Providing and removing centering, shuttering, strutting, propping etc.,and removal of formwork for foundations, footings, bases of columns for mass concrete including cost of all materials,labour complete as per specifications. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)	Sqm	360.00	324.02	1,16,647
13.00	Maintenance for 3rd Year: KSRB 4.9.2 : Providing T.M.T steel reinforcement for RCC work including straightening,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to thr adjoining members wherever necessary complete as per design (laps,hooks and wastage shall not be measured and paid) cost of materials,labour,HOM of machinery complete as per specifications.Specification No. KBS4.6.3. do with TMT bars Fe500	MT	3.84	87203.42	3,34,861
14.00	Maintenance for 3rd Year: KSRRB M300- Construction of Subgrade . KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305	Cum	61.25	688.34	42,161
15.00	Maintenance for 3rd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,laid with a paver with electronic sensor,compacting with 8-10 tonnes double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)	Cum	12.25	4987.14	61,092
16.00	Maintenance for 3rd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site, Manually laid and compacting with palte compactor ,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)	Cum	20.00	4533.76	90,675
17.00	Maintenance for 3rd Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed, plain cement concrete pavement over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplastisizer at 3 Its conforming to IS9103-1999 reaffirmed 2008(Coarse and fine aggregate conforming to IS:383) mixed in a batching and mixing plant as per approved mix design,transported to site,laid with a fixed form paver spread,compacted and finished in a continuos operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent primer, joints sealant, debonding strip, dowel bars at 4.5m intervals, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per sprcifications MORTH specification No.602.do with M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)	Cum	28.18	7102.48	2,00,148

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
18.00	Maintenance for 3rd Year: Providing and placing joint sealant compound of cold polysulphide in the grooves after widening the groove to required width, sand blasting the groove face if recommended by the sealant manufacturer, cleaning the groove with air compressor, insertion of debonding strip, priming the sides of the sealant if the sealant manufacturer recommends and pouring the sealant all complete including material, manpower (Non SOR Item)	Rmt	650.00	126.50	82,225
19.00	Maintenance for 3rd Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 Repairs of spalled joints grooves of contraction joints longitudinal joints and expansion joints in concrete pavement using epoxy mortar concrete complete as per specifications.Morth specification No.3005.1 (Page No 257,SI No : 35.8)	Rmt	650.00	407.79	2,65,064
20.00	Maintenance for 3rd Year: Providing and laying at or near ground level factory made kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge). (RA Attached)	Cum	0.10	21817.27	2,182
21.00	Maintenance for 3rd Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)	Cum	2.79	19073.34	53,215
22.00	Maintenance for 3rd Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)	Cum	1.18	19073.34	22,507
23.00	Maintenance for 3rd Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Rmt	100.00	29.57	2,957
24.00	Maintenance for 3rd Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)	Sqm	82.50	98.56	8,131
25.00	Maintenance for 3rd Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.	Nos.	5.00	9192.46	,45,962
26.00	Maintenance for 3rd Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)	Nos.	5.00	6130.87	30,654
27.00	Maintenance for 3rd Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)	Nos.	5.00	6757.09	33,785
28.00	Maintenance for 3rd Year: Providing gully pipe lowering,laying of PVC 100 mm dia pipes to the required alignments including specials and grade as indicated in drawings/design and hydraulically testing of the pipe line.The rate shall include all jointing materials,testing apparatus and water for testi g etc as directed by the Engineer in charge (page No.41,Item No.7,KUWSDB SOR 2016-17)	Rmt	20.00	337.34	6,747
29.00	Maintenance for 3rd Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia , of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16,P.No.86, SI.No.12.89)	Nos.	20.00	1022.56	20,451

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
30.00	Maintenance for 3rd Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2015-16,S.I.No.24.36)	Rmt	20.00	6187.10	1,23,742
31.00	Maintenance for 3rd Year: Providing and laying Dia 225 mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	150.00	2419.65	3,62,948
32.00	Maintenance for 3rd Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	100.00	1308.75	1,30,875
33.00	Maintenance for 3rd Year: Providing and Fixing Spacers for Power Ducts of size 225 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20.00	1183.54	23,671
34.00	Maintenance for 3rd Year: Providing and Fixing Spacers for Power Ducts of size 160 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20.00	2375.34	47,507
35.00	Maintenance for 3rd Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)	Rmt	40.00	736.37	29,455
36.00	Maintenance for 3rd Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.	Sqm	200.00	768.77	1,53,754
37.00	Maintenance for 3rd Year: Providing and laying heavy duty cobble stones 75mm thick , using cement and coarse sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm thick sand bed (average thickness) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications. (Page No 101, S.I No : 14.7)	Sqm	75.00	1372.45	102,934
38.00	Maintenance for 3rd Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen (KPWD 16-17, S.I.No.21.17.1, Page No.163)	Cum	6.00	9657.65	57,946

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
39.00	Maintenance for 3rd Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen	Cum	1.60	10793.55	17,270
40.00	Maintenance for 3rd Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lens reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications	Nos.	50.00	356.05	17,803
41.00	Maintenance for 3rd Year: Supply & Installation of Solar Raised Pavement Markers made of polycarbonate molded body with circular shape, solar powered, LED self illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens in passive mode. The marker shall support a load of 20000 kg tested in accordance to IRC 37 and shall be resistant to dust and water ingress according to IP 65 (Ingress Protection 65 is a test which is conducted to check if solar road stud is protected from total dust ingress and low pressure water jets from any direction) standards and should withstand temperatures in the range of 0 C to 70 C. Color of lighting could be provided in red or yellow (amber) as per requirement and typical frequency of blinking is 1 Hz. There should be current losses of less than 20 micro-amperes at 2.4 V in sleep-charging mode to enhance the life of the marker and a full charge should provide for a minimum autonomy of 50 hours. The height, width and length of the marker shall not be less than 10 mm x 100 mm x 100 mm. Also, the surface diameter of the marker shall not be less than 100 mm respectively. The weight of the marker shall not exceed 0.5 Kilograms. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer.	Nos.	15.00	3647.95	54,719
42.00	Maintenance for 3rd Year: Road Marking with hot applied Thermoplastic Compound with Reflecting Glass Beads on Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5mm thick including reflectorising glass beads at 250 gms and 2 ltr of primer per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streak and holes complete as per specifications. MORTH specification No.803 (Page No 192, SI No : 24.57)	Sqm	600.00	528.53	3,17,118
43.00	Maintenance for 3rd Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.	Nos	4.00	68544.00	2,74,176
44.00	Maintenance for 3rd Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)	Nos.	2.00	5040.00	10,080
45.00	Maintenance for 3rd Year: Providing and fixing of railing as detail design in MS HOLLOW SECTION and bars (shop drawing to be approved), with vertical support of 0.9m @2.2mc/c , all complete to the satisfaction of the Landscape architect. (Non SOR Item)	MT	0.10	112000.00	11,200
46.00	Maintenance for 3rd Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Cum	1015.00	200.48	2,03,487
47.00	Maintenance for 3rd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Earth	Cum	200.00	115.32	23,064
48.00	Maintenance for 3rd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Debris	Cum	70.00	115.81	8,107
	Electrical Works				
49.00	Maintenance for 3rd Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))	Nos.	1.00	1050.56	1,051

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
50.00	Maintenance for 3rd Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, icluding suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 m pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 155 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No. 5.14.5)	Nos.	1.00	13910.40	13,910
51.00	Maintenance for 3rd Year: Lighting Pole, 4 m Fabrication, supply and erection of 4 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangement, icluding suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 4 pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 130 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No.5.14.2)	Nos.	1.00	8285.76	8,286
52.00	Maintenance for 3rd Year: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Double Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.5)	Nos.	1.00	3964.80	3,965
53.00	Maintenance for 3rd Year: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)	Nos.	1.00	2688.00	2,688
54.00	Maintenance for 3rd Year: Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-8mtr and above street light pole (Ref Electrical SOR SI No.16.28.3)	Nos.	241.00	694.40	167,350
55.00	Maintenance for 3rd Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets	Nos.	1.00	13196.96	13,197
56.00	Maintenance for 3rd Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required conforming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)	Nos.	1.00	1732.64	1,733
	LT Cable				
57.00	Maintenance for 3rd Year: Supplying of 1.1 kV LT cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanised, steel strips (except 2C x 10 sq. mm wire armoured) as per IS-3975:1990 and extruded PVC outer sheathed armoured cable as per IS - 1554 Part 1:1988 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)	m	60.00	131.04	7,862
58.00	Maintenance for 3rd Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)	m	10.00	91.39	914
59.00	Maintenance for 3rd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)	Nos	10.00	12.67	127
60.00	Maintenance for 3rd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)	Nos	8.00	3.49	28
	Earthing system				

Sr.No.	Specification	Unit	Total Qty.	Rate	Amount
61.00	Maintenance for 3rd Year: Chemical Earthing for grounding, conduits, IC cut outs and other equipments on the meter board by using copper /SS rod with earth enhancing backfill compound which is non corrosive, thermally, conductive, potential, to permissible limits, superior, fault, conductive capacity, non toxic, weather resistance and capable of achieving ohmic value less than one ohm (Ref Electrical SOR Pg.No.64, SI No.7.23.6)	Kit	1.00	6160.00	6,160
62.00	Maintenance for 3rd Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)	Rmt	50.00	21.84	1,092
Landscaping Works					
SOIL MIXES and Ground Preparation					
63.00	Maintenance for 3rd Year: Supplying and stacking of good earth at site including royalty and carriage upto 5 k.m. lead complete (earth measured in stacks will be reduced by 20% for payment). (Non SOR Item)	Cum	1.50	156.80	235
64.00	Maintenance for 3rd Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)	Cum	0.75	251.33	188
65.00	Maintenance for 3rd Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. Spreading of sludge farm yard manure or/ and good earth in required thickness (cost of sludge, farm yard manure or/and good earth to be paid for separately) complete as per specifications. MORTH Specification No. 307 (KPWD SR 16-17,Page No.150,SI No.19.77)	Cum	2.00	126.90	254
66.00	Maintenance for 3rd Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)	Cum	2.00	26.78	54
Soil preparation of Lawn					
67.00	Maintenance for 3rd Year: KSRRB M300-3.Making lawns including ploughing and breaking of clod,removal of rubbish,dressing and supplying doobs grass roots and planting at 15 cm apart,including supplying and spreading of farm yard manure at rate of 0.18cum per 100 sqm complete as per specifications. MORTH Specification No.307 (KSRRB 19.80)	Sqm	382.19	129.20	49,379
TURF					
68.00	Maintenance for 3rd Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	3.00	175.62	527
IRRIGATION					
69.00	Maintenance for 3rd Year: Watering with tanker to landscape area and plants for one year	Year	1.00	33384.67	33,385
70.00	Maintenance for 3rd Year: supply and fixing of irrigation lines such that all the green areas and plants are adequately watered; by means of drip irrigation for trees , sub surface for shrubs and lawn areas / ground covers and pop up sprinklers for lawn areas. (Equipment make - Rainbird or equivalent) All material used should be comply to BSI code. All the necessary value and pump required for complete commissioning to be installed. (Non SOR Item)	Sqm	3.00	627.20	1,882
Total					42,63,514

Assistant Engineer
MSCL Mangaluru

Assistant Executive Engineer
MSCL Mangaluru

Executive Engineer
MSCL Mangaluru

General Manager Technical
MSCL Mangaluru

**Name of the Work :- Mangalore Smart City
7.2 M.S. For Maintenance of Road and Other Work for DPR 7 - 3rd Year**

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
Civil Works							
1.00	Maintenance for 3rd Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)	Sqm	1	7	2		14.00
2.00	Maintenance for 3rd Year: KSRRB M200. Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled material stacking serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)	Cum	1	1	1	0.3	0.30
3.00	Maintenance for 3rd Year: KSRRB M200- Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)	Rmt	1	20			20.00
4.00	Maintenance for 3rd Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)	Cum	1	40	1	0.5	20.00
5.00	Maintenance for 3rd Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. i)Dismantaling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)	Cum	2	1	0.5	0.23	0.23
6.00	Maintenance for 3rd Year: KSRRB M300-14. Excavation for roadwork in all types of soil with hydraulic excavator of 0.9 bucket capacity including cutting and loading in tippers,trimming bottom and side slopes,in accordance with requirements of lines and grades and cross sections,and transporting disposal location up to a lead of 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)	Cum	1.00	100	5	0.5	250.00
7.00	Maintenance for 3rd Year: KSRRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)	Cum	1.00	30	5	0.5	75.00
8.00	Maintenance for 3rd Year: KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occurring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3.(KPWD 16-17,SI No.19.64,Pg. No.149)	Sqm	1.00	100		5	500.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
9.00	Maintenance for 3rd Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills , including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)	Cum	1.00	15	5	0.1	7.50
10.00	Maintenance for 3rd Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material	Cum	1.00	50	5	0.15	37.50
11.00	Maintenance for 3rd Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters conforming to IS 9103-1999 reaffirmed -2008 at machine mixed,concrete laid in layers not exceeding 15cms thick, vibrated for all works in foundation for footings, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)	Cum	1.00	200	0.2	1.2	48.00
12.00	Maintenance for 3rd Year: KSRB 4.6.1 Providing and removing centering, shuttering, strutting, propping etc.,and removal of formwork for foundations, footings, bases of columns for mass concrete including cost of all materials,labour complete as per specifications. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)	Sqm	2.00	200		0.9	360.00
13.00	Maintenance for 3rd Year: KSRB 4.9.2 : Providing T.M.T steel reinforcement for RCC work including straightening,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to thr adjoining members wherever necessary complete as per design (laps,hooks and wastage shall not be measured and paid) cost of materials,labour,HOM of machinery complete as per specifications.Specification No. KBS4.6.3. do with TMT bars Fe500	MT	1.00	3.84			3.84
14.00	Maintenance for 3rd Year: KSRRB M300- Construction of Subgrade . KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305	Cum	10.00	3.5	3.5	0.5	61.25
15.00	Maintenance for 3rd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate conforming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,laid with a paver with electronic sensor,compacting with 8-10 tonnes double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)	Cum	10.00	3.5	3.5	0.1	12.25

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
16.00	<p>Maintenance for 3rd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)</p>	Cum	1.00	100	2	0.1	20.00
17.00	<p>Maintenance for 3rd Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplastisizer at 3 lts confirming to IS9103-1999 reaffirmed 2008(Coarse and fine aggregate conforming to IS:383) mixed in a batching and mixing plant as per approved mix design,transported to site,laid with a fixed form paver spread,compacted and finished in a continuous operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent primer, joints sealant, debonding strip, dowel bars at 4.5m intervals, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per sprcifications MORTH specification No.602.do with M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)</p>	Cum	10.00	3.5	3.5	0.23	28.18
18.00	<p>Maintenance for 3rd Year: Providing and placing joint sealant compound of cold polysulphide in the grooves after widening the groove to required width, sand blasting the groove face if recommended by the sealant manufacturer, cleaning the groove with air compressor, insertion of debonding strip, priming the sides of the sealant if the sealant manufacturer recommends and pouring the sealant all complete including material, manpower (Non SOR Item)</p>	Rmt	1.00	650			650.00
19.00	<p>Maintenance for 3rd Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 Repairs of spalled joints grooves of contraction joints longitudinal joints and expansion joints in concrete pavement using epoxy mortar concrete complete as per specifications.Morth specification No.3005.1 (Page No 257,SI No : 35.8)</p>	Rmt	1.00	650			650.00
20.00	<p>Maintenance for 3rd Year: Providing and laying at or near ground level factory made kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge). (RA Attached)</p>	Cum	1	1	0.1		0.10
21.00	<p>Maintenance for 3rd Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	1	100	0.03		2.79
22.00	<p>Maintenance for 3rd Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	1	100	0.01		1.18

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
23.00	Maintenance for 3rd Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Rmt	100				100.00
24.00	Maintenance for 3rd Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)	Sqm	1	500	0.17		82.50
25.00	Maintenance for 3rd Year: P/F Square shape 600mmx450 mm precast R.C.C. manhole cover with frame (Rate analysis attached)	Nos.	5.00				5.00
26.00	Maintenance for 3rd Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.	Nos.	5.00				5.00
27.00	Maintenance for 3rd Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)	Nos.	5.00				5.00
28.00	Maintenance for 3rd Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)	Nos	20.00	1.00			20.00
29.00	Maintenance for 3rd Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia , of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16,P.No.86, SI.No.12.89)	Nos.	20.00				20.00
30.00	Maintenance for 3rd Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2015-16,SI.No.24.36)	Rmt	1	20.00			20.00
31.00	Maintenance for 3rd Year: Providing and laying Dia 225mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	1	150			150.00
32.00	Maintenance for 3rd Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years.(Market Rate)	Rmt	1	100			100.00
33.00	Maintenance for 3rd Year: Providing and Fixing Spacers for Power Ducts of size 225 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20				20.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
34.00	Maintenance for 3rd Year: Providing and Fixing Spacers for Power Ducts of size 160 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20				20.00
35.00	Maintenance for 3rd Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)	Rmt	1	40			40.00
36.00	Maintenance for 3rd Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.	Sqm	1	100	2		200.00
37.00	Maintenance for 3rd Year: Providing and laying heavy duty cobble stones 75mm thick , using cement and course sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm thick sand bed (average thickness) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications. (Page No 101, SI No : 14.7)	Sqm	1.00	50	1.5		75.00
38.00	Maintenance for 3rd Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 16-17, S.I.No.21.17.1, Page No.163)	Cum	2.00	2.5	8	0.15	6.00
39.00	Maintenance for 3rd Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen	Cum	2.00	2.5	8	0.04	1.60
40.00	Maintenance for 3rd Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lens reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications	Nos.	50.00				50.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
41.00	Maintenance for 3rd Year: Supply & Installation of Solar Raised Pavement Markers made of polycarbonate molded body with circular shape, solar powered, LED self illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens in passive mode. The marker shall support a load of 20000 kg tested in accordance to IRC 37 and shall be resistant to dust and water ingress according to IP 65 (Ingress Protection 65 is a test which is conducted to check if solar road stud is protected from total dust Ingress and low pressure water jets from any direction) standards and should withstand temperatures in the range of 0 C to 70 C. Color of lighting could be provided in red or yellow (amber) as per requirement and typical frequency of blinking is 1 Hz. There should be current losses of less than 20 micro-amperes at 2.4 V in sleep-charging mode to enhance the life of the marker and a full charge should provide for a minimum autonomy of 50 hours. The height, width and length of the marker shall not be less than 10 mm x 100 mm x 100 mm. Also, the surface diameter of the marker shall not be less than 100 mm respectively. The weight of the marker shall not exceed 0.5 Kilograms. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer.	Nos.	10.00				15.00
42.00	Maintenance for 3rd Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5mm thick including reflectorising glass beads at 250 gms and 2 ltr of primer per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streak and holes complete as per specifications. MORTH specification No.803 (Page No 192, SI No : 24.57)	Sqm	1.00	4000	0.15		600.00
43.00	Maintenance for 3rd Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.	Nos	4.00				4.00
44.00	Maintenance for 3rd Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)	Nos.	2.00				2.00
45.00	Maintenance for 3rd Year: Providing and fixing of railing as detail design in MS HOLLOW SECTION and bars (shop drawing to be approved), with vertical support of 0.9m @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)	MT	1.00	0.1			0.10
46.00	Maintenance for 3rd Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Cum	2.00	7250	0.7	0.1	1015.00
47.00	Maintenance for 3rd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Earth	Cum	1.00	200			200.00
48.00	Maintenance for 3rd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Debris	Cum	1.00	70			70.00
	Electrical Works						
49.00	Maintenance for 3rd Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))	Nos.	1				1.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
50.00	Maintenance for 3rd Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, icluding suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 m pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 155 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No. 5.14.5)	Nos.	1				1.00
51.00	Maintenance for 3rd Year: Lighting Pole, 4 m Fabrication, supply and erection of 4 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangement, icluding suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 4 pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 130 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No.5.14.2)	Nos.	1				1.00
52.00	Maintenance for 3rd Year: Supplying and fixing of hot dip Galvinized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Double Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.5)	Nos.	1				1.00
53.00	Maintenance for 3rd Year: Supplying and fixing of hot dip Galvinized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)	Nos.	1				1.00
54.00	Maintenance for 3rd Year: Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-8mtr and above street light pole (Ref Electrical SOR SI No.16.28.3)	Nos.	241.00				241.00
55.00	Maintenance for 2nd Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets	Nos.	1.00				1.00
56.00	Maintenance for 2nd Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)	Nos.	1.00				1.00
	LT Cable						
57.00	Maintenance for 3rd Year: Supplying of 1.1 kV LT cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanised, steel strips (except 2C x 10 sq. mm wire armoured) as per IS-3975:1990 and extruded PVC outer sheathed armoured cable as per IS - 1554 Part 1:1988 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)	m	1	60.00			60.00
58.00	Maintenance for 3rd Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)	m	1	10.00			10.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
59.00	Maintenance for 3rd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)	Nos	10				10.00
60.00	Maintenance for 3rd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)	Nos	8				8.00
	Earthing system						
61.00	Maintenance for 3rd Year: Chemical Earthing for grounding,conduits,IC cut outs and otherequipmentson the mter boardby using copper /SS rod with earth enhancing backfill compound which is non corrosive ,thermally,conductive,potential,to permissible,limits,superior,fault,conductive capacity,non toxic,weather resistance and capable of achieving ohmic value less than one ohm (Ref Electrical SOR Pg.No.64,SI No.7.23.6)	Kit	1				1.00
62.00	Maintenance for 3rd Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)	Rmt	1	50			50.00
	Landcaping Works						
	SOIL MIXES and Ground Preparation						
63.00	Maintenance for 3rd Year: Supplying and stacking of good earth at site including royalty and carriage upto 5 k.m. lead complete (earth measured in stacks will be reduced by 20% for payment). (Non SOR Item)	Cum	1	20	0.5	0.15	1.50
64.00	Maintenance for 3rd Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)	Cum	1	15	0.5	0.1	0.75
65.00	Maintenance for 3rd Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. Spreading of sludge farm yard manure or/ and good earth in required thickness (cost of sludge, farm yard manure or/and good earth to be paid for separately) complete as per specifications. MORTH Specification No. 307 (KPWD SR 16-17,Page No.150,SI No.19.77)	Cum	1	40	0.5	0.1	2.00
66.00	Maintenance for 3rd Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)	Cum	1	40	0.5	0.1	2.00
	Soil preparation of Lawn						
67.00	Maintenance for 3rd Year: KSRRB M300-3.Making lawns including ploughing and breaking of clod,removal of rubbish,dressing and supplying doobs grass roots and planting at 15 cm apart,including supplying and spreading of farm yard manure at rate of 0.18cum per 100 sqm complete as per specifications. MORTH Specification No.307 (KSRRB 19.80)	Sqm	1.00	382.19			382.19
	TURF						
68.00	Maintenance for 3rd Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	1	5	0.6		3.00
	IRRIGATION						
69.00	Maintenance for 3rd Year: Watering with tanker to landscape area and plants for one year	Year	1.00				1.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
70.00	Maintenance for 3rd Year: supply and fixing of irrigation lines such that all the green areas and plants are adequately watered; by means of drip irrigation for trees , sub surface for shrubs and lawn areas / ground covers and pop up sprinklers for lawn areas. (Equipment make - Rainbird or equivalent) All material used should be comply to BSI code. All the necessary value and pump required for complete commissioning to be installed. (Non SOR Item)	Sqm	1	5	0.6		3.00

**Assistant Engineer
MSCL Mangaluru**

**Assistant Executive Engineer
MSCL Mangaluru**

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

**Name of the Work :- Mangalore Smart City
7.3 R.A. For Maintenance of 3rd Year - DPR 7**

1	Maintenance for 3rd Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)				
	Basic rate			68.16	
	Maintenance- 3rd year escalation of 12%			8.18	
			Rate	76.34	Sqm
2	Maintenance for 3rd Year: KSRRB M200.Dismantling of cement concrete pavement by mechanical means using pneumatic tools,breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled material stacking serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)				
	Basic rate			899	
	Maintenance- 3rd year escalation of 12%			107.88	
	Add 10% For area weightage (Mangalore City)			100.69	
			Rate	1107.57	Cum
3	Maintenance for 3rd Year: KSRRB M200-Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)				
	Basic rate			12.00	
	Maintenance- 3rd year escalation of 12%			1.44	
	Add 10% For area weightage (Mangalore City)			1.34	
			Rate	14.78	Rmt
4	Maintenance for 3rd Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)				
	Basic rate			390	
	Maintenance- 3rd year escalation of 12%			46.8	
	Add 10% For area weightage (Mangalore City)			43.68	
			Rate	480.48	Cum
5	Maintenance for 3rd Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. i)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)				
	Basic rate			351	
	Maintenance- 3rd year escalation of 12%			42.12	
	Add 10% For area weightage			39.31	
			Rate	432.43	Cum

6	<p>Maintenance for 3rd Year: KSRRB M300-14. Excavation for roadwork in all types of soil with hydraulic excavator of 0.9 bucket capacity including cutting and loading in tippers,trimming bottom and side slopes,in accordance with requirements of lines and grades and cross sections,and transporting disposal location up to a lead of 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)</p>				
	Basic rate			41	
	Maintenance- 3rd year escalation of 12%			4.92	
	Add 10% For area weightage (Mangalore City)			4.59	
			Rate	50.51	Cum
7	<p>Maintenance for 3rd Year: KSRRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)</p>				
	Basic rate			120	
	Maintenance- 3rd year escalation of 12%			14.4	
	Add 10% For area weightage (Mangalore City)			13.44	
			Rate	147.84	Cum
8	<p>Maintenance for 3rd Year: KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occuring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3.(KPWD 16-17,SI No.19.64,Pg. No.149)</p>				
	Basic rate			6	
	Maintenance- 3rd year escalation of 12%			0.72	
	Add 10% For area weightage (Mangalore City)			0.67	
			Rate	7.39	Sqm
9	<p>Maintenance for 3rd Year: KSRRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)</p>				
	Basic Rate			5900	
	Maintenance- 3rd year escalation of 12%			708	
	Add 10% For area weightage (Mangalore City)			660.8	
			Rate	7268.80	Cum
10	<p>Maintenance for 3rd Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechaical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material</p>				
	Basic Rate			2166	
	Maintenance- 3rd year escalation of 12%			259.92	
	Add 10% For area weightage (Mangalore City)			242.59	
			Rate	2668.51	Cum

11	<p>Maintenance for 3rd Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters conforming to IS 9103-1999 reaffirmed -2008 at machine mixed,concrete laid in layers not exceeding 15cms thick, vibrated for all works in foundation for footings, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)</p>				
	Basic Rate			6198	
	Maintenance- 3rd year escalation of 12%			743.76	
	Add 10% For area weightage (Mangalore City)			694.18	
			Rate	7635.94	Cum
12	<p>Maintenance for 3rd Year: KSRB 4.6.1 Providing and removing centering, shuttering, strutting, propping etc.,and removal of formwork for foundations, footings, bases of columns for mass concrete including cost of all materials,labour complete as per specifications. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)</p>				
	Basic Rate			263	
	Maintenance- 3rd year escalation of 12%			31.56	
	Add 10% For area weightage (Mangalore City)			29.46	
			Rate	324.02	Sqm
13	<p>Maintenance for 3rd Year: KSRB 4.9.2 :Providing T.M.T steel reinforcement for RCC work including straighting,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to thr adjoining members wherever necessary complete as per design (laps,hooks and wastage shall not be measured and paid) cost of materials,labour,HOM of machinery complete as per specifications.Specification No. KBS4.6.3. do with TMT bars Fe500</p>				
	Basic Rate			70782	
	Maintenance- 3rd year escalation of 12%			8493.84	
	Add 10% For area weightage (Mangalore City)			7927.58	
			Rate	87203.42	MT
14	<p>Maintenance for 3rd Year: KSRRB M300-Construction of Subgrade. KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305</p>				
	Basic Rate			513	
	Maintenance- 3rd year escalation of 12%			61.56	
	Add 20km lead (17.4 KSRRB M100-4.1-Cost of haulage excluding loading and unloading MORTH-100/Chapter 1-case 1-Surface Road)=2.5 Rs/ Tkm x 1.28 T x 20km			51.2	
	Sub Total			625.76	
	Add 10% For area weightage (Mangalore City)			62.58	
			Rate	688.34	Cum

15	<p>Maintenance for 3rd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,laid with a paver with electronic sensor,compacting with 8-10 tonnes double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)</p>				
	Basic Rate			4048	
	Maintenance- 3rd year escalation of 12%			485.76	
	Add 10% For area weightage (Mangalore City)			453.38	
			Rate	4987.14	Cum
16	<p>Maintenance for 3rd Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)</p>				
	Basic Rate			3680	
	Maintenance- 3rd year escalation of 12%			441.6	
	Add 10% For area weightage (Mangalore City)			412.16	
			Rate	4533.76	Cum
17	<p>Maintenance for 3rd Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplastisizer at 3 lts confirming to IS9103-1999 reaffirmed 2008(Coarse and fine aggregate conforming to IS:383) mixed in a batching and mixing plant as per approved mix design,transported to site,laid with a fixed form paver spread,compacted and finished in a continuos operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent primer, joints sealant, debonding strip, dowel bars at 4.5m intervals, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per sprcifications MORTH specification No.602.do with M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)</p>				
	Basic Rate			5765	
	Maintenance- 3rd year escalation of 12%			691.8	
	Add 10% For area weightage (Mangalore City)			645.68	
			Rate	7102.48	Cum
18	<p>Maintenance for 3rd Year: Providing and placing joint sealant compound of cold polysulphide in the grooves after widening the groove to required width, sand blasting the groove face if recommended by the sealant manufacturer, cleaning the groove with air compressor, insertion of debonding strip, priming the sides of the sealant if the sealant manufacturer recommends and pouring the sealant all complete including material, manpower (Non SOR Item)</p>				
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.2			115	
	Maintenance- 3rd year escalation of 10%			11.5	
			Rate	126.5	Rmt

19	Maintenance for 3rd Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 Repairs of spalled joints grooves of contraction joints longitudinal joints and expansion joints in concrete pavement using epoxy mortar concrete complete as per specifications.Morth specification No.3005.1 (Page No 257,SI No : 35.8)				
	Basic Rate			331	
	Maintenance- 3rd year escalation of 12%			39.72	
	Add 10% For area weightage (Mangalore City)			37.07	
			Rate	407.79	Rmt
20	Maintenance for 3rd Year: Providing and laying at or near ground level factory made kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge). (RA Attached)				
	Rate Arrived as per Rate analysis				
	Basic Rate			17708.82	
	Maintenance- 3rd year escalation of 12%			2125.06	
	Add 10% For area weightage (Mangalore City)			1983.39	
			Rate	21817.27	Cum
21	Maintenance for 3rd Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)				
	Basic rate			15481.61	
	Maintenance- 3rd year escalation of 12%			1857.79	
	Add 10% For area weightage			1733.94	
			Rate	19073.34	Cum
22	Maintenance for 3rd Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)				
	Basic rate			15481.61	
	Maintenance- 3rd year escalation of 12%			1857.79	
	Add 10% For area weightage			1733.94	
			Rate	19073.34	Cum
23	Maintenance for 3rd Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.				
	Basic rate			24	
	Maintenance- 3rd year escalation of 12%			2.88	
	Add 10% For area weightage			2.69	
			Rate	29.57	Cum

24	Maintenance for 3rd Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)				
	Basic Rate			80	
	Maintenance- 3rd year escalation of 12%			9.6	
	Add 10% For area weightage (Mangalore City)			8.96	
			Rate	98.56	Sqm
25	Maintenance for 3rd Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.				
	As per Quotation				
	Basic Rate			10764	
	Discount 30%			-3229.2	
	Sub Total			7534.8	
	Fixing Charges @5%			753.48	
	Maintenance- 3rd year escalation of 12%			904.18	
			Rate	9192.46	Nos.
26	Maintenance for 3rd Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)				
	As per Quotation				
	Basic Rate			7179.00	
	Discount 30%			-2153.7	
	Sub Total			5025.3	
	Fixing Charges @5%			502.53	
	Maintenance- 3rd year escalation of 12%			603.04	
			Rate	6130.87	Nos.
27	Maintenance for 3rd Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)				
	As per Quotation				
	Basic Rate			7912.28	
	Discount 30%			-2373.68	
	Sub Total			5538.6	
	Fixing Charges @5%			553.86	
	Maintenance- 3rd year escalation of 12%			664.63	
			Rate	6757.09	Nos.
28	Maintenance for 3rd Year: Providing gully pipe lowering,laying of PVC 100 mm dia pipes to the required alignments including specials and grade as indicated in drawings/design and hydraulically testing of the pipe line.The rate shall include all jointing materials,testing apparatus and water for testi g etc as directed by the Engineer in charge (page No.41,Item No.7,KUWSDB SOR 2016-17)				
	Basic Rate			297	
	Maintenance- 3rd year escalation of 12%			35.64	
	Add 10% on Labor Charges=Rs.47,For area weightage (Mangalore City)			4.7	
			Rate	337.34	Rm
29	Maintenance for 3rd Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia, of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16,P.No.86, SI.No.12.89)				

	Basic Rate		830	
	Maintenance- 3rd year escalation of 12%		99.6	
	Add 10% For area weightage (Mangalore City)		92.96	
		Rate	1022.56	Nos.
30	Maintenance for 3rd Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2015-16,Sl.No.24.36)			
	Basic Rate		5022	
	Maintenance- 3rd year escalation of 12%		602.64	
	Add 10% For area weightage (Mangalore City)		562.46	
		Rate	6187.10	Rm
31	Maintenance for 3rd Year: Providing and laying Dia 225 mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)			
	Basic Rate		1886	
	Labour Cost for laying and Jointing-KUWSDB,HDPE Pipes,Item No.50,Pg.No.123)		78	
	Contractor Profit@10%		188.6	
	Add 10% For area weightage (Mangalore City)		7.8	
	Sub Total		2160.4	
	Maintenance- 3rd year escalation of 12%		259.25	
		Rate	2419.65	Rm
32	Maintenance for 3rd Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years.(Market Rate)			
	Basic Rate		996.3	
	Labour Cost for laying and Jointing-KUWSDB,HDPE Pipes,Item No.50,Pg.No.123)		66	
	Contractor Profit@10%		99.63	
	Add 10% For area weightage (Mangalore City)		6.6	
	Sub Total		1168.53	
	Maintenance- 3rd year escalation of 12%		140.22	
		Rate	1308.75	Rm
33	Maintenance for 3rd Year: Providing and Fixing Spacers for Power Ducts of size 225 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			
	Basic Rate		1003	
	Maintenance- 3rd year escalation of 12%		80.24	
	Contractor Profit@10%		100.3	
		Rate	1183.54	Nos.

34	Maintenance for 3rd Year: Providing and Fixing Spacers for Power Ducts of size 160 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			
	Basic Rate		1947	
	Maintenance- 3rd year escalation of 12%		233.64	
	Contractor Profit@10%		194.7	
		Rate	2375.34	Nos.
35	Maintenance for 3rd Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)			
	Basic Rate		561.7	
	Labour Cost for laying and Jointing-KUWSDB, HDPE Pipes, Item No.50, Pg.No.123)		36	
	Contractor Profit@10%		56.17	
	Add 12% For area weightage (Mangalore City)		3.6	
	Sub Total		657.47	
	Maintenance- 3rd year escalation of 12%		78.9	
		Rate	736.37	Rm
36	Maintenance for 3rd Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.			
	Basic rate		624.00	
	Maintenance- 3rd year escalation of 12%		74.88	
	Add 10% For area weightage (Mangalore City)		69.89	
		Rate	768.77	Sqm
37	Maintenance for 3rd Year: Providing and laying heavy duty cobble stones 75mm thick, using cement and coarse sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm thick sand bed (average thickness) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications. (Page No 101, SI No : 14.7)			
	Basic rate		1114	
	Maintenance- 3rd year escalation of 12%		133.68	
	Add 10% For area weightage (Mangalore City)		124.77	
		Rate	1372.45	Sqm
38	Maintenance for 3rd Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen (KPWD 16-17, S.I.No.21.17.1, Page No.163)			
	Basic rate		7839	
	Maintenance- 3rd year escalation of 12%		940.68	
	Add 10% For area weightage (Mangalore City)		877.97	
		Rate	9657.65	Cum

39	<p>Maintenance for 3rd Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen</p>				
	Basic rate			8761	
	Maintenance- 3rd year escalation of 12%			1051.32	
	Add 10% For area weightage (Mangalore City)			981.23	
			Rate	10793.55	Cum
40	<p>Maintenance for 3rd Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications</p>				
	Basic rate			289	
	Maintenance- 3rd year escalation of 12%			34.68	
	Add 10% For area weightage (Mangalore City)			32.37	
			Rate	356.05	Nos.
41	<p>Maintenance for 3rd Year: Supply & Installation of Solar Raised Pavement Markers made of polycarbonate molded body with circular shape, solar powered, LED self illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens in passive mode. The marker shall support a load of 20000 kg tested in accordance to IRC 37 and shall be resistant to dust and water ingress according to IP 65 (Ingress Protection 65 is a test which is conducted to check if solar road stud is protected from total dust Ingress and low pressure water jets from any direction) standards and should withstand temperatures in the range of 0 C to 70 C. Color of lighting could be provided in red or yellow (amber) as per requirement and typical frequency of blinking is 1 Hz. There should be current losses of less than 20 micro-amperes at 2.4 V in sleep-charging mode to enhance the life of the marker and a full charge should provide for a minimum autonomy of 50 hours. The height, width and length of the marker shall not be less than 10 mm x 100 mm x 100 mm. Also, the surface diameter of the marker shall not be less than 100 mm respectively. The weight of the marker shall not exceed 0.5 Kilograms. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer.</p>				
	Basic Rate			2961	
	Maintenance- 3rd year escalation of 12%			355.32	
	Add 10% For area weightage (Mangalore City)			331.63	
			Rate	3647.95	Sqm
42	<p>Maintenance for 3rd Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5mm thick including reflectorising glass beads at 250 gms and 2 ltr of primer per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streak and holes complete as per specifications. MORTH specification No. 803 (Page No 192, SI No : 24.57)</p>				
	Basic Rate			429	
	Maintenance- 3rd year escalation of 12%			51.48	
	Add 10% For area weightage (Mangalore City)			48.05	
			Rate	528.53	Sqm

43	Maintenance for 3rd Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.		
	Basic rate		61200
	Maintenance- 3rd year escalation of 12%		7344
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.1	Rate	68544
			Nos.
44	Maintenance for 3rd Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)		
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.13		4500.00
	Maintenance- 3rd year escalation of 12%		540
		Rate	5040
			Nos.
45	Maintenance for 3rd Year: Providing and fixing of railing as detail design in MS HOLLOW SECTION and bars (shop drawing to be approved),with vertical support of 0.9m @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)		
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.26		100000.00
	Maintenance- 3rd year escalation of 12%		12000
		Rate	112000
			MT
46	Maintenance for 3rd Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.		
	Basic Rate		179.00
	Maintenance- 3rd year escalation of 12%		21.48
		Rate	200.48
			Nos.
47	Maintenance for 3rd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Earth		
	Earth	2.0x1.28x10km	
	Basic rate		25.60
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)		68.00
	Sub Total-1		93.60
	Add 10% For area weightage (Mangalore City)		9.36
	Sub Total-2		102.96
	Maintenance- 3rd year escalation of 12%		12.36
		Rate	115.32
			Cum
48	Maintenance for 3rd Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Debris		
	Debris	2.0x1.30x10Km	
	Basic rate		26.00
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)		68.00
	Sub Total-1		94.00

	Add 10% For area weightage (Mangalore City)		9.4	
	Sub Total-2		103.40	
	Maintenance- 3rd year escalation of 12%		12.41	
		Rate	115.81	Cum
	Lighting Poles			
49	Maintenance for 3rd Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.22		938	
	Maintenance- 3rd year escalation of 12%		112.56	
		Rate	1050.56	Nos.
50	Maintenance for 3rd Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, icluding suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 m pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 155 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No. 5.14.5)			
	Basic rate		12420	
	Maintenance- 3rd year escalation of 12%		1490.4	
		Rate	13,910.40	Nos.
51	Operation & Maintenance for 3rd Year: Lighting Pole, 4 m Fabrication, supply and erection of 4 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangement, icluding suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 4 pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 130 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No.5.14.2)			
	Basic rate		7398	
	Maintenance- 3rd year escalation of 12%		887.76	
		Rate	8,285.76	Nos.
52	Maintenance for 3rd Year: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Double Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.5)			
	Basic rate		3540	
	Maintenance- 3rd year escalation of 12%		424.8	
		Rate	3,964.80	Nos.
53	Operation & Maintenance for 3rd Year: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)			
	Basic rate		2400	
	Maintenance- 3rd year escalation of 12%		288	
		Rate	2,688	Nos.

54	Maintenance for 3rd Year: Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-8mtr and above street light pole (Ref Electrical SOR SI No.16.28.3)			
	Basic rate		620	
	Maintenance- 3rd year escalation of 12%		74.4	
		Rate	694	Nos.
	Outdoor Box and Switch Gear			
55	Maintenance for 3rd Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets			
	Price list (Considering 30% discount , 18% GST & 10% profit)		11783	
	Maintenance- 3rd year escalation of 12%		1413.96	
		Rate	13,197	Nos.
56	Maintenance for 3rd Year: Supply and fixing of miniature circuit breaker on existig board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)			
	Basic rate		1547	
	Maintenance- 3rd year escalation of 12%		185.64	
		Rate	1,733	Nos.
	LT Cable			
57	Maintenance for 3rd Year: Supplying of 1.1 kV LT cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanised, steel strips (except 2C x 10 sq. mm wire armoured) as per IS-3975:1990 and extruded PVC outer sheathed armoured cable as per IS - 1554 Part 1:1988 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)			
	Basic rate		117	
	Maintenance- 3rd year escalation of 12%		14.04	
		Rate	131.04	Rm
58	Maintenance for 3rd Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)			
	Basic rate		81.6	
	Maintenance- 3rd year escalation of 12%		9.79	
		Rate	91.39	Rm
59	Maintenance for 3rd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)			
	Basic rate		11.31	
	Maintenance- 3rd year escalation of 12%		1.36	
		Rate	12.67	Nos.
60	Maintenance for 3rd Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)			
	Basic rate		3.12	
	Maintenance- 3rd year escalation of 12%		0.37	

		Rate	3.49	Nos.
61	Maintenance for 3rd Year: Chemical Earthing for grounding, conduits, IC cut outs and other equipments on the meter board by using copper /SS rod with earth enhancing backfill compound which is non corrosive, thermally, conductive, potential, to permissible, limits, superior, fault, conductive capacity, non toxic, weather resistance and capable of achieving ohmic value less than one ohm (Ref Electrical SOR Pg.No.64, SI No.7.23.6)		5500	
	Basic rate		5500	
	Maintenance- 3rd year escalation of 12%		660	
		Rate	6160	Kit
62	Maintenance for 3rd Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)		19.5	
	Basic rate		19.5	
	Maintenance- 3rd year escalation of 12%		2.34	
		Rate	21.84	Rmt
63	Maintenance for 3rd Year: Supplying and stacking of good earth at site including royalty and carriage upto 5 k.m. lead complete (earth measured in stacks will be reduced by 20% for payment). (Non SOR Item)		140.00	
	Rate Approved as per EOI by MD MSCL Mangalore, Refer Sr.No.27		140.00	
	Maintenance- 3rd year escalation of 12%		16.8	
		Rate	156.80	Cum
64	Maintenance for 3rd Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stacking complete as per specifications. MORTH Specification No. 308.2(Page No.152, SI.No.19.90)		204	
	Basic rate		204	
	Maintenance- 3rd year escalation of 12%		24.48	
	Add 10% For area weightage		22.85	
		Rate	251.33	Cum
65	Maintenance for 3rd Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. Spreading of sludge farm yard manure or/ and good earth in required thickness (cost of sludge, farm yard manure or/and good earth to be paid for separately) complete as per specifications. MORTH Specification No. 307 (KPWD SR 16-17, Page No.150, SI No.19.77)		103	
	Basic rate		103	
	Maintenance- 3rd year escalation of 12%		12.36	
	Add 10% For area weightage		11.54	
		Rate	126.90	Cum
66	Maintenance for 3rd Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)		23.91	
	Rate Approved as per EOI by MD MSCL Mangalore, Refer Sr.No.28		23.91	
	Maintenance- 3rd year escalation of 12%		2.87	
		Rate	26.78	Cum

67	Maintenance for 3rd Year: Maintenance of lawns or Turfing of slopes (rough grassing) for a period of one year including watering etc complete including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.				
	Basic rate			103	
	Maintenance- 3rd year escalation of 12%			12.36	
	Add 12% For area wightage			13.84	
		Rate		129.20	Sqm
TURF					
68	Maintenance for 3rd Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)				
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.32			156.80	
	Maintenance- 3rd year escalation of 12%			18.82	
		Rate		175.62	Sqm
IRRIGATION					
69	Maintenance for 3rd Year: Watering with tanker to landscape area and plants for one year				
	Water Tanker =61 Rs/ Hour,One Year Cost=92 days x 3 hrs x 61rs/hr (365days-90 days of mansoon=275 days/3 days=92 days,consider watering at every 3 days)			16836	
	Mazdoor = 0.5 days x 258.88			11908.48	
	Add 10% For area wightage			1190.848	
	Maintenance- 3rd year escalation of 12%			3449.34	
		Rate		33384.67	Year
70	Maintenance for 3rd Year: supply and fixing of irrigation lines such that all the green areas and plants are adequately watered; by means of drip irrigation for trees , sub surface for shrubs and lawn areas / ground covers and pop up sprinklers for lawn areas. (Equipment make - Rainbird or equivalent) All material used should be comply to BSI code. All the necessary value and pump required for complete commissioning to be installed. (Non SOR Item)				
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.34			560.00	
	Maintenance- 3rd year escalation of 12%			67.2	
		Rate		627.20	Sqm

**Assistant Engineer
MSCL Mangaluru**

**Assistant Executive Engineer
MSCL Mangaluru**

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**

Name of the Work :- Mangalore Smart City

8.1 Abstract for Maintenance of Road and Other Work for DPR 7 - 4th Year

	Specification	Unit	Total Qty.	Rate	Amount
	Civil Works				
1.00	Maintenance for 4th Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)	Sqm	14.00	79.07	1107
2.00	Maintenance for 4th Year: KSRRB M200.Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled material stacking serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)	Cum	0.30	1147.12	,344
3.00	Maintenance for 4th Year: KSRRB M200-Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)	Rmt	20.00	15.31	306
4.00	Maintenance for 4th Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)	Cum	20.00	497.64	9,953
5.00	Maintenance for 4th Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. i)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)	Cum	0.23	447.88	103
6.00	Operation & Maintenance for 4th Year: KSRRB M300-14. Excavation for roadwork in all types of soil with hydraulic excavator of 0.9 bucket capacity including cutting and loading in tippers,trimming bottom and side slopes,in accordance with requirements of lines and grades and cross sections,and transporting disposal location up to a lead of 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)	Cum	250.00	52.32	13,080
7.00	Maintenance for 4th Year: KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)	Cum	75.00	153.12	11,484
8.00	Maintenance for 4th Year: KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occurring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3.(KPWD 16-17,SI No.19.64,Pg. No.149)	Sqm	500.00	7.66	3,830
9.00	Maintenance for 4th Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills , ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)	Cum	7.50	7528.40	56,463

	Specification	Unit	Total Qty.	Rate	Amount
10.00	Maintenance for 4th Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material	Cum	37.50	2763.82	103,643
11.00	Maintenance for 4th Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters confirming to IS 9103-1999 reaffirmed -2008 at machine mixed,concrete laid in layers not exceeding 15cms thick, vibrated for all works in foundation for footings, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnspillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)	Cum	48.00	7908.65	3,79,615
12.00	Maintenance for 4th Year: KSRB 4.6.1 Providing and removing centering, shuttering, strutting, propping etc.,and removal of formwork for foundations, footings, bases of columns for mass concrete including cost of all materials,labour complete as per specifications. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)	Sqm	360.00	335.59	1,20,812
13.00	Maintenance for 4th Year: KSRB 4.9.2 : Providing T.M.T steel reinforcement for RCC work including straightening,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps,hooks and wastage shall not be measured and paid) cost of materials,labour,HOM of machinery complete as per specifications.Specification No. KSB4.6.3. do with TMT bars Fe500	MT	3.84	90317.83	3,46,820
14.00	Maintenance for 4th Year: KSRRB M300- Construction of Subgrade. KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murrum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305	Cum	61.25	710.91	43,543
15.00	Maintenance for 4th Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to exceed 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,laid with a paver with electronic sensor,compacting with 8-10 tonnes double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)	Cum	12.25	5165.25	63,274
16.00	Maintenance for 4th Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to exceed 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site, Manually laid and compacting with palte compactor ,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)	Cum	20.00	4695.68	93,914

	Specification	Unit	Total Qty.	Rate	Amount
17.00	<p>Maintenance for 4th Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplastisizer at 3 lts confirming to IS9103-1999 reaffirmed 2008(Coarse and fine aggregate conforming to IS:383) mixed in a batching and mixing plant as per approved mix design,transported to site,laid with a fixed form paver spread,compacted and finished in a continuous operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent primer, joints sealant, debonding strip, dowel bars at 4.5m intervals, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per sprcifications MORTH specification No.602.do with M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)</p>	Cum	28.18	7489.89	2,11,065
18.00	<p>Maintenance for 4th Year: Providing and placing joint sealant compound of cold polysulphide in the grooves after widening the groove to required width, sand blasting the groove face if recommended by the sealant manufacturer, cleaning the groove with air compressor, insertion of debonding strip, priming the sides of the sealant if the sealant manufacturer recommends and pouring the sealant all complete including material, manpower (Non SOR Item)</p>	Rmt	650.00	133.40	86,710
19.00	<p>Maintenance for 4th Year: KSSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSSRRB M3000-8 Repairs of spalled joints grooves of contraction joints longitudinal joints and expansion joints in concrete pavement using epoxy mortar concrete complete as per specifications.Morth specification No.3005.1 (Page No 257,SI No : 35.8)</p>	Rmt	650.00	422.36	2,74,534
20.00	<p>Maintenance for 4th Year: Providing and laying at or near ground level factory made kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge). (RA Attached)</p>	Cum	0.10	22596.45	2,260
21.00	<p>Maintenance for 4th Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	2.79	20113.71	56,117
22.00	<p>Maintenance for 4th Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	1.18	20113.71	23,734
23.00	<p>Maintenance for 4th Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.</p>	Rmt	100.00	30.62	3,062
24.00	<p>Maintenance for 4th Year: KSSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)</p>	Sqm	82.50	102.08	8,422
25.00	<p>Maintenance for 3rd Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.</p>	Nos.	5.00	9493.85	47,469

	Specification	Unit	Total Qty.	Rate	Amount
26.00	Maintenance for 3rd Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)	Nos.	5.00	6331.88	31,659
27.00	Maintenance for 3rd Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)	Nos.	5.00	6978.64	34,893
28.00	Maintenance for 4th Year: Providing gully pipe lowering, laying of PVC 100 mm dia pipes to the required alignments including specials and grade as indicated in drawings/design and hydraulically testing of the pipe line. The rate shall include all jointing materials, testing apparatus and water for testing etc as directed by the Engineer in charge (page No.41, Item No.7, KUWSDB SOR 2016-17)	Rmt	20.00	349.22	6,984
29.00	Maintenance for 4th Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia , of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16, P.No.86, Sl.No.12.89)	Nos.	20.00	1059.08	21,182
30.00	Maintenance for 4th Year: KSRRB M800-29.3. Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III : Triple row for three utility services. (PWD SR 2015-16, Sl.No.24.36)	Rmt	20.00	6408.07	1,28,161
31.00	Maintenance for 4th Year: Providing and laying Dia 225 mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the overburden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	150.00	2287.29	3,43,094
32.00	Maintenance for 4th Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5, Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the overburden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7. The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	100.00	1239.92	1,23,992
33.00	Maintenance for 4th Year: Providing and Fixing Spacers for Power Ducts of size 225 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20.00	1163.48	23,270
34.00	Maintenance for 4th Year: Providing and Fixing Spacers for Power Ducts of size 160 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20.00	2258.52	45,170
35.00	Maintenance for 4th Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)	Rmt	40.00	697.51	27,900

	Specification	Unit	Total Qty.	Rate	Amount
36.00	Maintenance for 4th Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and staping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.	Sqm	200.00	796.22	1,59,244
37.00	Maintenance for 4th Year: Providing and laying heavy duty cobble stones 75mm thick , using cement and course sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm thick sand bed (average thickness) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications. (Page No 101, SI No : 14.7)	Sqm	75.00	1421.46	106,610
38.00	Maintenance for 4th Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 - using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen (KPWD 16-17, S.I.No.21.17.1, Page No.163)	Cum	6.00	10002.56	60,015
39.00	Maintenance for 4th Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen	Cum	1.60	11179.04	17,886
40.00	Maintenance for 4th Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications	Nos.	50.00	335.24	16,762
41.00	Maintenance for 4th Year: Supply & Installation of Solar Raised Pavement Markers made of polycarbonate molded body with circular shape, solar powered, LED self illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens in passive mode. The marker shall support a load of 20000 kg tested in accordance to IRC 37 and shall be resistant to dust and water ingress according to IP 65 (Ingress Protection 65 is a test which is conducted to check if solar road stud is protected from total dust Ingress and low pressure water jets from any direction) standards and should withstand temperatures in the range of 0 C to 70 C. Color of lighting could be provided in red or yellow (amber) as per requirement and typical frequency of blinking is 1 Hz. There should be current losses of less than 20 micro-amperes at 2.4 V in sleep-charging mode to enhance the life of the marker and a full charge should provide for a minimum autonomy of 50 hours. The height, width and length of the marker shall not be less than 10 mm x 100 mm x 100 mm. Also, the surface diameter of the marker shall not be less than 100 mm respectively. The weight of the marker shall not exceed 0.5 Kilograms. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer.	Nos.	20.00	3778.24	75,565

	Specification	Unit	Total Qty.	Rate	Amount
42.00	Maintenance for 4th Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5mm thick including reflectorising glass beads at 250 gms and 2 ltr of primer per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streak and holes complete as per specifications. MORTH specification No.803 (Page No 192, SI No : 24.57)	Sqm	600.00	547.40	3,28,440
43.00	Maintenance for 4th Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.	Nos	4.00	70992.00	2,83,968
44.00	Maintenance for 4th Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)	Nos.	2.00	5220.00	10,440
45.00	Maintenance for 4th Year: Providing and fixing of railing as detail design in MS HOLLOW SECTION and bars (shop drawing to be approved), with vertical support of 0.9m @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)	MT	0.10	116000.00	11,600
46.00	Maintenance for 4th Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Cum	1015.00	207.64	2,10,755
47.00	Maintenance for 4th Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Earth	Cum	200.00	119.43	23,886
48.00	Maintenance for 4th Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Debris	Cum	70.00	119.94	8,396
	Electrical Works				
49.00	Maintenance for 4th Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))	Nos.	1.00	1088.08	1,088
50.00	Maintenance for 4th Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 m pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 155 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No. 5.14.5)	Nos.	1.00	14407.20	14,407
51.00	Operation & Maintenance for 4th Year: Lighting Pole, 4 m Fabrication, supply and erection of 4 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 4 pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 130 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No.5.14.2)	Nos.	1.00	8581.68	8,582

	Specification	Unit	Total Qty.	Rate	Amount
52.00	Maintenance for 4th Year: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Double Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.5)	Nos.	1.00	4106.40	4,106
53.00	Maintenance for 4thYear: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)	Nos.	1.00	2784.00	2,784
54.00	Maintenance for 4th Year: Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-8mtr and above street light pole (Ref Electrical SOR SI No.16.28.3)	Nos.	241.00	719.20	173,327
55.00	Maintenance for 4th Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets	Nos.	1.00	13668.28	13,668
56.00	Maintenance for 4th Year: Supply and fixing of miniature circuit breaker on existings board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)	Nos.	1.00	1794.52	1,795
LT Cable					
57.00	Maintenance for 4th Year: Supplying of 1.1 kV LT cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanised, steel strips (except 2C x 10 sq. mm wire armoured) as per IS-3975:1990 and extruded PVC outer sheathed armoured cable as per IS - 1554 Part 1:1988 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)	m	60.00	135.72	8,143
58.00	Maintenance for 4th Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)	m	10.00	94.66	947
59.00	Maintenance for 4th Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)	Nos	10.00	13.12	131
60.00	Maintenance for 4thYear: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)	Nos	8.00	3.62	29
Earthing system					
61.00	Maintenance for 4th Year: Chemical Earthing for grounding,conduits,IC cut outs and otherequipmentson the mter boardby using copper /SS rod with earth enhancing backfill compound which is non corrosive ,thermally,conductive,potential,to permissible,limits,superior,fault,conductive capacity,non toxic,weather resistance and capable of achieving ohmic value less than one ohm (Ref Electrical SOR Pg.No.64,SI No.7.23.6)	Kit	1.00	6380.00	6,380
62.00	Maintenance for 4th Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)	Rmt	50.00	22.62	1,131
Landcaping Works					
SOIL MIXES and Ground Preparation					

	Specification	Unit	Total Qty.	Rate	Amount
63.00	Maintenance for 4th Year: Supplying and stacking of good earth at site including royalty and carriage upto 5 k.m. lead complete (earth measured in stacks will be reduced by 20% for payment). (Non SOR Item)	Cum	1.50	162.40	244
64.00	Maintenance for 4th Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)	Cum	0.75	260.30	195
65.00	Maintenance for 4th Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. Spreading of sludge farm yard manure or/ and good earth in required thickness (cost of sludge, farm yard manure or/and good earth to be paid for separately) complete as per specifications. MORTH Specification No. 307 (KPWD SR 16-17,Page No.150,SI No.19.77)	Cum	2.00	131.43	263
66.00	Maintenance for 4th Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)	Cum	2.00	27.74	55
	Soil preparation of Lawn				
67.00	Maintenance for 4th Year: KSRRB M300-3.Making lawns including ploughing and breaking of clod,removal of rubbish,dressing and supplying doobs grass roots and planting at 15 cm apart,including supplying and spreading of farm yard manure at rate of 0.18cum per 100 sqm complete as per specifications. MORTH Specification No.307 (KSRRB 19.80)	Sqm	382.19	131.43	50,231
	TURF				
68.00	Operation & Maintenance for 4th Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	3.00	181.89	546
	IRRIGATION				
69.00	Operation & Maintenance for 4th Year: Watering with tanker to landscape area and plants for one year	Year	1.00	34534.45	34,534
70.00	Operation & Maintenance for 4th Year: supply and fixing of irrigation lines such that all the green areas and plants are adequately watered; by means of drip irrigation for trees , sub surface for shrubs and lawn areas / ground covers and pop up sprinklers for lawn areas. (Equipment make - Rainbird or equivalent) All material used should be comply to BSI code. All the necessary value and pump required for complete commissioning to be installed. (Non SOR Item)	Sqm	3.00	649.60	1,949
				Total	43,86,071

Assistant Engineer
MSCL Manqaluru

Assistant Executive Engineer
MSCL Manqaluru

Executive Engineer
MSCL Mangaluru

General Manager Technical
MSCL Mangaluru

**Name of the Work :- Mangalore Smart City
8.2 M.S. For Maintenance of Road and Other Work for DPR 7 - 4th Year**

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
Civil Works							
1.00	Maintenance for 4th Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)	Sqm	1	7	2		14.00
2.00	Maintenance for 4th Year: KSRRB M200. Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled material stacking serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)	Cum	1	1	1	0.3	0.30
3.00	Maintenance for 4th Year: KSRRB M200- Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)	Rmt	1	20			20.00
4.00	Maintenance for 4th Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)	Cum	1	40	1	0.5	20.00
5.00	Maintenance for 4th Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. i)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)	Cum	2	1	0.5	0.23	0.23
6.00	Maintenance for 4th Year: KSRRB M300-14. Excavation for roadwork in all types of soil with hydraulic excavator of 0.9 bucket capacity including cutting and loading in tippers,trimming bottom and side slopes,in accordance with requirements of lines and grades and cross sections,and transporting disposal location up to a lead of 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)	Cum	1.00	100	5	0.5	250.00
7.00	Maintenance for 4th Year: KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)	Cum	1.00	30	5	0.5	75.00
8.00	Maintenance for 4th Year: KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occurring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3.(KPWD 16-17,SI No.19.64,Pg. No.149)	Sqm	1.00	100		5	500.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
9.00	Maintenance for 4th Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills , including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)	Cum	1.00	15	5	0.1	7.50
10.00	Maintenance for 4th Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material	Cum	1.00	50	5	0.15	37.50
11.00	Maintenance for 4th Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters conforming to IS 9103-1999 reaffirmed -2008 at machine mixed,concrete laid in layers not exceeding 15cms thick, vibrated for all works in foundation for footings, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnspillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)	Cum	1.00	200	0.2	1.2	48.00
12.00	Maintenance for 4th Year: KSRB 4.6.1 Providing and removing centering, shuttering, strutting, propping etc.,and removal of formwork for foundations, footings, bases of columns for mass concrete including cost of all materials,labour complete as per specifications. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)	Sqm	2.00	200		0.9	360.00
13.00	Maintenance for 4th Year: KSRB 4.9.2 : Providing T.M.T steel reinforcement for RCC work including straightening,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps,hooks and wastage shall not be measured and paid) cost of materials,labour,HOM of machinery complete as per specifications.Specification No. KBS4.6.3. do with TMT bars Fe500	MT	1.00	3.84			3.84
14.00	Maintenance for 4th Year: KSRRB M300- Construction of Subgrade . KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305	Cum	10.00	3.5	3.5	0.5	61.25
15.00	Maintenance for 4th Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate conforming to IS:383) aggregate cement ration not to exceed 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,laid with a paver with electronic sensor,compacting with 8-10 tonnes double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)	Cum	10.00	3.5	3.5	0.1	12.25

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
16.00	<p>Maintenance for 4th Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)</p>	Cum	1.00	100	2	0.1	20.00
17.00	<p>Maintenance for 4th Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplastisizer at 3 lts confirming to IS9103-1999 reaffirmed 2008(Coarse and fine aggregate conforming to IS:383) mixed in a batching and mixing plant as per approved mix design,transported to site,laid with a fixed form paver spread,compacted and finished in a continuous operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent primer, joints sealant, debonding strip, dowel bars at 4.5m intervals, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per sprcifications MORTH specification No.602.do with M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)</p>	Cum	10.00	3.5	3.5	0.23	28.18
18.00	<p>Maintenance for 4th Year: Providing and placing joint sealant compound of cold polysulphide in the grooves after widening the groove to required width, sand blasting the groove face if recommended by the sealant manufacturer, cleaning the groove with air compressor, insertion of debonding strip, priming the sides of the sealant if the sealant manufacturer recommends and pouring the sealant all complete including material, manpower (Non SOR Item)</p>	Rmt	1.00	650			650.00
19.00	<p>Maintenance for 4th Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 Repairs of spalled joints grooves of contraction joints longitudinal joints and expansion joints in concrete pavement using epoxy mortar concrete complete as per specifications.Morth specification No.3005.1 (Page No 257,SI No : 35.8)</p>	Rmt	1.00	650			650.00
20.00	<p>Maintenance for 4th Year: Providing and laying at or near ground level factory made kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge). (RA Attached)</p>	Cum	1	1	0.1		0.10
21.00	<p>Maintenance for 4th Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	1	100	0.03		2.79
22.00	<p>Maintenance for 4th Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)</p>	Cum	1	100	0.01		1.18

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
23.00	Maintenance for 4th Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Rmt	100				100.00
24.00	Maintenance for 4th Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)	Sqm	1	500	0.17		82.50
25.00	Maintenance for 4th Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.	Nos.	5.00				5.00
26.00	Maintenance for 4th Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)	Nos.	5.00				5.00
27.00	Maintenance for 4th Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)	Nos.	5.00				5.00
28.00	Maintenance for 4th Year: Providing gully pipe lowering,laying of PVC 100 mm dia pipes to the required alignments including specials and grade as indicated in drawings/design and hydraulically testing of the pipe line.The rate shall include all jointing materials,testing apparatus and water for testi g etc as directed by the Engineer in charge (page No.41,Item No.7,KUWSDB SOR 2016-17)	Rmt	20.00	1.00			20.00
29.00	Maintenance for 4th Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia , of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16,P.No.86, SI.No.12.89)	Nos.	20.00				20.00
30.00	Maintenance for 4th Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2015-16,SI.No.24.36)	Rmt	1	20.00			20.00
31.00	Maintenance for 4th Year: Providing and laying Dia 225 mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil presuure and other physical properties comforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)	Rmt	1	150			150.00
32.00	Maintenance for 4th Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil presuure and other physical properties comforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years.(Market Rate)	Rmt	1	100			100.00
33.00	Maintenance for 4thYear: Providing and Fixixng Spacers for Power Ducts of size 225 mm , to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20				20.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
34.00	Maintenance for 4th Year: Providing and Fixing Spacers for Power Ducts of size 160 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)	Nos.	20				20.00
35.00	Maintenance for 4th Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)	Rmt	1	40			40.00
36.00	Maintenance for 4th Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.	Sqm	1	100	2		200.00
37.00	Maintenance for 4th Year: Providing and laying heavy duty cobble stones 75mm thick , using cement and course sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm thick sand bed (average thickness) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications. (Page No 101, SI No : 14.7)	Sqm	1.00	50	1.5		75.00
38.00	Maintenance for 4th Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen (KPWD 16-17, S.I.No.21.17.1, Page No.163)	Cum	2.00	2.5	8	0.15	6.00
39.00	Maintenance for 4th Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using 40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen	Cum	2.00	2.5	8	0.04	1.60
40.00	Maintenance for 4th Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lens reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications	Nos.	50.00				50.00
41.00	Maintenance for 4th Year: Supply & Installation of Solar Raised Pavement Markers made of polycarbonate molded body with circular shape, solar powered, LED self illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens in passive mode. The marker shall support a load of 20000 kg tested in accordance to IRC 37 and shall be resistant to dust and water ingress according to IP 65 (Ingress Protection 65 is a test which is conducted to check if solar road stud is protected from total dust ingress and low pressure water jets from any direction) standards and should withstand temperatures in the range of 0 C to 70 C. Color of lighting could be provided in red or yellow (amber) as per requirement and typical frequency of blinking is 1 Hz. There should be current losses of less than 20 micro-amperes at 2.4 V in sleep-charging mode to enhance the life of the marker and a full charge should provide for a minimum autonomy of 50 hours. The height, width and length of the marker shall not be less than 10 mm x 100 mm x 100 mm. Also, the surface diameter of the marker shall not be less than 100 mm respectively. The weight of the marker shall not exceed 0.5 Kilograms. Fixing will be by drilling holes on	Nos.	20.00				20.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
42.00	Maintenance for 4th Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5mm thick including reflectorising glass beads at 250 gms and 2 ltr of primer per sqm area,thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35.The finished surface to be level,uniform and free from streak and holes complete as per specifications.MORTH specification No.803 (Page No 192,SI No : 24.57)	Sqm	1.00	4000	0.15		600.00
43.00	Maintenance for 4th Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.	Nos	4.00				4.00
44.00	Maintenance for 4th Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)	Nos.	2.00				2.00
45.00	Maintenance for 4th Year: Providing and fixing of railing as detail design in MS HOLLOW SECTION and bars (shop drawing to be approved),with vertical support of 0.9m @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)	MT	1.00	0.1			0.10
46.00	Maintenance for 4th Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.	Cum	2.00	7250	0.7	0.1	1015.00
47.00	Maintenance for 4th Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Earth	Cum	1.00	200			200.00
48.00	Maintenance for 4th Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1- Debris	Cum	1.00	70			70.00
Electrical Works							
49.00	Maintenance for 4th Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))	Nos.	1				1.00
50.00	Maintenance for 4th Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 m pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 155 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No. 5.14.5)	Nos.	1				1.00
51.00	Maintenance for 4th Year: Lighting Pole, 4 m Fabrication, supply and erection of 4 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 4 pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 130 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No.5.14.2)	Nos.	1				1.00

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
52.00	Maintenance for 4th Year: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Double Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.5)	Nos.	1				1.00
53.00	Maintenance for 4thYear: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)	Nos.	1				1.00
54.00	Maintenance for 4th Year: Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-8mtr and above street light pole (Ref Electrical SOR SI No.16.28.3)	Nos.	241.00				241.00
55.00	Maintenance for 4th Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets	Nos.	1.00				1.00
56.00	Maintenance for 4th Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)	Nos.	1.00				1.00
	LT Cable						
57.00	Maintenance for 4th Year: Supplying of 1.1 kV LT cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanised, steel strips (except 2C x 10 sq. mm wire armoured) as per IS-3975:1990 and extruded PVC outer sheathed armoured cable as per IS - 1554 Part 1:1988 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)	m	1	60.00			60.00
58.00	Maintenance for 4th Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)	m	1	10.00			10.00
59.00	Operation & Maintenance for 4th Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)	Nos	10				10.00
60.00	Operation & Maintenance for 4thYear: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)	Nos	8				8.00
	Earthing system						
61.00	Maintenance for 4th Year: Chemical Earthing for grounding,conduits,IC cut outs and otherequipmentson the mter boardby using copper /SS rod with earth enhancing backfill compound which is non corrosive ,thermally,conductive,potential,to permissible,limits,superior,fault,conductive capacity,non toxic,weather resistance and capable of achieving ohmic value less than one ohm (Ref Electrical SOR Pg.No.64,SI No.7.23.6)	Kit	1				1.00
62.00	Maintenance for 4th Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)	Rmt	1	50			50.00
	Landcaping Works						
	SOIL MIXES and Ground Preparation						

Sr.No.	Specification	Unit	No.	L	B	D	Qty.
63.00	Maintenance for 4th Year: Supplying and stacking of good earth at site including royalty and carriage upto 5 k.m. lead complete (earth measured in stacks will be reduced by 20% for payment). (Non SOR Item)	Cum	1	20	0.5	0.15	1.50
64.00	Maintenance for 4th Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)	Cum	1	15	0.5	0.1	0.75
65.00	Maintenance for 4th Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. Spreading of sludge farm yard manure or/ and good earth in required thickness (cost of sludge, farm yard manure or/and good earth to be paid for separately) complete as per specifications. MORTH Specification No. 307 (KPWD SR 16-17,Page No.150,SI No.19.77)	Cum	1	40	0.5	0.1	2.00
66.00	Maintenance for 4th Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)	Cum	1	40	0.5	0.1	2.00
	Soil preparation of Lawn						
67.00	Maintenance for 4th Year: KSRRB M300-3.Making lawns including ploughing and breaking of clod,removal of rubbish,dressing and supplying doobs grass roots and planting at 15 cm apart,including supplying and spreading of farm yard manure at rate of 0.18cum per 100 sqm complete as per specifications. MORTH Specification No.307 (KSRRB 19.80)	Sqm	1.00	382.19			382.19
	TURF						
68.00	Maintenance for 4th Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)	Sqm	1	5	0.6		3.00
	IRRIGATION						
69.00	Maintenance for 4th Year: Watering with tanker to landscape area and plants for one year	Year	1.00				1.00
70.00	Maintenance for 4th Year: supply and fixing of irrigation lines such that all the green areas and plants are adequately watered; by means of drip irrigation for trees , sub surface for shrubs and lawn areas / ground covers and pop up sprinklers for lawn areas. (Equipment make - Rainbird or equivalent) All material used should be comply to BSI code. All the necessary value and pump required for complete commissioning to be installed. (Non SOR Item)	Sqm	1	5	0.6		3.00

Assistant Engineer
MSCL Mangaluru

Assistant Executive Engineer
MSCL Mangaluru

Executive Engineer
MSCL Mangaluru

General Manager Technical
MSCL Mangaluru

**Name of the Work :- Mangalore Smart City
8.3 R.A. For Maintenance of 4th Year - DPR 7**

1	Maintenance for 4th Year: Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.(RA attached)				
	Basic rate			68.16	
	Maintenance- 4th year escalation of 16%			10.91	
		Rate		79.07	Sqm
2	Maintenance for 4th Year: KSRRB M200.Dismantling of cement concrete pavement by mechanical means using pneumatic tools,breaking to pieces not exceeding 0.02 cum in volume and stock pilling at designated locations and disposal of dismantled material stacking serviceable and unserviceable materials separately complete as per specifications.MORTH specification No.202.(Including transporting charges,loading and unloading for lead 5km-Extra) (Page No 138,SI No : 18.47)				
	Basic rate			899	
	Maintenance- 4th year escalation of 16%			143.84	
	Add 10% For area weightage (Mangalore City)			104.28	
		Rate		1147.12	Cum
3	Maintenance for 4th Year: KSRRB M200-Dismantling of kerb Stone and Channel KSRRB M200-26. Dismantling Kerb stone by Manual means and disposal of dismantled materials with all lifts and complete as per specifications.MORTH Specification No.202. (Page No.139,S.I.No.18.49)				
	Basic rate			12.00	
	Maintenance- 4th year escalation of 16%			1.92	
	Add 10% For area weightage (Mangalore City)			1.39	
		Rate		15.31	Rmt
4	Maintenance for 4th Year: KSRRB M200-13.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. II. By Mechanical Means. A. Cement Concrete Grade M-15 &M-20. MORTH Specification No. 202 (KPWD SOR 16-17,18.20,Page No.137)				
	Basic rate			390	
	Maintenance- 4th year escalation of 16%			62.4	
	Add 10% For area weightage (Mangalore City)			45.24	
		Rate		497.64	Cum
5	Maintenance for 4th Year: KSRRB M200-12.1. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, woodwork, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts complete as per specifications. i)Dismantling Brick/Tile work B.In Cement mortar (Page No 137,SI No : 18.23)				
	Basic rate			351	
	Maintenance- 4th year escalation of 16%			56.16	
	Add 10% For area weightage			40.72	
		Rate		447.88	Cum

6	<p>Maintenance for 4th Year: KSRRB M300-14. Excavation for roadwork in all types of soil with hydraulic excavator of 0.9 bucket capacity including cutting and loading in tippers,trimming bottom and side slopes,in accordance with requirements of lines and grades and cross sections,and transporting disposal location up to a lead of 1.00Km and complete as per specifications. MORTH specification No.301(Including transporting charges, loading and unloading for lead 5km) (Page No 143,SI No : 19.14)</p>				
	Basic rate			41	
	Maintenance- 4th year escalation of 16%			6.56	
	Add 10% For area weightage (Mangalore City)			4.76	
		Rate		52.32	Cum
7	<p>Maintenance for 4th Year: KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5 m. including cost of all labour complete as per specifications.(KPWD 16-17,SI No.2.11,Pg. No.6)</p>				
	Basic rate			120	
	Maintenance- 4th year escalation of 16%			19.2	
	Add 10% For area weightage (Mangalore City)			13.92	
		Rate		153.12	Cum
8	<p>Maintenance for 4th Year: KSRRB 300-Compaction KSRRB 300-58. Compaction of original ground with maximum of 6 passes of 8 to 10 tonnes power roller including filling in depression occuring during rolling including cost of all labour, HOM of machinery complete as per specifications. MORTH / Chapter 3.(KPWD 16-17,SI No.19.64,Pg. No.149)</p>				
	Basic rate			6	
	Maintenance- 4th year escalation of 16%			0.96	
	Add 10% For area weightage (Mangalore City)			0.7	
		Rate		7.66	Sqm
9	<p>Maintenance for 4th Year: KSRB 4-1.6 ; Providing and laying in position plain cement concrete of mix M15 Grade with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.69 cum and fine aggretes @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, ncluding cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No. 4.6 of PWD SR 2015-16)</p>				
	Basic Rate			5900	
	Maintenance- 4th year escalation of 16%			944	
	Add 10% For area weightage (Mangalore City)			684.4	
		Rate		7528.40	Cum
10	<p>Maintenance for 4th Year: KSRRB M400-6.1. Construction of granular sub-base by providing close graded crushed stone aggregates of granite / trap / basalt material, mixing in a mechaical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with Plate compactor to achieve the desired density, complete as per specifications. A. Plant Mix Method. - Close graded granular sub-base material as per 400-1 For Grading- II Material</p>				
	Basic Rate			2166	
	Maintenance- 4th year escalation of 16%			346.56	
	Add 10% For area weightage (Mangalore City)			251.26	
		Rate		2763.82	Cum

11	<p>Maintenance for 4th Year: KSRB 4.2.1 : Providing and laying in position reinforcement cement concrete of design Mix M25 with OPC cement @340Kgs,with 20mm and down size graded granite metal coarse aggregate @ 0.47 cum with super plasticisers @3 liters confirming to IS 9103-1999 reaffirmed -2008 at machine mixed,concrete laid in layers not exceeding 15cms thick, vibrated for all works in foundation for footings, pedestals, retaining walls,return walls,walls (any thickness) including attached pilasters, columnpillars, posts, struts, buttresses, bed blocks,anchor blocks & plinths etc.,Including cost of labour,HOM of machinery,curing,complete but excluding cost of reinforcement as per specifications. (Page No 13,SI No : 4.10)</p>			
	Basic Rate		6198	
	Maintenance- 4th year escalation of 16%		991.68	
	Add 10% For area weightage (Mangalore City)		718.97	
		Rate	7908.65	Cum
12	<p>Maintenance for 4th Year: KSRB 4.6.1 Providing and removing centering, shuttering, strutting, propping etc.,and removal of formwork for foundations, footings, bases of columns for mass concrete including cost of all materials,labour complete as per specifications. Specification No. KSB 4.6.2 (Page No 15,SI No : 4.28)</p>			
	Basic Rate		263	
	Maintenance- 4th year escalation of 16%		42.08	
	Add 10% For area weightage (Mangalore City)		30.51	
		Rate	335.59	Sqm
13	<p>Maintenance for 4th Year: KSRB 4.9.2 :Providing T.M.T steel reinforcement for RCC work including straighting,cutting,bending,hooking,placing in position,lapping and/or welding wherever required,tying with binding wire and anchoring to thr adjoining members wherever necessary complete as per design (laps,hooks and wastage shall not be measured and paid) cost of materials,labour,HOM of machinery complete as per specifications.Specification No. KBS4.6.3. do with TMT bars Fe500</p>			
	Basic Rate		70782	
	Maintenance- 4th year escalation of 16%		11325.12	
	Add 10% For area weightage (Mangalore City)		8210.71	
		Rate	90317.83	MT
14	<p>Maintenance for 4th Year: KSRRB M300-Construction of Subgrade. KSRRB M300-55. Construction of sub-grade with approved material Gravel/Murum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications (including cost of earth, watering charges & compaction by vibratory rollercompaction by vibratory roller to 97% of proctors density) MORTH Specification No. 305</p>			
	Basic Rate		513	
	Maintenance- 4th year escalation of 16%		82.08	
	Add 20km lead (17.4 KSRRB M100-4.1-Cost of haulage excluding loading and unloading MORTH-100/Chapter 1-case 1-Surface Road)=2.5 Rs/ Tkm x 1.28 T x 20km		51.2	
	Sub Total		646.28	
	Add 10% For area weightage (Mangalore City)		64.63	
		Rate	710.91	Cum

15	Maintenance for 4th Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,laid with a paver with electronic sensor,compacting with 8-10 tonnes double drum vibratory roller,finishing and curing complete as per specifications.Morth specification No.601 (Page No 176,SI No : 22.1)			
	Basic Rate		4048	
	Maintenance- 4th year escalation of 16%		647.68	
	Add 10% For area weightage (Mangalore City)		469.57	
		Rate	5165.25	Cum
16	Maintenance for 4th Year: KSRRB M600-1.Construction of dry lean cement concrete mix M15 with 1:5:10 OPC cement @160Kgs,with 25mm and down size graded granite/trap/basalt metal coarse aggregate at 0.86cum and fine aggregate @ 0.58cum Sub-base over prepared sub grade with (coarse and fine aggregate confirming to IS:383) aggregate cement ration not to excee 15:1. Aggregate gradation after blending to be as per Table 600-1, cement content to be determined during trail length construction, concrete strength not to be less than 10Mpa at 7 days,mixed in a batching plant,transported to site,Manually laid and compacting with palte compactor,finishing and curing complete as per specifications.Morth specification No.601 (RA attached)			
	Basic Rate		3680	
	Maintenance- 4th year escalation of 16%		588.8	
	Add 10% For area weightage (Mangalore City)		426.88	
		Rate	4695.68	Cum
17	Maintenance for 4th Year: KSSRRB M600-2.Construction of unreinforced,dowel jointed,plain cement concrete pavement over a prepared sub base with 25mm and down size graded granite metal coarse aggregate with superplastisizer at 3 lts confirming to IS9103-1999 reaffirmed 2008(Coarse and fine aggregate conforming to IS:383) mixed in a batching and mixing plant as per approved mix design,transported to site,laid with a fixed form paver spread,compacted and finished in a continuous operation including provision of contraction, expansio, construction and longitudinal joints,including groove cutting chrges, joints filler,separation memberane, sealent primer, joints sealant, debonding strip, dowel bars at 4.5m intervals, tie rod, admixtures as approved, curing compound,finishing to lines and grades as per drawing complete as per sprcifications MORTH specification No.602.do with M40 (420Kg per cum Cement,C.A,0.67 cum F.A.044Cum (Page No 176,SI No : 22.2.2)			
	Basic Rate		5765	
	Maintenance- 4th year escalation of 16%		922.4	
	Add 12% For area weightage (Mangalore City)		802.49	
		Rate	7489.89	Cum
18	Maintenance for 4th Year: Providing and placing joint sealant compound of cold polysulphide in the grooves after widening the groove to required width, sand blasting the groove face if recommended by the sealant manufacturer, cleaning the groove with air compressor, insertion of debonding strip, priming the sides of the sealant if the sealant manufacturer recommends and pouring the sealant all complete including material, manpower (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.2		115	
	Maintenance- 4th year escalation of 16%		18.4	
		Rate	133.4	Rmt

19	Operation & Maintenance for 4th Year: KSRRB 3000 Repair of Joint Grooves with Epoxy Mortar KSRRB M3000-8 Repairs of spalled joints grooves of contraction joints longitudinal joints and expansion joints in concrete pavement using epoxy mortar concrete complete as per specifications.Morth specification No.3005.1 (Page No 257,SI No : 35.8)			
	Basic Rate		331	
	Maintenance- 4th year escalation of 16%		52.96	
	Add 10% For area weightage (Mangalore City)		38.4	
		Rate	422.36	Rmt
20	Maintenance for 4th Year: Providing and laying at or near ground level factory made kerb stone of M-20 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge). (RA Attached)			
	Rate Arrived as per Rate analysis			
	Basic Rate		17708.82	
	Maintenance- 4th year escalation of 16%		2833.41	
	Add 10% For area weightage (Mangalore City)		2054.22	
		Rate	22596.45	Cum
21	Maintenance for 4th Year: Providin and fixing pre cast solid concrete Kerb stones as per the drawing,made out of CC 1:2:4 and Jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)			
	Basic rate		15481.61	
	Maintenance- 4th year escalation of 16%		2477.06	
	Add 12% For area weightage		2155.04	
		Rate	20113.71	Cum
22	Maintenance for 4th Year: Providin and fixing pre cast solid concrete water table(longitudinal gutter) as per the drawing,made out of CC 1:2:4 and jointed with CM 1:3 and finishing cutting, including cost of all materials,labour,hire charges of machinery,loading,unloading,lead and lift,transportation etc.,complete (Page No 25,SI No : 5.3)			
	Basic rate		15481.61	
	Maintenance- 4th year escalation of 16%		2477.06	
	Add 10% For area weightage		1795.87	
		Rate	19754.54	Cum
23	Maintenance for 4th Year: Removing and resetting of kerb stones. including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.			
	Basic rate		24	
	Maintenance- 4th year escalation of 16%		3.84	
	Add 10% For area weightage		2.78	
		Rate	30.62	Rmt

24	Maintenance for 4th Year: KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 (Page No 182,SI No : 24.1)			
	Basic Rate		80	
	Maintenance- 4th year escalation of 16%		12.8	
	Add 12% For area weightage (Mangalore City)		9.28	
		Rate	102.08	Sqm
25	Maintenance for 4th Year: P/F FRP Recess Cover (2.5T) 900mmx600 mm with frame on Manhole for electrical ducting.			
	As per Quotation			
	Basic Rate		10764	
	Discount 30%		-3229.2	
	Sub Total		7534.8	
	Fixing Charges @5%		753.48	
	Maintenance- 4th year escalation of 16%		1205.57	
		Rate	9493.85	Nos.
26	Maintenance for 4th Year: P/F FRP Recess Cover (2.5T) 600mmx450 mm with frame at raised footpath on SWD. (Rate analysis attached)			
	As per Quotation			
	Basic Rate		7179.00	
	Discount 30%		-2153.7	
	Sub Total		5025.3	
	Fixing Charges @5%		502.53	
	Maintenance- 4th year escalation of 16%		804.05	
		Rate	6331.88	Nos.
27	Maintenance for 4th Year: P/F FRP Water gully cover with frame (25T) 600mmx500 mm at level footpath. (Rate analysis attached)			
	As per Quotation			
	Basic Rate		7912.28	
	Discount 30%		-2373.68	
	Sub Total		5538.6	
	Fixing Charges @5%		553.86	
	Maintenance- 4th year escalation of 16%		886.18	
		Rate	6978.64	Nos.
28	Maintenance for 4th Year: Providing gully pipe lowering,laying of PVC 100 mm dia pipes to the required alignments including specials and grade as indicated in drawings/design and hydraulically testing of the pipe line.The rate shall include all jointing materials,testing apparatus and water for testi g etc as directed by the Engineer in charge (page No.41,Item No.7,KUWSDB SOR 2016-17)			
	Basic Rate		297	
	Maintenance- 4th year escalation of 16%		47.52	
	Add 12% on Labor Charges=Rs.47,For area weightage (Mangalore City)		4.7	
		Rate	349.22	Rm

29	<p>Maintenance for 4th Year: KSRB 11-18-17.1 : Providing and fixing sand cast iron trap of 100mm dia, of self cleaning design with screwed down or hinged grating with or without vent arm including cutting and making good the walls and floors, cost of materials, labour, testing, complete as per specifications Specification No. KBS 11.1.10. (PWD SR 2015-16,P.No.86, SI.No.12.89)</p>			
	Basic Rate			830
	Maintenance- 4th year escalation of 16%			132.8
	Add 12% For area weightage (Mangalore City)			96.28
		Rate		1059.08
				Nos.
30	<p>Maintenance for 4th Year: KSRRB M800-29.3.Cable Duct Across the road KSRRB M800-29.1. Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings complete as per specifications. Case-III :Triple row for three utility services. (PWD SR 2015-16,SI.No.24.36)</p>			
	Basic Rate			5022
	Maintenance- 4th year escalation of 16%			803.52
	Add 12% For area weightage (Mangalore City)			582.55
		Rate		6408.07
				Rm
31	<p>Maintenance for 4th Year: Providing and laying Dia 225 mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years. (Market Rate)</p>			
	Basic Rate			1886
	Labour Cost for laying and Jointing-KUWSDB,HDPE Pipes,Item No.50,Pg.No.123)			78
	Add 12% For area weightage (Mangalore City)			7.8
	Sub Total			1971.8
	Maintenance- 4th year escalation of 16%			315.49
		Rate		2287.29
				Rm
32	<p>Maintenance for 4th Year: Providing and laying Dia 160mm HDPE Electrical pipe Conduits with Silicore Lubricant inner layer with ribs, dimensional ratio of 13.5,Deflection not greater than 5% when exposed to the normal operating temperature 90°C under the over burden soil pressure and other physical properties conforming to ASTM F 2160 and /or NEMA TC7.The expected service life of HDPE pipe conduits and accessories shall not be less than 50 years.(Market Rate)</p>			
	Basic Rate			996.3
	Labour Cost for laying and Jointing-KUWSDB,HDPE Pipes,Item No.50,Pg.No.123)			66
	Add 12% For area weightage (Mangalore City)			6.6
	Sub Total			1068.9
	Maintenance- 4th year escalation of 16%			171.02
		Rate		1239.92
				Rm

33	Maintenance for 4th Year: Providing and Fixing Spacers for Power Ducts of size 225 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			
	Basic Rate		1003	
	O&M 4th year escalation of 16%		160.48	
		Rate	1163.48	Nos.
34	Maintenance for 4th Year: Providing and Fixing Spacers for Power Ducts of size 160 mm, to be placed at an interval of 1.5 meter. Spacers shall be made of ABS raw material. (Market rate)			
	Basic Rate		1947	
	Maintenance- 4th year escalation of 16%		311.52	
		Rate	2258.52	Nos.
35	Maintenance for 4th Year: Supplying 7-way 40mm HDPE pipe Multi-way Duct Silicore Lubricant inner layer for ICT fibre cables conforming to ASTM F 2160 and /or equivalent Indian standard and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipe etc. Complete. (Market Rate)			
	Basic Rate		561.7	
	Labour Cost for laying and Jointing-KUWSDB, HDPE Pipes, Item No.50, Pg.No.123)		36	
	Add 12% For area weightage (Mangalore City)		3.6	
	Sub Total		601.3	
	Maintenance- 4th year escalation of 16%		96.21	
		Rate	697.51	Rm
36	Maintenance for 4th Year: Supplying and Application charges required for stamping the freshly laid new concrete (Concrete rate is not included in this item) including finishing and colouring the top surface accurately to the required level, shape and size using approved colour shade and stamping it using approved stamp pattern and antiquitting it on top with approved colour. Sealing entire area with concrete sealer.			
	Basic rate		624.00	
	Maintenance- 4th year escalation of 16%		99.84	
	Add 12% For area weightage (Mangalore City)		72.38	
		Rate	796.22	Sqm
37	Maintenance for 4th Year: Providing and laying heavy duty cobble stones 75mm thick, using cement and coarse sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 30mm thick sand bed (average thickness) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications. (Page No 101, SI No : 14.7)			
	Basic rate		1114	
	Maintenance- 4th year escalation of 16%		178.24	
	Add 10% For area weightage (Mangalore City)		129.22	
		Rate	1421.46	Nos.

38	Maintenance for 4th Year: KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 -using 100/120 TPH capacity H.M.P. with sensor paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen(KPWD 16-17,S.I.No.21.17.1,Page No.163)			
	Basic rate		7839	
	Maintenance- 4th year escalation of 16%		1254.24	
	Add 10% For area weightage (Mangalore City)		909.32	
		Rate	10002.56	Cum
39	Maintenance for 4th Year: KSRRB M500-19. Providing and laying bituminous concrete 40 mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 500.9 complete in all respects complete as per specifications. MORTH Specification No. 509 - using40/60 TPH capacity H.M.P. with Mechanical Paver Gr-II (30 mm to 45 mm) with 6 % VG-40 Bitumen			
	Basic rate		8761	
	Maintenance- 4th year escalation of 16%		1401.76	
	Add 10% For area weightage (Mangalore City)		1016.28	
		Rate	11179.04	Cum
40	Maintenance for 4th Year: KSRRB M800 Road markers / Road stud KSRRB M800-35. Providing and fixing of road stud 100x 100 mm, diecast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS: 873 part 4:1973 complete as per specifications			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.12		289.00	
	Maintenance- 4th year escalation of 16%		46.24	
		Rate	335.24	Nos.
41	Maintenance for 4th Year: Supply & Installation of Solar Raised Pavement Markers made of polycarbonate molded body with circular shape, solar powered, LED self illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens in passive mode. The marker shall support a load of20000 kg tested in accordance to IRC 37 and shall be resistantto dust and water ingress according to IP 65 (Ingress Protection 65 is a test which is conducted to check if solar road stud is protected from total dust Ingress and low pressure water jets from any direction) standards and should withstand temperatures in the range of 0 C to 70 C. Color of lighting could be provided in red or yellow (amber) as per requirement and typical frequency of blinking is 1 Hz. There should be current losses of less than 20 micro-amperes at 2.4 V in sleep-charging mode to enhance the life of the marker and a full charge should provide for a minimum autonomy of 50 hours. The height, width and length of the marker shall not be less than 10 mm x 100 mm x 100 mm Also the surface diameter of the marker shall not be less than 100 mm respectively. The weight			
	Basic Rate		2961	
	Maintenance- 4th year escalation of 16%		473.76	
	Add 10% For area weightage (Mangalore City)		343.48	
		Rate	3778.24	Nos.
42	Maintenance for 4th Year: Road Marking with hot applied Thermoplastic Compound with Reflectrising Glass Beads on Concrete Surface:Providing and laying of hot applied thermoplastic compound 2.5mm thick including reflectorising glass beads at 250 gms and 2 ltr of primer per sqm area,thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35.The finished surface to be level,uniform and free from streak and holes complete as per specifications.MORTH specification No.803 (Page No 192,SI No : 24.57)			

	Basic Rate		429	
	Maintenance- 4th year escalation of 16%		68.64	
	Add 10% For area weightage (Mangalore City)		49.76	
		Rate	547.40	Sqm
43	Maintenance for 4th Year: Operation and Maintenance for eToilets Stainless Steel Public Model as specified in Road and Other works BOQ Item No.45.			
	Baisc rate		61200	
	Maintenance- 4th year escalation of 16%		9792	
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.1	Rate	70992	Nos.

44	Maintenance for 4th Year: Providing and fixing of S.S. Bollards(SS304) on footpath as specified and directed by Engineer -in-charge (NON SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.13		4500.00	
	O&M 4th year escalation of 16%		720	
		Rate	5220	Nos.
45	Maintenance for 4th Year: Providing and fixing of railing as detail design in MS HOLLOW SECTION and bars (shop drawing to be approved),with vertical support of 0.9m @2.2mc/c , all complete to the satisfaction of the Landscape architect.(Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.26		100000.00	
	Maintenance- 4th year escalation of 16%		16000	
		Rate	116000	MT
46	Maintenance for 4th Year: Excavation and removal of silt and silt mixed with sand in slussy condition from canal bed including disposing off the same in spoil bank or on the canal embankment in layers as directed etc., complete with lead upto 50 m and all lifts. For Desilting of drains and grit chambers including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.			
	Basic Rate		179.00	
	Maintenance- 4th year escalation of 16%		28.64	
		Rate	207.64	Nos.
47	Maintenance for 4th Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Earth			
	Earth	2.0x1.28x10km		
	Baisc rate		25.60	
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)		68.00	
	Sub Total-1		93.60	
	Add 12% For area weightage (Mangalore City)		9.36	
	Sub Total-2		102.96	
	Maintenance- 4th year escalation of 16%		16.47	
		Rate	119.43	Cum
48	Maintenance for 4th Year: Extra Lead for Disposing off unserviceable materials upto 10 Km beyond initial Lead Item No 17.4 KSRRB M100-4.1-Debris			
	Debris	2.0x1.30x10Km		
	Baisc rate		26.00	
	Add Loading and unloading charges(Item No 17.1 KSRRB M100-1)		68.00	
	Sub Total-1		94.00	
	Add 12% For area weightage (Mangalore City)		9.4	
	Sub Total-2		103.40	
	Maintenance- 4th year escalation of 16%		16.54	
		Rate	119.94	Cum

Lighting Poles			
49	Maintenance for 4th Year: Dismantling of pole/ street light standard/ strut embedded in cement concrete foundation etc. as required (Delhi analysis of rates E & M 2016, item 12.42, pg 395))		
	Basic Rate		938
	Maintenance- 4th year escalation of 16%		150.08
		Rate	1088.08
			Nos.
50	Maintenance for 4th Year: Lighting Pole, 7 m Fabrication, suppl and erection of 7 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with oor opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 m pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 155 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No. 5.14.5)		
	Basic rate		12420
	Maintenance- 4th year escalation of 16%		1987.2
		Rate	14,407.20
			Nos.
51	Maintenance for 4th Year: Lighting Pole, 4 m Fabrication, supply and erection of 4 meters long hot dip Galvanised Octagonal pole with BSE 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangement, including suitable boards, bakelite sheet and MCBs as per IS specifications suitable for wind speed of 47 m/sec for 5 4 pole in single section and single joint welded as per IS 9595/IS 10178 AWG having dimensions bottom 130 mm dia, top 70 mm with 3 mm thick, suitable base plate and 4 nos. of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65 micron as per ASTM - A123 and 153 etc., (excluding foundation) as per drawing appended (Ref Electrical SOR SI No.5.14.2)		
	Basic rate		7398
	Maintenance- 4th year escalation of 16%		1183.68
		Rate	8,581.68
			Nos.
52	Maintenance for 4th Year: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Double Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.5)		
	Basic rate		3540
	Maintenance- 4th year escalation of 16%		566.4
		Rate	4,106.40
			Nos.
53	Maintenance for 4th Year: Supplying and fixing of hot dip Galvanized M.S.bracket Suitable for outdoor luminaries and mounted on Octagonal pole using necessary bolts,nuts, etc. complete Single Cross arm - 1500 mm (Ref Electrical SOR SI No.5.18.2)		
	Basic rate		2400
	O&M 4th year escalation of 16%		384
		Rate	2,784
			Nos.
54	Maintenance for 4th Year: Painting of Existing street light pole after scrapping the old paint and painted with suitable colour enamel including coping/footing of the pole.-8mtr and above street light pole (Ref Electrical SOR SI No.16.28.3)		
	Basic rate		620
	Maintenance- 4th year escalation of 16%		99.2
		Rate	719
			Nos.

	Outdoor Box and Switch Gear			
55	Maintenance for 4th Year: Supply, installation, testing and commissioning of outdoor junction box for mounting MCB/Contactors with all required accessories and componenets			
	Price list (Considering 30% discount , 18% GST & 10% profit)		11783	
	Maintenance- 4th year escalation of 16%		1885.28	
		Rate	13,668	Nos.
56	Maintenance for 4th Year: Supply and fixing of miniature circuit breaker on exisiting board using necessasary fixing material and 'C' type curve, indicator ON/OFF, energy cross-3 with short circuit breaking capacity of 10 KA complete wiring as required confirming to IEC 60898 5- 32A TPN Electrical SOR- 6.16.5)			
	Basic rate		1547	
	Maintenance- 4th year escalation of 16%		247.52	
		Rate	1,795	Nos.
	LT Cable			
57	Maintenance for 4th Year: Supplying of 1.1 kV LT cable having aluminium conductor PVC insulated, extruded inner sheathed, galvanised, steel strips (except 2C x 10 sq. mm wire armoured) as per IS-3975:1990 and extruded PVC outer sheathed armoured cable as per IS - 1554 Part 1:1988 & conforming to GTP of GROUP B 4 Core x16 Sq.mm PVC Aluminium Conductor, (Ref Electrical SOR SI No.7.5,7.5.4)			
	Basic rate		117	
	Maintenance- 4th year escalation of 16%		18.72	
		Rate	135.72	Rm
58	Maintenance for 4th Year: Supply and drawing flexible multicore cable with electrolyte grade flexible copper with low conductor conforming to Table 3 Class 5 of IS:8130-1984 and vargin PVC insulation and sheathed suitable for working voltage up to 1100 V as per IS-694:1990 and conforming to GTP of Group A. 3C x 2.5 sq. mm (Ref. Electrical SOR 2.8.8)			
	Basic rate		81.6	
	Maintenance- 4th year escalation of 16%		13.06	
		Rate	94.66	Rm
59	Maintenance for 4th Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 16 Sq.mm PVC Aluminium Conductor (Ref Electrical SOR SI No.7.21,7.21.6)			
	Basic rate		11.31	
	Maintenance- 4th year escalation of 16%		1.81	
		Rate	13.12	Nos.
60	Maintenance for 4th Year: Supplying tinned copper lugs and crimping and wiring to terminal point for wire of following sizes 2.5 sq. mm copper conductor (Ref Electrical SOR SI No.7.21.2)			
	Basic rate		3.12	
	Maintenance- 4th year escalation of 16%		0.5	
		Rate	3.62	Nos.

61	Maintenance for 4th Year: Chemical Earthing for grounding, conduits, IC cut outs and other equipmentson the mter boardby using copper /SS rod with earth enhancing backfill compound which is non corrosive ,thermally,conductive,potential,to permissible,limits,superior,fault,conductive capacity,non toxic,weather resistance and capable of achieving ohmic value less than one ohm (Ref Electrical SOR Pg.No.64,SI No.7.23.6)			
	Basic rate		5500	
	Maintenance- 4th year escalation of 16%		880	
		Rate	6380	Kit
62	Maintenance for 4th Year: Supply and running GI conductor for grounding and (along with other wires in conduits system of wiring) using necessasary suitable size clamps, nails, guttas/spacers etc-8 SWG (Ref Electrical SOR SI No.7.22.3)			
	Basic rate		19.5	
	Maintenance- 4th year escalation of 16%		3.12	
		Rate	22.62	Rmt
63	Maintenance for 4th Year: Supplying and stacking of good earth at site including royalty and carriage upto 5 k.m. lead complete (earth measured in stacks will be reduced by 20% for payment). (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.27		140.00	
	Maintenance- 4th year escalation of 16%		22.4	
		Rate	162.40	Cum
64	Maintenance for 4th Year: KSRRB M300-Supply at site of work well decayed farm yard manure KSRRB M300-11. Supply at site of work well decayed farm yard manure, from any available source, approved by the engineer in charge including screening and stackin complete as per specifications. MORTH Specification No. 308.2(Page No.152,SI.No.19.90)			
	Basic rate		204	
	Maintenance- 4th year escalation of 16%		32.64	
	Add 10% For area weightage		23.66	
		Rate	260.30	Cum
65	Maintenance for 4th Year: KSRRB M300-Horticulture KSRRB M300-Spreading of sludge farm yard manure or/ and good earth KSRRB M300-1. Spreading of sludge farm yard manure or/ and good earth in required thickness (cost of sludge, farm yard manure or/and good earth to be paid for separately) complete as per specifications. MORTH Specification No. 307 (KPWD SR 16-17,Page No.150,SI No.19.77)			
	Basic rate		103	
	Maintenance- 4th year escalation of 16%		16.48	
	Add 10% For area wightage		11.95	
		Rate	131.43	Cum
66	Maintenance for 4th Year: Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge (Non SOR item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.28		23.91	
	Maintenance- 4th year escalation of 16%		3.83	
		Rate	27.74	Cum

67	Maintenance for 4th Year: Maintenance of lawns or Turfing of slopes (rough grassing) for a period of one year including watering etc complete including cost of all materials, scaffolding HOM of machineries with all lead and lifts, labour charges including implementation of Environmental and Social Safeguards & as per design, drawing, technical specifications and directions of Engineer-in-charge.			
	Basic rate		103	
	Maintenance- 4th year escalation of 16%		16.48	
	Add 10% For area wightage		11.95	
		Rate	131.43	Sqm
	TURF			
68	Maintenance for 4th Year: ZOYSIA JAPONICA (MAT) (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.32		156.80	
	Maintenance- 4th year escalation of 16%		25.09	
		Rate	181.89	Sqm
	IRRIGATION			
69	Maintenance for 4th Year: Watering with tanker to landscape area and plants for one year			
	Water Tanker =61 Rs/ Hour,One Year Cost=92 days x 3 hrs x 61rs/hr (365days-90 days of mansoon=275 days/3 days=92 days,consider watering at every 3 days)		16836	
	Mazdoor = 0.5 days x 258.88		11908.48	
	Add 10% For area wightage		1190.848	
	Maintenance- 4th year escalation of 16%		4599.12	
		Rate	34534.45	Year
70	Maintenance for 4th Year: supply and fixing of irrigation lines such that all the green areas and plants are adequately watered; by means of drip irrigation for trees , sub surface for shrubs and lawn areas / ground covers and pop up sprinklers for lawn areas. (Equipment make - Rainbird or equivalent) All material used should be comply to BSI code. All the necessary value and pump required for complete commissioning to be installed. (Non SOR Item)			
	Rate Approved as per EOI by MD MSCL Mangalore,Refer Sr.No.34		560.00	
	Maintenance- 4th year escalation of 16%		89.6	
		Rate	649.60	Sqm

**Assistant Engineer
MSCL Mangaluru**

**Assistant Executive Engineer
MSCL Mangaluru**

**Executive Engineer
MSCL Mangaluru**

**General Manager Technical
MSCL Mangaluru**