

Financial Bid – PHASE- I BoQs (Annexure-4)

SMART CITY PROJECT- KAKINADA, ANDHRA PRADESH

Name of the work: “Urban Street Scalping of main road from Sarpavaram junction to Masjid Center (CHAINAGE 0+000 to 5+100) & M.S.N.Charity to Balayogi Statue Jn (CHAINAGE 7+200 to 8+000)” as Smart Street under Smart City Mission

BILL OF QUANTITIES

Sl.No.	Description Of work	Unit	Rate	Qty	Amount
100	DISMANTLING, DEMOLITION OF EXISTING STRUCTURE AND DISPOSAL OF UNUSEFUL MATERIALS				
100-1	Demolishing in brick / Block work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable materials, The rate shall be including of all labour, machineries, lift, lead and other related works etc., to complete as per MORTH 202,2.4 II (A) (5th Revision) and as direction of Engineer-in-charge. (Center median Kerbs including plastering)	Cum		1148.28	
100-2	Dismantling of existing structures R.C.C mechanical means including stacking of serviceable material and disposal of unserviceable materials, The rate shall be including of all labour, machineries, lift, lead and other related works etc., to complete as per MORTH 202,2.4 II (A) (5th Revision) and as direction of Engineer-in-charge.	Cum		28.29	
100-3	Dismantling/Removal & Shifting of existing asbestos roof sheet and replaced with G.I Sheet. Excluding cost of G.I Sheet as directed by the engineer -in-charge.	Sqm		310.00	
100-4	Dismantling existing Kerb: Taking out existing curb, stones, of all types from foot path/central verge, including removal of mortar, etc., disposal of unserviceable material to the dumping ground as directed by the Engineer at site and stacking of salvaged material to be reused at a proper place etc., to complete as per MORTH 202.3 (5th Revision) and as direction of Engineer-in-charge.	Rmt		8200.00	
100-5	Removing inter-locking pavers:Taking out existing CC inter locking paver locks from foot paths/central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground as directed by the Engineer and salvaging the usable material etc., to complete as per MORTH 202.5 (5th Revision) as directed by the Engineer.	Sqm		8100.00	
100-6	Refurbishing the existing storm water drain: Providing and laying rabbited channel to the existing storm water structure as per the designs and drawings in M20 concrete mix 12mm graded , including chipping of the existing drain and making rough surface to shear bonding the concrete including all shuttering shoring, sheeting, planning, strutting, Raising / lowering cost of hire charges of tools and plants and labour charges etc excluding cost of seinorage charges on all materials. The finished rabbed channel shall be true to plumb to receive the precast slab cover as per MORTH specification	Cum		1440.00	
100-7	Refurbishing the existing storm water drain. Providing finishing the inner surface and the drain floor bottom of the existing drain with 1:3 with 20mm thk cement mortar and provide neat and clean surface to improve the flow of water including cost and conveyance of all materials to the site, tools and plants, labour, necessary surface preparation by raking out joints properly, brushing and scrapping efflorescence dust and loose mortar by wire brush and pock parking with pointed tool to ensure proper key to the mortar complete excluding cost of seinorage charges on all materials etc., as per APSS	Sqm		18000.00	
100-8	Scarifying the existing B.T surface to a depth of 50 mm by Mechanical means and disposal of scarified material with all leads and lifts upto 1000 Mtrs as per MoRT&H (5th Revision) Specn. No.305.4.3	Sqm		80800.00	
100-9	Removing the wet silt and sludge from the Existing drain with necessary tools and depositing the same on side banks including labour charges for all operations Etc., and conveyance the same a lead of 5.00 KM by lorries including transportation as per SS and as directed by the Departmental officer incharge.	Cum		252.00	
100-10	Provision for Bailing out of water from the existing drains with oil engine driven pump sets, including hire charges, fuel charges and wages for driver and helper	hrs		1000.00	
100-11	Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross-sections, and transporting to the embankment location with all lifts and lead up to 10 Km as per Technical Specification Clause 302.3 MORD / 301 MORTH (Excavation of existing Carriage way & Foot path , Cycle Track) excluding cost of seinorage charges on all materialsas	Cum		26805.42	
100-12	Supply and construction of Brick masonry 230 mm thick for walls in super structure, foundation with cement mortar (1:6) prop (Cement:sand) using Second class Bricks 23 x 11 x 7 cm from approved source having minimum crushing strength of not less than 3.5 N/sq.mm. including cost and conveyance of all materials like cement, sand, bricks, water etc., to site, cost of all incidental and operational, labour charges like mixing cement mortar, scaffolding charges, constructing masonry, lift charges, curing etc., excluding cost of seinorage charges on all materials complete for finished item of work as per APSS 504.	Cum		245.00	

Sl.No.	Description Of work	Unit	Rate	Qty	Amount
100-13	Supplying fabrication and erection of MS Trusses with medium quality various MS square hollow section for column and purlins, etc including cost and convenience of all materials to site with all taxes and duties and labours charges for cutting, placing, welding and erection etc complete for finished item of work				
a.	MS Circular hollow pipes 100mm	Kgs		2012.40	
	M.S Circular hollow pipes 125mm	Kgs		1920.00	
	M.S hollow pipes 65mm	Kgs		2824.80	
	ISWB 450 Section Weight	Kgs		2080.28	
	Plate 12mm thk	Kgs		661.28	
	Plate 25mm thk	Kgs		677.06	
100-14	Fixing of M.S anchor bolt of size 16mm dia, 750mm long including cost ,threading, cutting and bending with bolt. The rate includes labour charges for alignment fixing the template and finishing of item of work and conveyance of all materials to site with all taxes and duties Fixing need to be approved by the engineer -in -charge prior pour of concrete.	Kgs		686.40	
100-15	Supply , fabrication and Erection of 0.5mm thick prepainted galvalume profile roof sheeting of approved make and colour, high tensile steel profiled sheet having min yield strength of 550 Mpa conforming codes. The rates includes cost of sheets, cutting, bending, required fittings etc with necessary labour and machinery charges for loading, unloading, erection including accessories such as self taping/drilling screws, adhesive tapes, rain water down spouts etc complete as shown in the drawings and directed by Engineer in Charge. only roof area will be measured for payment.	Sqm		900.00	
100-16	Fabrication , supply & fixing of purlins using 37.5mm diameter M.S B Class, Base plate 10mm thk, cleats bolts as directed by E-IN-C including cost & conveyance of all materials	Rmt		858.00	
100-17	Supply and fixing of Vitrified Tiles flooring (1st quality) 600x600mm of approved colour and make and set over base coat of cement mortar (1:8) 12mm thick over CC bed already laid or RCC roof slab, including neat cement slurry of honey like consistency spread @ 3.3kgs per sqm & jointed neatly with white cement paste to full depth mixed with pigment of matching shade, including cost of all materials like cement,sand water and tiles etc., complete for finished item of work.	Sqm		830.00	
100-18	Flooring with flamed Tandur stone slabs of 15 to 18 mm thick set over a base coat of CM (1:5) , 12mm thick using screened sand over already laid CC bed / RCC roof slab including neat cement slurry of honey like consistency spread @ 3.3 Kgs per Sqm and jointed with neat cement to full depth including cost and conveyance of all materials like cement, sand, water, flooring stones etc. complete including sales & other taxes on all materials including all labour charges like dressing of flooring stones to the required size, mixing of cement mortar, laying, lift charges , cost of base coat, water charges etc., and overheads & contractors profit complete for finished item of work. (APSS No.703 & 701)	Sqm		460.00	
200	ROAD WORKS				
200-1	Milling of existing bituminous layers at identified distressed locations on the pavement with milling machine reclaiming excavated material including hauling and stock piling and adding rejuvenators as required, mixing in a hot mix plant, transporting and laying at site and compacting to the required grade, level and thickness, with all lead, lift, loading and unloading complete as per MORTH specification and as direction of Engineer incharge	Sqm		80800.00	
200-2	Providing and applying tack coat with bituminous emulsion (RS-1bulk) using emulsion pressure distributor @ 0.2Kg/sqm on the prepared bituminous surface cleaned with mechanical broom for finished item of work as per MORT & H Spec. 503 (5th revision) as as directed by the Engineer in charge.(Before laying of BM layer)DBM	Sqm		80800.00	
200-3	Providing and applying tack coat with bituminous emulsion (RS-1bulk) using emulsion pressure distributor @ 0.2Kg/sqm on the prepared bituminous surface cleaned with mechanical broom for finished item of work as per MORT & H Spec. 503 (5th revision) as as directed by the Engineer in charge.(Before laying BC)	Sqm		80800.00	
200-4	Providing and laying 50mm thick Dence Bituminous Macadam hot mix plant producing an average output of 37.5 tonnes per hour using crushed aggregates of specified Grading II of Table 500-7 of MoRTH specification (5th revision) premixed with bituminous binder of VG-30 grade @ 4.25% by mass of total mix, transported to site, laid over a previously prepared surface with paver finisher to the required grade, level and alignment and rolled as per clauses 501.6 and 501.7 to achieve the desired compaction of finished item of work as directed by the Engineer-in-Charge including hire and operational charges all T&P and all other contingent charges necessary excluding cost of seignorage charges on all materials etc. complete and as per clause no. 504 of MoRTH specification (5th revision).	Cum		4040.00	
200-5	Providing and Laying 30mm thick compacted Bituminous concrete with 100 to 120 TPH batch type HMP producing an average out put of 75 Tonnes per hour using crushed aggregates of specified grade two(13.2mm nominal size) as per table 500-17 of MoRT&H specification 507 (5th Revision), premixed with bituminous binder of VG 30 grade @ 5.4% of mix and filler, transporting the hot mix to work site, laying with hydrostatic sensor paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRT&H Specification 507 (5th Revision) complete excluding cost of seignorage charges on all materials for finished item of work in all respects as directed by Engineer-in-charge.	Cum		2519.76	

Sl.No.	Description Of work	Unit	Rate	Qty	Amount
200-6	Constructing 904.0 mm (3'0") dia brick masonry inspection chamber as per IS - 4111: Part-1:1986 with cement mortar (1:6) prop using 2nd Class Clay Bricks of 225 mm thick from approved source having a minimum crushing strength of 5 N/sq.m including plastering with cement mortar 1:3 prop; ½" thick both inside and outside fitted with 20" dia RCC manhole covers and frames including excavating pits up to a depth of 904 mm (3'-0") in all sorts of soils (excluding rock) and laying cement concrete (1:4:8) 150 mm thick using 40 mm HBG Metal and P.C.C. 1:2:4 benching and channel 100 mm thick as per Standard specification and including cost and conveyance of all materials like cement, sand, bricks, water etc., to site, cost of seigniorage charges on all materials and all incidental and operational, labour charges like mixing cement mortar, constructing masonry, lift charges, curing etc., Excluding cost of seignorage charges on all materials complete for finished item of work as per Standard specification.	No's		328.00	
200-7	Finished the exposed surface of the rabbated channel providing 20 mm plaster 1:3 (1cement : 3 fine sand) finished with a floating coat of neat cement for receiving and bearing the RCC precast slab excluding cost of seignorage charges on all materials As per APSS	Sqm		4080.00	
200-8	Providing hoisting and fixing precast reinforced cement concrete cover slab of size 1x0.5x0.15 including setting in cement mortar 1:3 (1 cement : 3 coarse sand) including cost of required centering, shuttering and finishing with neat cement punning on exposed surfaces including cost of M20 concrete mix 12.0 mm graded size with admixture of appropriate nature including all vibration etc. excluding cost of seignorage charges on all materials as per APSS	No's		10600.00	
200-9	Painting to new walls with 2 coats of plastic emulsion paint of approved brand and shade after thoroughly brushing the surface to remove all dirt and remains of loose powdered materials, including cost and conveyance of all materials to site of work and labour charges for all operations incidental and all other charges etc., complete for finished item of work. As per SS	Sqm		630.00	
200-10	Tree grate- Supply and fixing of Concrete Tree Guards 900 x 900 x 40 mm, manufactured with M30 grade make in shot blasted finish and colours as approved by Employer. Parameters and as per the direction of Engineer in charge, complete incl. all consumables , TandP and Labours required for the job Excluding cost of seignorage charges on all materials as per APSS	No's		200.00	
200-11	Supplying and filling with good earth for formation of traffic island ,median strips ,footpaths etc., including watering and consolidation by hand roller etc., excluding cost of seignorage charges on all materials complete as per MoRT&H specification.407 (5th revision)	Cum		1343.05	
200-12	Reinforced cement concrete of M-25 grade Design Mix Concrete corresponding to IS 456 using concrete mixture machine 20mm size graded machine crushed hard granite metal (coarse aggregate) from approved quarry including Adjustable Jack screw Props and Acro span HIRE CHARGES FOR CENTERING & SCAFFOLDING cost and conveyance of all materials like cement, fine aggregate (sand) coarse aggregate, water etc., to site, and excluding seigniorage charges, sales & other taxes on all materials including all operational, incidental and labour charges such as machine mixing, laying concrete, curing etc., complete including Adjustable Jack screw Props and Acro span HIRE CHARGES FOR CENTERING & SCAFFOLDING but excluding cost of steel and its fabrication charges excluding cost of seignorage charges on all materials for finished item of work (APSS No. 402) (For Ramps to footpath)				
	For footing	Cum		37.34	
	For pedestals	Cum		6.50	
	For columns	Cum		15.75	
	For plinth beam	Cum		24.57	
200-13	Providing High Yield Strength Deformed (HYSD) bars (Fe 415 grade as per IS 1786-1979) of different diameters for RCC works, including labour charges for straightening, cutting, bending to required sizes and shapes, placing in position with cover blocks of approved materials and size and tying and lap-splicing with binding wire of 18 SWG, forming grills for reinforcement work as per approved designs and drawings, including cost and conveyance of steel bars, including all wastages such as overlaps, couplings, chairs, spacer bars including cost and conveyance of binding wire, cover blocks and all incidental, operational, labour charges such as cutting, bending, placing in position, tying including sales and other taxes on all materials etc. complete for finished item of work in all floors as per MORTH 1600,2000 & IS 1786 &1985	kgs		109292.00	
300	MEDIAN				
300-1	Construction of M20 grade with nominal mix using 20mm central Road Divider as per approved drawing and technical specifications including excavation of existing B.T surface / any type of surface to the required depth and width as specified in the drawing including cost of formwork all T&P water charges, curing ,etc., excluding cost of seignorage charges on all materials complete for finished item of work, as directed by Engineer-in-Charge and as per MORT&H specification nos. 202, 1500,1700,2100 and 2200	Cum		661.83	
300-2	Supply,erection & fixing and raised table-top of top 2m width with side slope 1:15 on either side using Bituminous macadam etc., Excluding cost of seignorage charges on all materialscomplete for finished item of work, as directed by Engineer-in-Charge as per MORTH specifications and IRC-103-2012.	Cum		36.00	
300-3	Painting two coats using 1st quality synthetic paint over one coat of appropriate primer of approved brand , colour , and shade over the concrete surface as per the approved pattern etc., complete for finished item of work, as directed by Engineer-in-Charge and MORT&H specification no.803	Sqm		12140.00	

Sl.No.	Description Of work	Unit	Rate	Qty	Amount
300-4	Providing decorative painting with pure red and blue , Trees around the city could be used for educative public art by applying bordoux paste i.e., prepared with copper sulphate 4.5 kgs and lime 5 kgs in 25 lts of water will save the plant against termites and other crawling insects and decorative painting with pure red (jaju) soil . Taking of 4.5 kg copper sulphate and 5 kgs of lime @200 rupees and 60 rupees in 25 lts of water will enough for 20 plants	No's		230.00	
300-5	Sand filling in foundation including cost and conveyance of all materials to site and watering, tamping etc., Excluding cost of seiorage charges on all materials complete for finished item of work as per MoRT&H specification 304 (5th Revision) and as directed by the Engineer - in - Charge.	Cum		1312.44	
400	ROAD MARKINGS SIGNS STREET FURNITURE				
400-1	Supplying of hot applied thermoplastic road marking compound, 2.5mm thick including reflectorizing glass beads @ 250gms with Reflectorizing Glass Beads on Bituminous Surface at 250 gms per sqm area, thickness of 2.5mm is exclusive of surface applied glass bead as per IRC: 35, the material should be of BERGER Company/ BERGER Equivalent/ Equivalent brand and must comply with the following: a) White index for the product should be in the range of 60-70 when measured against standard reference. The applied panel 7/8 number must be submitted for checking up the white index in the department lab. In case the department approves the white index of any vendor, the department engineer may carryout random checking of the applied products at site against the approved panel. In case of any major deviation, beyond acceptance limit, department reserve the right to cancel or reject the total supplied consignment of the said material and will compel the vendor has to replace the full consignment by the desired material as per approved panel at his own cost and additional demurrages may be claimed due to loss of man days (as per the rules of the department). b) Luminance factor of the material should be in the range of 80-85% at 45 degree centigrade as per AASTHOM 249. c) Crack resistance: The applied panel cured for 7 days under ambient condition and then should be tested as per BS3262, Part-1, 1989 and should pass at the range of '0' degree centigrade to '-10' degree centigrade D) Adhesion : Strong E) Softening point: 102 degree centigrade	Sqm		4613.400	
400-2	Supplying & Fixing of Molded Shanks Raised Pavement Markers made of plastic body moulded from HIPS(HI-impact polystyrene) or ABS or ASA(Acrylic styrene Acrylonitrile) and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face and shall support a load of 16000 kg tested in accordance to ASTM D 4280 Type H and complying to Specifications of Category A of MORTH Circular No RW/NH/33023/10-97 – DO III Dt 11.06. 1997. The height, width and length shall not exceed 50 mm, 100 mm and 100 mm and with minimum reflective area of 13 Sq cm on each side and the slope to the base shall be 35 +/- 5 degree. The strength of detachment of the integrated cylindrical shanks, (of diameter not less than 19 +/- 2 mm and height not less than 30+/- 2 mm) from the body is to be a minimum value of 700 Kgs. Fixing will be by drilling holes on the road for the twin shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer.	No's		1203.000	
400-3	Providing and fixing Mandatory / Regulatory sign boards size 600 mm equilateral Triangle made out of Type – IV of ASTMD D4956-09 High Intensity Prismatic Retro reflective sheeting and confirming to IRC 67:2012 for full background of White colour and letters/logos done by screen printing in Black colour, boards by screen printing in Red colour and fixed over 3MM Aluminum Composite Material (ACM) sheet having minimum 0.30 mm thick Aluminum skin on both sides with back side painted grey colour and fixed over back support frame of M.S angle 25x25x3mm all round and fixing with 35x35x4mm and mounted on a MS angle post of size 75x75x6mm with clear height of not less than 2.1 m from the ground level the bottom of the board. The signpost should be painted with one coat of red oxide paint and 2 coats of synthetic enamel paint Black and White colour with bands of 30cm of height. The signpost shall be firmly fixed with MS base angle 35x35x4 mm in to the ground by M15 Concrete foundation of size 450x450x600mm including cost and conveyance of all materials ,equipment, machinery and labour with all leads and lift, loading changes necessary for satisfactory completion of the work Excluding cost of seiorage charges on all materialsas directed by Engineer - in-Charge.	No's		200.000	
400-4	Providing & fixing junction boards of size 1050 x 1500 mm made out of Type – IV of ASTMD 4956-09 High Intensity Prismatic Retro reflective sheeting Prismatic Retro reflective sheeting and confirming to IRC 67:2012 for full background of Green Colour & White Letters and fixed over 4MM Aluminum Composite Material sheet having minimum 0.5 mm thick Aluminum skin on both sides with back side painted grey colour and fixed over back support frame of M.S angle 25x25x3mm all round and fixing with 35x35x4mm and mounted on a MS angle post of size 75x75x6mm with clear height of not less than 2.1 m from the ground level to the bottom of the board. The signpost should be painted with one coat of red oxide paint and 2 coats of synthetic enamel paint Black and White colour with bands of 30cm of height. The signpost shall be firmly fixed with MS base angle 35x35x4 mm in to the ground by M-15 Concrete foundation of size 450x450x600mm including cost and conveyance of all materials ,equipment, machinery and labour with all leads and lift, loading charges necessary for satisfactory completion of the work Excluding cost of seiorage charges on all materials as directed by Engineer -in-Charge.	No's		40.000	

Sl.No.	Description Of work	Unit	Rate	Qty	Amount
400-5	Providing and Fixing of Retro Reflectorized 600 x 800mm Facility sign boards with 10 years warranty & supported by 3 years outdoor weathering test report as per IRC:67 2010 , made out of retro reflective sheeting of Wide Angle Cube Corner Micro prismatic grade conforming to IRC-67: 2010 & Type XI standards, fixed over 4 mm thick ACP sheet supported with Back support frame of 25x25x3mm mild steel angle as approved , supported on a mild steel angle iron post 75 mm X 75 mm X 6 mm firmly fixed to the ground by means of properly designed foundation with M20 grade cement concrete 45 cm X 45 cm X 60 cm , 60 cm below ground level as per approved drawing. Excluding cost of seinorage charges on all materials	No's		40.000	
400-6	Manufacturing, Supply and Fixing of Retro Reflective Road Name Sign Board Single Arrow of size 1.2 x 0.45m made out of Wide Angle Cube Corner Micro prismatic grade sheeting conforming to IRC-67: 2010 & Type XI standards of ASTM D 4956 –09 specifications and fixed over 2mm thick Aluminum sheet & back support frame of 25x25x3mm MS Angle. Frame supported by 38 OD Stainless Steel pipe Grade 304 AISI with wall thickness of 1.5mm all around and 50 OD Pipe Vertical post with wall thickness of 2mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 30 cm X 30 cm X 45 cm etc. complete. The information message shall be made out of cut out letters in Blue 1.00 Each 37422 color transparent overlay film as per IRC 67-2010 Guidelines. 7 years Warranty for Retro Reflective Sheeting from the original sheeting manufacturer & certified copy of three years outdoor exposure report from an independent test lab for the product offered shall be submitted by the contractor Excluding cost of seinorage charges on all materials	No's		56.000	
400-7	Manufacturing, Supply and Fixing of hazard markers -delineators using MS angles of size 55x55x6mm and 120cm hot above ground level painted with 2 coats of black & white strips of 15 cm wide with first quality synthetic enamel paint over one coat of appropriate primer of approved brand, colour, with 30cm x 90 cm type ASTM D 4956 –09 made out of Wide Angle Cube Corner Micro prismatic recto reflective sheeting of yellow colour and conforming to IRC-67: 2012 & Type XI standards of specifications and fixed over 3mm thick Aluminum composite material having minimum 0.30mm thick aluminum skin on both sides with standard support consisting of alternatively black and yellow with black strips in screen printing sloping downward at an angle of 45 degree to wards the obstructions on which the traffic is to pass and buried into the ground in a trench of 30cm x30cms and 50cm depth filled with CC M-20 including cost and conveyance of on materials equipments machinery and labour with all leads and lifts, loading & unloading charges necessary for successful comp-letion of the work on any road in division as directed by Engineer In charge and conforming to IRC 67-2012 and MORTH & H Specification no 805 and approved drawings etc., Excluding cost of seinorage charges on all materialscomplete for finished item of work.	No's		56.000	
400-8	Reinforced cement concrete M15 grade kilometer stone of standard design as per IRC:8-1980, fixing in position including painting and printing, including cost of steel & fabrication charges etc.Excluding cost of seinorage charges on all materials all complete as per Technical specifications and as directed by the Engineer-in-charge.				
	5th kilometer stone (precast)	Each		2.000	
	Ordinary kilometer stone (precast)	Each		10.000	
	Hectometer stone (precast)	Each		50.000	
400-9	Construction of Rumble strips with hot premixed bituminous material as per approved drawing and technical specifications with raised section of 25mm high, 300mm wide, place about one metre center to center, with a series of 7 no's strips at one location, including marking strips in the specified location, clearing of all dust, loose particles, applying tack coat, cost of form work, all T&P charges, compacting, rounding the edges and finishing the surface to the required shape, etc., Excluding cost of seinorage charges on all materials complete as directed by Engineer-in-charge, for finished item of work and as per IRC 39 - 1986 & 99 Codes: IRC 39 & 99.	Cum		31.500	
400-10	Dual system Litter Bins- Provision at Bus stops and Kiosks minimum spacing 400m c/c,and as directed by Engineer In-charge. Supply and install Dual Bin system make SS SF304, for a rust free life capacity of 50ltrs each. The Foundation slab shall be made in min 304, for a rust free life capacity of 50ltrs each. The Foundation slab shall be made in min M25 concrete. The cast iron nuts, bolts, shall be rust proof deep galvanized powder coated etc Excluding cost of seinorage charges on all materialsThe stainless steel shall be treated to be resistant in all weathers. As per APSS	No's		10.000	
400-11	Concrete Bollards- Provision of bollards at minor junctions, plot entry points and pedestrian crossing with a min spacing of 1.2m c/c or as directed by Engineer In-charge. Providing and fixing of Concrete Bollards of M-30 grade and size 1000 mm (ht) x 150mm (dia), purchased from Employer's approved vendor, manufactured of reinforced concrete by vibro compaction method using FRP/ steel moulds as per the direction of Engineer in charge, complete incl. all consumables , TandP and Labours required for the job.Excluding cost of seinorage charges on all materials As per APSS	No's		150.000	
400-12	Railing/ gaurd rail- Manufacturing, supply and fixing M.S. railing for traffic islands/median/horizontal curves on high embankments with Concrete base, and painting with approved paint etc. all complete as per drawing and Technical Specifications. Installation of work as directed by Engineer In-charge. Technical specification as per APSS	Rmt		250.000	
500	FOOTPATH				
500-1	Providing and supplying fixing CI Grating of size 150mm x 100 mm at gully trap along kerb channel at interval as indicated in drawing and details and size as per approved drawing including transportation to site, all charges of labour, loading and unloading etc., complete, for fixing as indicated in the drawing with all lead and lifts as per detailed tender specifications and as directed by the Engineer, etc., complete As per APSS	Sqm		8.55	

Sl.No.	Description Of work	Unit	Rate	Qty	Amount
500-2	Providing and supplying fixing CI Grating of size 250mm x 500 mm at gully trap along kerb channel at interval as indicated in drawing and details and size as per approved drawing including transportation to site, all charges of labour, loading and unloading etc., complete, for fixing as indicated in the drawing with all lead and lifts as per detailed tender specifications and as directed by the Engineer, etc., complete. As per APSS	Sqm		35.63	
500-3	Providing and laying of Paver blocks of M-35 Grade, 80mm thick YELLOW COLOUR FOR PARKING AND CYCLE LANE, 60 mm thick GREY COLOUR FOR FOOTPATH interlocked pavers using cement and coarse sand for manufacture of block of approved size, shape and color with a minimum compressive strength of 281kg/sq.m over 30mm thick compacted bed of coarse sand(pana) with base of 250 mm compacted WMM, filling the joints with fine sand etc. and compacting with plate vibrator having 3 tonnes compaction force there by forcing part of sand underneath to come-up in between joints final compaction of paver surface joints into its final level including cost of material labour and HOM of machineries complete as per specifications including lead, lift, loading & unloading complete Excluding cost of seinorage charges on all materials as per the direction of engineer incharge...				
a	60mm Thk	Sqm		17700.00	
b	80mm Thk	Sqm		13260.00	
500-4	Plain Cement Concrete (1:4:8) (cement: fine aggregate: Coarse aggregate) for foundations and under flooring bed using coarse aggregate 40mm size hard , machine crushed granite from approved quarry including cost and conveyance of all materials like cement, sand, coarse aggregate, water etc. as per GFC drawings issued by the Employer to site, including sales & other taxes on all materials and including all charges for machine mixing, laying concrete in foundations and under flooring bed of 0.1m layer ramming finishing top surface to the required level curing etc., Excluding cost of seinorage charges on all materials and overheads & contractors profit complete for finished item of work. (APSS No. 402)	Cum		862.42	
500-5	Supply and fixing C.C. Kerbs (Pre casted) not less than M30 strength, of size 600 X 400 X 110 mm thick with bottom thickness of 110 mm upto height of 250 mm and top width of 60 mm thick chamfering at starts at 250 mm height to 400 mm as per GFC drawings issued by the Employer can be laid existing CC Bed jointing with C.M(1:3) including cost and conveyance of all material & labour charges including sales & GST as per latest orders in force on all materials, transportation complete Excluding cost of seinorage charges on all materials for finished item of work as per APSS	Rmt		11800.00	
600	LAND SCAPING				
600-1	Grassing with 'Doobs' grass including watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn free from weeds and fit for moving including supply good earth if needed etc., as per MoRT&H specification.307 (5th revision) for finished item of work.	Sqm		15150.00	
600-2	Digging of 60x60x60 cm pit, filling with soil mixture of red soil and farmyard manure at 4:1 ratio including internal transport, application of fertilizers and chemicals (@ 20 gms/pit/sqmt), internal transportation of plants and planting the plants (excluding cost of plant material, fertilizers and chemicals (@ 20 gms/pit/sqmt))	No's		1050.00	
600-3	Digging of 30x30x30 cm pit, filling with soil mixture of red soil and farmyard manure at 4:1 ratio including internal transport, application of fertilizers and chemicals (@ 20 gms/pit/sqmt), internal transportation of plants and planting the plants (excluding cost of plant material, fertilizers and chemicals (@ 20 gms/pit/sqmt))	No's		2035.00	
600-4	Maintenance of Palms/Tree planting: Trimming once in month watering once in a day @ 5 Lts/per sqmt/per day //(sub soil moisture shall be maintained continuously). Formation of basins 1 ft. away from the edges and application of fertilizers, insecticides, Fungicides (@ 20 gms/pit/sqmt) with manual watering etc., for 3 months	No's		3085.00	
600-5	Supply, Delivery and planting following Trees/Palms including cost of transportation etc., completed as per GFC drawings issued by the Employer.				
	CHAINAGE (0+000 to 0+700)				
	ROYAL PLAM @ 3m (Median)	EACH		234.00	
	NERIUM @0.3 m (Median)	EACH		2334.00	
	AURCARIA	EACH		20.00	
	ARECA PLAM	EACH		25.00	
	IXORN PLANT	EACH		6.00	
	CHAINAGE (0+700 to 2+800)				
	ROYAL PLAM @ 3m (Median)	EACH		700.00	
	NERIUM @0.3 m (Median)	EACH		1867.00	
	CASSIA NODOSA	EACH		120.00	
	CASSIA JAVANICA	EACH		200.00	
	CHAINAGE 2+800 to 3+100				
	FICUS VARIAGATED @ 2 m	EACH		150.00	
	COCHLOROPHITM (Median)	EACH		1000.00	
	CHAINAGE 3+100 to 3+700				
	CASSIA FISTULA YELLOW @4m	EACH		150.00	
	TABULIO AVELLANDA @4m	EACH		150.00	
	CHAINAGE 3+700 to 4+900				
	LAGESTROMIA SPECIES @4m	EACH		300.00	

Sl.No.	Description Of work	Unit	Rate	Qty	Amount
	CASSIA JAVANICA @4 m	EACH		300.00	
	CHAINAGE 7+200 to 8+000				
	ROYAL PLAM @ 3m (Median)	EACH		267.00	
	NERIUM @0.3 m (Median)	EACH		2667.00	
	AURCARIA	EACH		20.00	
	ARECA PLAM	EACH		25.00	
	IXORN PLANT	EACH		6.00	
700	CYCLE TRACK				
700-1	Construction of Granular sub-base by providing HBG material conforming to Grading - III of MoRT&H Table 400-1 including cost and conveyance of all materials to work site and spreading in uniform layers with motor grader or by approved means, on prepared surface mixing by mix in place method with Rotavator / approved means at OMC and compacting with vibratory roller to achieve the desired density etc., Excluding cost of seignorage charges on all materials complete for finished item of work as per MoRT&H Specification 401 (5th revision) and as directed by the Engineer-in-charge.	Cum		4440.00	
700-2	Providing, Laying, Spreading and compacting graded HBG crushed stone aggregate to Wet Mix macadem specification (5th Revision) as per Table 400-13 , including cost of all materials and including premixing the material with water at OMC in Mechanical mix plant carriage of mixed material by tipper to site, laying in uniform layers with paver in base courses on well prepared surface and compacting with Vibratory roller to achieve the desired density etc., Excluding cost of seignorage charges on all materials as directed by the Engineer-in-Charge and as per MoRT&H specification.406 (5th revision) for finished item of work.	Cum		4440.00	
800	UNDERGROUND CABLE DUCTS Etc.				
800-1	Supplying HDPE pipes conforming to IS 4984:1995 with latest amendments and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipes and specials including encasing the pipe around to a depth of not less than 15cm with soft gravel or selected earth available from the excavation etc., complete, giving hydraulic test as per relevant ISS with all lead and lift including testing and commissioning, The rate is exclusive of required specials and fittings etc., complete including lead, lift, loading & unloading complete as per the direction of engineer in charge. (Contractor will make his own arrangement for procuring water for testing)				
	110 mm/ PE-80/ PN-6 for telecommunication duct	Rmt		5900.00	
	160 mm /PE-80/PN-6 for Treated sewage effluent (TSE)	Rmt		11800.00	
	225 mm /PE-80/PN-6 for sewer lines	Rmt		5900.00	
	315 mm /PE-80/PN-6 for sewer lines	Rmt		5900.00	
800-2	Supply, Delivery of D.I double flanged Sluice Valves conforming to IS- 14846 (with up to date amendments, if any) including gear arrangements for the following dia.as per test pressure having Body,Bonnet, Dome, Stool cover, Wedge,Stuffing box, Gland, Thrust plate,Cap/Hand wheel with D.I; Stem,Body seat ring, Wedge facing ring,Bushes, Bolts, Nuts, Pinion and Pinion shaft with Stainless steel (IS6603); Wedge nut, Shoe, Channel with Leaded Tin Bronze (IS 318);Gasket with Neoprene Rubber;Gland packing with Gear housing with Cast SteelRubber; Gear,excluding all taxes and transportation, etc. complete.				
	D.I/C.I 100 mm over 150 mm dia pipe	Each		9.00	
800-3	Supply and Delivery of Flanged Resilient Seated C.I Air Relief Valves (Single/Double) of following dia. conforming to IS- 14845 (with amendments up to date, if any) having Body, Cover, Valve disc,Stuffing box, Valve guide, Cowl,Gland, Cap, Joint support ring, with C.I; Stem, Bolts, Nuts with Stainless Steel (IS 6603); Stem nut,Body seal ring, Float guide with Leaded tin bronze (IS 318);Gasket with rubber; Gland packing with Jute / Hemp; Float with timber core and Vulcanite Coating; excluding transportation and all taxes complete.				
	D.I/C.I 80 mm	Each		2.00	
800-4	provision for micro irrigation (drip irrigation) using Treated sewage effluent (TSE) to landscaping & horticulture area planned along the side of road network through 16 mm dia LDPE laterals from 150 mm dia HDPE (TSE) distribution lines excluding taxes. (As per sub estimate)	Lot		1.00	

Financial Bid- Phase I BOQs (Annexure - 4)

Name of the work: "Urban Street Scalping of main road from Sarpavaram junction to Masjid Center (CHAINAGE 0+000 to 5+100) & M.S.N.Charity to Balayogi Statue Jn (CHAINAGE 7+200 to 8+000)" as Smart Street under Smart City Mission

Estimation for Smart Road

S. No.	Description Item	Unit	Rate	Qty	Amount
100	Conversion of Existing Over Head 33 kV,11 kV and LT Network into UG Cabling System				
100-1	Civil Works for UG Cabling Works: Excavation of cable trench of width 0.50mts X and 1.2 mtrs depth from road level and filling with sand for 75 mm and laying of XLPE UG Cable and covering the cable with a sand layer of 225mm above, providing of protective cover.(In all Type of Soils)	cum		7140	
100-2	Backfilling with excavated earth	cum		6300	
	Sub Total				
200	33 kV,11 kV and LT UG Cabling Works				
200-1	Supply of 3x 400 Sqmm 33 KV XLPE UG Cable as per APEPDCL Standards	KM		3.72	
200-2	Supply, making terminations, testing and commissioning of 33 KV, 3cx 400 Sqmm, XLPE armoured cable with heat shrinkable cable jointing kits suitable for indoor .	Set		10	
200-3	Supply, making terminations, testing and commissioning of 33 KV, 3cx 400 Sqmm, XLPE armoured cable with heat shrinkable cable jointing kits suitable for Out door .	Set		8	
200-4	Supply of 3x400 Sqmm UG Cable jointing Kits (straightHeat shrinkable type)	Set		15	
200-5	Supply, Erection, Testing & Commissioning of 33 kV extensible outdoor type Ring Main Unit. 3 Way RMU(2 LBS+1 CB)	Each		1	
200-6	Construction of Plinth for 33 KV RMU as per APEPDCL Standards	Each		1	
200-7	CI Grounding pipe type earthing, 80mm dia, 2.5mtrs long, 2.9mm thick for 33 KV RMU Earthing	Each		2	
200-8	Supply of 3x185Sqmm UG Cable of 11KV Line	Km		10.5	
200-9	Supply of 3x120 Sqmm UG Cable of 11KV Line	Km		14	
200-10	Supply of 3x70 Sqmm UG Cable of 11KV Line	Km		10.5	
200-11	Supply of 3x185 Sqmm UG Cable jointing Kits (Heat shrinkable type) indoor	Set		35	
200-12	Supply of 3x120 Sqmm UG Cable jointing Kits (Heat shrinkable type) indoor	Set		39	
200-13	Supply of 3x70 Sqmm UG Cable jointing Kits (Heat shrinkable type) indoor	Set		126	
200-14	Supply of 3x185 Sqmm UG Cable jointing Kits (Heat shrinkable type) Outdoor	Set		18	
200-15	Supply of 3x120 Sqmm UG Cable jointing Kits (Heat shrinkable type) Outdoor	Set		28	
200-16	Supply of 3x70 Sqmm UG Cable jointing Kits (Heat shrinkable type) Outdoor	Set		28	
200-17	Supply and erection of 500 kVA, 11 kV / 433 V DTR	Each		14	
200-18	Supply and erection of 315 kVA, 11 kV / 433 V DTR	Each		14	
200-19	Supply and erection of 160 KVA ,11KV/433 V DTR	Each		28	
200-20	Providing R.C.C. Transformer Plinth of capacity 2 Ton to 3 Ton with a R.C.C. plate of size 1.2m x 0.9m x 1.0m	Each		77	
200-21	CI Grounding pipe type earthing, 80mm dia, 2.5mtrs long, 2.9mm thick	Each		154	
200-22	Running of separate earth with 35 x 6 G.I. Earth flat from the T/F Neutral bushing to the earth pipe for DTR	Each		154	
200-23	Running of separate earth with 25 x 3 G.I. Earth flat from the T/F Neutral bushing to the earth pipe for DTR	Each		77	
200-24	Running of separate earth with 35 x 6 G.I. Earth flat from the T/F Neutral bushing to the earth pipe for feeder Pillar.	Each		77	
200-25	Running of separate earth with 25 x 3 G.I. Earth flat from the T/F Neutral bushing to the earth pipe for Feeder Pillar.	Each		25	
200-26	11 KV 185 Sq.mm. Straight Through jointing kits	Each		42	
200-27	11 KV 120 Sq.mm. Straight Through jointing kits	Each		18	
200-28	Supply and Laying of LT 3 1/2 Core 120 Sqmm XLPE Cable	Km		18	
200-29	Supply and Erection of Transformer Feeder Pillar Box.TYPE:FP-1	Each		28	
200-30	Supply and Erection of Transformer Feeder Pillar Box.TYPE:FP-2	Each		49	
200-31	Supply and Erection of Service Feeder Pillar Box.TYPE:JB-1	Each		525	
200-32	Supply and Erection of Service Feeder Pillar Box.TYPE:JB-2	Each		900	
200-33	Chain link type fencing for DTRs	LS		LS	
200-34	11 KV RMUs 3-Way	Each		34	
200-35	11 KV RMUs 5-Way	Each		40	
300	Providing Smart Meters to House Hold Consumers and Other Category Consumers				
300-1	Supply of Single Phase,Two wire Smart Energy Type Meters of Capacity (5 -30) Amps with IEC Protocal,DLMSFacility,AMR Facility,RJ11, GPRS Support and Remote Sensing Meter.	Each		4900	
300-2	Supply and ThreePhase,Four wire SmartEnergy Type Meters of 3*(10-40) Amps with IEC Protocal,DLMSFacility,AMR Facility,RJ11 ,GPRS Support and Remote Sensing Meter.	Each		1400	
300-3	Fixing and Transporting to Location of Single Phase and Three Phase Smart Meters	Each		6300	

S. No.	Description Item	Unit	Rate	Qty	Amount
300-4	Providing white lighting at 25-40 lux for footpaths to maintain colour contrast of tactile pavers/ tiles visible at night to persons with low vision . Lighting must be provided at every 20 m interval,etc., complete for finished item of work, as directed by Engineer-in-Charge and as per IRC-103-2012.	No's		570	
300-5	Supplying fabrication and erection of medium quality of MS circular hollow pipes 100 mm dia for column etc., including cost and convenience of all materials to site with all taxes and duties and labour charges for cutting, placing , welding , and erection etc complete for finished item for work.	Kgs		14706	
300-6	Supplying 315mm HDPE pipes confirming to IS 4984:1995 with latest amendments and conveying to work site including loading and unloading at both destination and rolling, lowering into trenches, laying true to line and jointing of pipes and specials including encasing the pipe around to a depth of not less than 15cm with soft gravel or selected earth available from the excavation etc., complete, giving hydraulic test as per relevant ISS with all lead and lift including testing and commissioning, The rate is exclusive of required specials and fittings etc., complete including lead, lift, loading & unloading complete as per the direction of engineer in charge. (Contractor will make his own arrangement for procuring water for testing)	Rmt		700	
400	Electrical Poles				
400-1	supply of 9mtrs Mounting height hot dip galvanised curved octagonal poles with single arm bracket as per the enclosed reference GA Drawing :VI / PROJECTS / SLP/ SPE / SQ105509 / 9M_02Major dimensions are as follows. Top dia:85mm Bottom Dia; 180mm Sheet Thickness:4mm Base plate Size:400x400x20mm with approx.0.2mm long Sa bracket. Bracket Pipe Dia 60.3mm Thickness 3.6mm	Nos			
400-2	Supply and Transportation of following glass Reinforced polymer (GRP) composite type conical pole with single arm bracket of length 1 m ,10 m height , bottom dia 227 mm , top 76 mm , AV thickness 6 mm and to withstand max wind velocity 155 Km/h and internal junction box including labour charges etc., Complete	Nos		64	
400-3	foundation bolts for the above poles. 4nos size:m24x750mm(Oneset)	Sets		128	
400-4	Foundation and erection and charges for 9 mtrs/10mtrs long Octagonal/conical pole duly erecting on base plate 290mmx16mm thick duly providing 4no's foundation bolts with nuts with providing of M20 c.c work vibrated concreting mixing with necessary steel(15kg) reinforcement as directed by the field engineers during execution including all labour charges and cost and conveyance of materials etc. Complete	Jobs		64	
400-5	Supply and transportation and fixing of 120 W LED street light luminare made of pressure diecast aluminium body with powder coated, having touched glass cover input vltage range of 100 to 270 volts AC power factor >0.90, High power temperature < 85 degree centigrade of IP 65 with optics, total harmonic distortion less than 10% at 110 volts AC driver efficiency >90% and ISO 9001 : 2008 certificate etc. Complete. a) LUMINAIRE MAKE : MIC/BAJAJ /CROMPTON /GREACS / AVNI / SURYA /FORTUNE ART. b) LUMILEDS / CREE / NICHINA / OSRAM / SEOUL SEMI CONDUCTORS /SAMSUNG	Nos		64	
400-6	Supply and run of 25 sqmm 3.5Core.XLPE PVC insulated ,1100v grade armoured aluminium cable as specification confirming to is : 7098 (part -1) of makes polycab / KEI / RPG / Finolex / Havlls / Paragon /V-Guard / Fortune Ar / Gloster/ Suncab	Rmt		2000	
400-7	Supply and run of PVC insulated 3 core 2.5 sq mm sheathed flexible copper cable for voltage up to 1100v as for is 604/1000	Rmt		800	
400-8	Providing Independnt earthing by excavating a trench to depth of 2.1 in in all soils,as per size specified in the data,using 40mm dia 'B" class GI pipe of 2.5 mtrs length with necessary accessories with hume pipe ring duly 8 Jobs providing staggered holes including filling with equal proportion of salt charcoal in layers and all labour charges etc complete	Jobs		8	
400-9	Supply and laying of double walled corrugated HDPE pipe for 50 mm plain surface onm the iner wall conforming IS:14930 part 1 and all complete with necessary HDPE 120 fittings for protection of 1.1 KV grade UG cable directly on Mtrs ground upto a depth of60 cms including excavation and refilling the trench as required.	Rmt		100	
400-10	Supply and fixing of suitable feeder piller box made with 14 CRCA sheet including S&F of Legrand/schneider/seimens/ABB/L&T make 63A TP MCB' 8 No's SP MCB's bus bars,6 sqmm 3 core copper cable for individual light control contractor, suitable,timer and connections and provision for energy meter etc..complete for for finished items of work	Nos		4	
400-11	Supply and fixing of 6-32AMPS 10kasp MCBs including all labour charges etc..complete ISI mark of makelegrand//schneider	Nos		64	
400-12	Cc Raod Cutting Trench including making good of Road trenc using Road Chipiing power tools and cement concrete. 120X0.30X0.60= 21.6Sq. Cut	Sq cut		18	
400-13	Supply and Fixing of single Compression brass cable gland for 3.5 SqmmXLPE armoured cable from 25 Sqmm to 50.0sqmm with brass washers complete.	Nos		180	
400-14	Supply and Fixing of crimping type aluminium lugs confirming to IS specification for cable of 25 Sqmm including nuts and bolts with connection.etc.complete.	Nos		800	
400-15	Labour charegs for Laying of UG cable upto 50 Sq.mm including making necessary connections and laying of sand back filling ot trench after laying etc..complete.	Rmt		2800	

S. No.	Description Item	Unit	Rate	Qty	Amount
400-16	Supply of 16 Sqmm 4 Core XLPE insulated, 1100V grade armoured alluminium cable as per specification confirming to IS:7098 (Part - I) Makes: Universal / CCI / Unicab	Rmt		4900	