

Schedule -A		
NAME OF WORK :Upgradation of Service Road at SIPCOT Industrial Park, Hosur (Phase-I)		
Section	Description of work	Amount (Rs.)
	Upgradation of Service Road at SIPCOT Industrial Park, Hosur (Phase-I)	
	GST 18% on Sub Total	
	GRAND TOTAL	
(Rupees_____only)		

CONTRACTOR

No. of Corrections....  
No of Overwritings...

Sl. No.	Qty	Description of item	TNPB No.	Rate both in figure and in words	Unit	Amount
<b>A) PCC DRAIN FOR CBR &amp; BBD ROADS - Phase I</b>						
1	700.00 Cum ( Seven hundred Cubic metre Only)	Dismantling of RR Stone masonryincluding labour charges and machineries etc., complete as directed by SIPCOT officers.(For Drain)			1 Cum (One Cubic metre)	
2	2070.00 Cum (Two Thousand and Seventy Cubic metre Only)	Earth work excavation and depositing on bank including initial lead of 10m and lift of 2 m in hard stiff clay black cotton hard red earth, shales, murram, ordinary gravel, stoney earth and earth mixed with small size boulders for foundation except hard rock requiring blastering etc., complete with standard specification and as directed by SIPCOT Officers.(For Drain)			1 Cum (One Cubic metre)	
3	194.00 Cum (One Hundred and Ninety Four Cubic metre Only)	Supplying and laying stone dust with required thickness including laying charges etc., complete with standard specification and as directed by SIPCOT officers.			1 Cum (One Cubic metre)	
4	194.00 Cum (One Hundred and Ninety Four Cubic metre Only)	Plain cement concrete 1:4:8 ( one cement, Four M.sand and Eight aggregates) using 40 mm HBGS stone jelly excluding cost of mixing charges,laying & curing of concrete etc., ,Complete as per standard specification and as directed by SIPCOT Officers			1 Cum (One Cubic metre)	
5	4845.00 Sqm (Four Thousand Eight Hundred and Forty Five Square metre Only)	Supplying and erecting steel centering for sides and soffits including supports and shuttering to the required height for RCC items using MS Sheets or suitable size 25 mm x 25mm x3 mm of boarding, laid over silver oak joists of size 10 cm x 6.50 cm spaced at 90 cm c/c and supported by causarina props of 10 cm to 13 cm dia spaced at 75 cm c/c complying with standard specifications etc., Complete and as directed by SIPCOT Officers - Vertical Surface			1 Sqm (One Square metre)	
6	729.00 Cum (Seven Hundred and twenty Nine Cubic metre Only)	Plain Cement Concrete 1:1.5:3 (one cement, one and half M.sand and three aggregates) using 20mm HBGS stone jelly including cost of all materials mixing concrete, placing, vibrating with mechanical vibrator, finishing, curing etc., complete with standard specification and as directed by SIPCOT Officers			1 Cum (One Cubic metre)	
7	690.00 Cum (Six Hundred and Ninety cubic metre Only)	Refiling with excavated earth (other than sand ) complying with standard specification and as directed by SIPCOT officers).(For Drain)			1 Cum (One Cubic metre)	
	<b>Section - A ( Seven items Only) (7 Items Only)</b>		<b>Sub total</b>			

CONTRACTOR

No. of Corrections....  
No of Overwritings...

B) RCC Culvert(1.50mx1.50m) for BBD & CBR roads						
1	116.00 Cum (One Hundred and Sixteen Cubic Metre Only)	Earth work excavation in all classes of soil except hard rock requiring blasting and depositing on bank as per SS20B with all leads and lifts and all other incidental charges such as baling out water shoring shrutting, walling & forming protective bunds wherever necessary etc., complete as per relevant standard specification and as directed by SIPCOT Officers (For CULVERT)			1 Cum (One Cubic metre)	
2	6.00 Cum (Six Cubic metre Only)	Supplying and filling with M-sand including cost and conveyance of sand and labour for filling, leveling, watering and tamping for foundation as per standard specification and as directed by SIPCOT Officers			1 Cum (One Cubic metre)	
3	6.00 Cum (Six Cubic metre Only)	Plain Cement Concrete 1:4:8 (one cement, four M.sand and eight aggregates) using 40mm HBGS stone jelly excluding cost of mixing charges, laying and curing of concrete etc., complete with standard specification and as directed by SIPCOT Officers. (For BASE COURSE OF CULVERT)			1 Cum (One Cubic metre)	
4		Supplying and erecting steel centering for sides and soffits including supports and shuttering to the required height for RCC items using MS Sheets or suitable size 25 mm x 25mm x3 mm of boarding, laid over silver oak joists of size 10 cm x 6.50 cm spaced at 90 cm c/c and supported by causerina props of 10 cm to 13 cm dia spaced at 75 cm c/c complying with standard specifications etc., Complete and as directed by SIPCOT Officers				

CONTRACTOR

No. of Corrections....  
No of Overwritings...

a)	200.00 Sqm (Two Hundred Square Metre Only)	Vertical Surface			1 Cum (One Cubic metre)	
b)	30.00 Sqm (Thirty Square Metre Only)	. Plane Surface				
5	69.00 Cum (Sixty Nine Cubic Metre Only)	Reinforced Cement Concrete 1:1.5:3 (one cement, one and half M.sand and three aggregates) using 20mm HBGS stone jelly excluding cost of reinforcement, centering, shuttering, shrutting but including cost of mixing concrete, placing, vibrating with mechanical vibrator, finishing, curing etc., complete with standard specification and as directed by SIPCOT Officers (For CULVERT)			1 Cum (One Cubic metre)	
6	90.00 Qtl (Ninety Quintal only)	Supplying, fabricating and placing in position of HSD steel rods for reinforcement including the cost of steel and binding wire etc., complete and as directed by SIPCOT Officers			1 Qtl (one Quintal only)	
7	13.00 Sqm (Thirteen Square Metre Only)	Painting Two coats of Plastic Emulsion paint over one coat priming coat including cost of materials and labour charges etc., complete as directed by SIPCIT Officers.			1 Sqm (One Square metre)	
8	39.00 Cum (Thirty Nine Cubic Metre Only)	Refiling with excavated earth (other than sand) complying with standard specification and as directed by SIPCOT officers. (For Culvert)			1 Cum (One Cubic metre)	
<b>Section - B ( Eight items Only) ( 8 Items Only)</b>			<b>Sub total</b>			
<b>C) PCC KERB WALL for CBR and BBD road - Phase-I</b>						
1	165.00 Cum (One Hundred and Sixty Five Cubic Metre Only)	Earth work excavation and depositing on bank with a lead of 3 km including initial lead of 10m and lift of 2 m in hard stiff clay black cotton hard red earth, shales, murram, ordinary gravel, stoney earth and earth mixed with small size boulders for foundation except hard rock requiring blastering etc., complete with standard specification and as directed by SIPCOT Officers.			1 Cum (One Cubic metre)	
2	45.00 Cum (Fourty Five Cubic Metre Only)	Supplying and laying stone dust with required thickness including laying charges etc., complete with standard specification and as directed by SIPCOT officers.			1 Cum (One Cubic metre)	
3	35.00 cum (Thirty Five Cubic Metre Only)	Plain cement concrete 1:4:8 ( one cement, Four M. sand and Eight aggregates) using 40 mm HBGS stone jelly excluding cost of mixing charges,laying & curing of concrete etc., ,Complete as per standard specification			1 Cum (One Cubic metre)	

**CONTRACTOR**

**No. of Corrections....  
No of Overwritings...**

4		Supplying and erecting steel centering for sides and soffits including supports and shuttering to the required height for RCC items using MS Sheets or suitable size 25 mm x 25mm x3 mm of boarding, laid over silver oak joists of size 10 cm x 6.50 cm spaced at 90 cm c/c and supported by causerina props of 10 cm to 13 cm dia spaced at 75 cm c/c complying with standard specifications etc., Complete and as directed by SIPCOT Officers				
a)	1000.00 Sqm (One Thousand Square Metre Only)	Vertical Surface			1 Sqm (One Square metre)	
5	80.00 Cum (Eighty Cubic Metre Only)	Plain cement concrete 1:2:4 ( one cement, Two M.sand and Four aggregates) using 20 mm HBGS stone jelly excluding cost of mixing charges,laying & curing of concrete etc., ,Complete as per standard specification.( For Kerb wall )			1 Cum (One Cubic metre)	
6	58.00 Rm (Fifty Eight Running Metre Only )	Supply,delivery and laying of 140 mm dia HDPE Pipes including cost of materials and laying charges into trenches etc., complete as directed by SIPCOT Officers.			1 Rm (One Running metre)	
7	1170.00 Sqm (One Thousand One Hundred and Seventy Square Metre Only)	Painting Two coats of Plastic Emulsion paint over one coat PEP priming coat including cost of materials and labour charges etc., complete complying with standard specification and as directed by SIPCOT officers.			1 Sqm (One Square metre)	
8	55.00 Cum (Fifty Five Cubic Metre Only)	Refiling with excavated earth (other than sand ) complying with standard specification and as directed by SIPCOT officers).			1 Cum (One Cubic metre)	
	<b>Section - C ( Eight items Only) (8 Items Only)</b>		<b>Sub total</b>			

CONTRACTOR

No. of Corrections....  
No of Overwritings...

D) Construction of Compound wall at back side of AO Block - Phase-I						
1	37.00 Cum (Thirty Seven cubic metre Only)	Earth work excavation and depositing on bank including initial lead of 10m and lift of 2 m in hard stiff clay black cotton hard red earth, shales, murrum, ordinary gravel, stoney earth and earth mixed with small size boulders for foundation except hard rock requiring blastering etc., complete with standard specification and as directed by SIPCOT Officers.			1 Cum (One Cubic metre)	
2	5.00 Cum (Five Cubic metre Only)	Supplying and laying stone dust with required thickness including laying charges etc., complete with standard specification and as directed by SIPCOT officers.			1 Cum (One Cubic metre)	
3	5.00 Cum (Five Cubic metre Only)	Plain cement concrete 1:4:8 ( one cement, Four M.sand and Eight aggregates) using 40 mm HBGS stone jelly excluding cost of mixing charges,laying & curing of concrete etc., ,Complete as per standard specification and as directed by SIPCOT officers			1 Cum (One Cubic metre)	
4		Supplying and erecting steel centering for sides and soffits including supports and shuttering to the required height for RCC items using MS Sheets or suitable size 25 mm x 25mm x3 mm of boarding, laid over silver oak joists of size 10 cm x 6.50 cm spaced at 90 cm c/c and supported by causarina props of 10 cm to 13 cm dia spaced at 75 cm c/c complying with standard specifications etc., Complete and as directed by SIPCOT Officers				
a)	130.00 Sqm (One Hundred and Thirty Square metre Only)	Vertical Surface			1 Sqm (One Square metre)	
5	15.00 Cum (Fifteen Cubic Metre Only)	Reinforced cement concrete 1:1.5:3 ( one cement, one and half M.sand and three aggregates ) using 20mm HBGS stone jelly excluding coat of reinforcement , centering, shuttering , strutting, but including cost of mixing concrete, placing, vibrating, with mechanical vibrator, finishing, curing etc., complete with standard specification and as directed by SIPCOT officers.			1 Cum (One Cubic metre)	
6	21.00 Qtl (Twenty One quintal only)	Supplying, fabricating and placing in position of HSD steel rods for reinforcement including the cost of steel and binding wire etc., completeand as directed by SIPCOT Officers.			1 Qtl (one Quintal only)	
7	15.00 Cum (Fifteen Cubic Metre Only)	Brick Masonry in cement mortar 1:5 (one cement and five sand) Second Class Ground Moulded Chamber Burnt Bricks of size 9" x 4 3/8" x 2 3/4" including cost of materials and labour charges and conveyance charges etc., complete.complying with standard specification and as directed by SIPCOT Officers.			1 Cum (One Cubic metre)	

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8	170.00 Sqm (One Hundred and Seventy Square Metre Only)	Plastering with Cement Mortar 1:5 (one cementr and five sand) 12 mm thick etc.,complete complying with standard specification and as directed by SIPCOT Officers.			1 Sqm (One Square metre)	
9	170.00 Sqm (One Hundred and Seventy Square Metre Only)	Painting the new walls with two coats of best Exterior emulsion paint over one coat of primer of approved quality and colour including preparation of surface and finishing neatly etc.,complying with standard specification and as directed by SIPCOT Officers.			1 Sqm (One Square metre)	
10	168.00 Rm (One Hundred and Sixty Eight Running metre Only)	Manufacturing,Supplying & Fixing in position of stainless steel pipe using 304L grade 16 guage of 50mm (JINDAL brand) including fabrication such as cut to size, welding with Anchor and fixing with line and level/erecting the same on proposed compound wall including 100mm long grouting with CC 1:2:4 as per elevation drawing and polishing & finishing. cost inclusive of all materials, Transporting, labour charges, fabricating, fixing and polishing etc. complete complying with standard specification and as directed by SIPCOT Officers.			1 Rm (One Running metre )	
	<b>Section - D ( Ten items Only) (10 Items Only)</b>		<b>Sub total</b>			

CONTRACTOR

No. of Corrections....  
No of Overwritings...

E) CBR Roads - Phase- I (new formation)						
1	5920.00 Sqm ( Five Thousand Nine Hundred and Twenty Only)	Clearing and Removing of Scrub jungles at road side berms and removing away from the site etc., Complete complying with standard specification and as directed by SIPCOT officers.			1 Sqm (One Square metre)	
2	60.00 Cum ( Sixty Cubic Metre Only)	Earth work excavation and depositing on bank including initial lead of 10m and lift of 2 m in hard stiff clay black cotton hard red earth, shales, murram, ordinary gravel, stoney earth and earth mixed with small size boulders for foundation except hard rock requiring blastering etc., complete with standard specification and as directed by SIPCOT Officers.(For Road cutting)			1 Cum (One Cubic metre)	
3	1630.00 Cum (One Thousand Six Hundred and Thirty Cubic Metre Only)	Supplying and refilling of excavated earth with initial lead & lift for filling portion including spreading, breaking clods, consolidation by using machineries, loading and unloading charges etc.,complete with standard specification and as directed by SIPCOT Officers.(For Road filling)			1 Cum (One Cubic metre)	
4	3905.00 Cum (Three Thousand Nine Hundred and Five Cubic Metre Only)	Supplying and filling of carted earth with a lead of 5 Km for filling portion including cost of gravel,spreading, breaking clods, consolidation by using machineries, loading and unloading charges etc.,complete with standard specification and as directed by SIPCOT Officers.(For Road filling)			1 Cum (One Cubic metre)	
5	65.00 Rm ( Sixty Five Running Metre Only)	Supplying , Laying and fixing of NP3 RCC Pipe and Collars, Class 300mm Dia Pipes including Labour charges for hoisting and placing the pipes and collars in position as directed by the engineer incharge and packingand pointing the joints with cement mortar 1:3 and all incidental charges etc., complete.			1 Rm (One Running metre )	
6	1065.00 Cum (One Thousand and Sixty Five Cubic Metre Only)	Construction of Granular Sub - Base (GSB) to a consolidated thickness of 200mm by providing approved Coarse graded material conforming to Grading- V of Table 400 - 1 including screening, spreading in uniform layers with motor grader on prepared surface, watering and premixing by mix in place method with rotavator at OMC, and compacting with Vibratory roller 80 to 100 KN static weight to achieve the desired density and fine dressing to required grade and cross slope as directed by the SIPCOT officers etc., complete including obtaining and transporting all materials from approved quarry site to work site with all lift and lead by mechanical transport, head load or any other mode of transporation including cost and conveyance of all materials, labour charges,hire charges and fuel charges for loader, water tanker with sprinkler,motor grader, vibratory road rollers and all other equipments, tools and plants, safety measures, testing required including all other incidental charges, etc., complete as per the standard specification as per clause 401 of MORTH Rev.-5 etc., complete complying with standard specification and as directed by SIPCOT officers.			1 Cum (One Cubic metre)	

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No of Overwritings...



7	1331.00 Cum (One Thousand Three Hundred and Thirty One Cubic Metre Only)	Providing and laying wet mixmacadam of 250mm compcted thick using 0.396 m3 of 45-22.4mm IRC Graded metal ,0.528m3 of 22.40-2.36mmIRC Graded metal ,0.396m3 of 2.36mmIRC Graded metal for 1m3 of consolidated thiickness inc;uding cost for laying by mechanical process etc., complete standard specification and as directed by SIPCOT officers.			1 Cum (One Cubic metre)	
8	5309.00 Sqm (Five Thousand Three Hundred and Nine Square Metre Only)	Providing and laying singleup low viscosity liquid biuminous materials to the observent WMM surface using 7Kg bituminous Emulsion Primer of 10 Sq.m area including cost of bituminuos primer including labour charges for prpreparing the surface to lay the bituminous and uplaying the required quantity of bituminous primer by the bituminous sprayer etc., completeas per clause502 of MORTH specification Treated Surface			1 Sqm (One Square metre)	
9	5309.00 Sqm (Five Thousand Three Hundred and Nine Square Metre Only)	Providing and laying Tack coat using 2.50 kgs of Bituminous Emulsion Primer for 10 sqm. Over the WMM surface treated with primer using 2.50 kgs of bituminous binder for 10 sqm. Area including cost of bituminous binder including labour charges for applying the required quantity of bituminous binder as tack cost by bitumen sprayer etc., complete as per clause 503 of MORTH specifications.			1 Sqm (One Square metre)	
10	506.00 Cum (Five Hundred and Six Cubic Metre Only)	Providing and laying 90mm compacted thick Dense Bituminous Macadam using 0.40 cum of 37.50-13.20mm, 0.35cum of 13.20-2.36mm and 0.36cum of 2.36mm & below and with 71.30 Kgs of VG30 bitumen for premixing per 10sqm ncluding cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to work site, spreading the mix to uniform thickness with mechanical paver to the specified grades and cross sections and compacted by Vibratory Roller to the required density etc., including labour for attending to paver at site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, Paver Finisher , Vibratory rollers and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP as per clause 505 MORTH Rev-5 Specification and complete complying with standard specifications and as directed by SIPCOT Officers.			1 Cum (One Cubic metre)	

CONTRACTOR

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11	230.00 Cum (Two Hundred and thirty Cubic Metre Only)	Providing and laying Bituminous Concrete to 40 mm thick using 0.13 cum of 19.00-9.50mm,0.17 cum of 9.50-2.36mm and 0.26 cum of 2.36 and below with 50.30 kgs of VG30 bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 40mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, Paver Finisher Vibratory roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP as per clause 507 of MORTH Rev-5 Specification and complete complying with standard specifications and as directed by SIPCOT Officers			1 Cum (One Cubic metre)	
12	475.00 Cum (Four Hundrend and Seventy Five Cubic Metre Only)	Supplying and spreading of gravel with a lead of 5 Km for side berms including cost of gravel, loading and unloading charges etc., complete as directed by SIPCOT officers.			1 Cum (One Cubic metre)	
13	200.00 Sqm (Two Hundred Square Metre Only)	Providing and laying of hot applied thermo plastic compound 2.5 mm thick including refletorising glass beads @ 250 gms per Sq.m. area, thickness of 2.50 mm is exclusive of surface applied glass beads as per IRC : 35. The finished surface to be level, uniform and free from streaks and holes etc., complete as per MORTH Specification No. 803 and as directed by SIPCOT officers.			1 Sqm (One Square metre)	
14	265.00 Nos (Two Hundred and Sixty Five Numbers Only)	Providing and fixing reflective Road studs of category 'A' Raised pavement markers made out of poly carbonate / methyl methercrylate/ABS moulded body conbfirming to ASTM - D 788 and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face with retro-reflectance and chromaticity values conforming to ASTM D4280. The reflective raised pavement markers shall also confirm to the MORTH circular No.RW / NH. 33023/10/97- DO.III dt.11.06.97. The height, width and length shall not be less than 15mm, 90mm and 100mm and with minimum relective area of 13 sq.cm on each side and slope to the basec shall be 35 + +/- 5 degree. Each reflector shall have a CIL not less than values specified in table 2 of said MORT &H circular. The strength of detachment of the integrated cylindrical Shanks, ( of diameter not less than 19 +/- 2mm and height not lewss than 30 +/- 2mm) from the body is to be a minimum value of 500 kgf. 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. The marker shall support a load of 13635 Kg tested in accordance with ASTM D4280 and confirming to IRC 35-guidelines and MORT&H specification 804 etc., complete			1 No (One Number)	

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15	6.00 Nos (Six Numbers Only)	Supplying and installation of Delineators (Roadway indicators, hazard markers, object markers), 80-100 cm above ground level painted Black and White in 15 cm. wide strips, fitted with 80 x 100 mm rectangular or 75 mm dia circular reflectorised panels at the top, buried or pressed in to the ground and conforming to IRC-79 etc, complete. ( as per MORT & H specification No.806) as per standard specification and as directed by SIPCOT Officers.			1 No (One Number)	
16	225.00 Rm (Two Hundred and Twenty Five running metre Only)	Providing and erecting single sided double guard metal beam crash Barrier system 1.70M High, comprising of 3mm thick wall 'W' beams posts and spacers channels shall be made by cold roll forming using HR Conform to IS 5986 Fe-410/360 and dip galvanized having zinc mass of 550 gms/sq.m minimum 95mm above road /ground level fixed on ISMC series channel vertical post 150x75x5 mm spaced 2 m centre to centre 312 mmx83 mm flange width x3mm thick 4318 mm long post directly embeded in the concrete (M15) PIT Size 350 x350x800mm for a depth of 750mm below ground . All fixing bolts and nuts hot dip galvanized conforming to IS: 1367 Clause 4.60 all complete as per Technical specification and as directed by sipcot officers.			1 Rm (One Running metre )	
17	50.00 Rm (Fifty Running Metre Only)	Providing & Fixing of AFP sheeting flexible prismatic sheeting shall be of 1ft width and laminated at the back with a 50 micron thick aluminium (Al) foil with sensitive adhesive and liner as per section s2.2 of ASTM, D 4956-09 Type - XI. etc complete as per Technical specification and as directed by sipcot officers.(fixing in metal beam crash Barrier) as directed by SIPCOT officers			1 Rm (One Running metre )	
18		SAFETY, CAUTION AND MANDATORY SIGN BOARDS : Providing and erecting of Retro - Reflectorised Cautionary, Mandatory and Informatory signs (with definition board) made out of High Intensity Prismatic Grade Sheeting confirming to Type-IV standards of IRC-67: 2012 and ASTM D 4956 -09, pecification and fixed over 2mm thick Aluminium sheet fixed over a back supporting frame of 25mmx25mmx 3mm Mild Steel angle and supported on a mild steel angle post 75X75X6mm with a clear height of not less than 2.10m from the ground level to the bottom of the sign board and 0.60m below ground level. The sign post should be painted as per IRC 67-2012 and firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 9cmX 45cm X60cm size including cost and conveyance of all materials,equipment, Machinery and labour with all leads and lifts, loading charges necessary for atisfactory completion of the work as directed by the engineer in charge. High intensity Retro - Reflectro sheet shall consist of minimum coefficient of Retro-reflection as per Table 6.6 of IRC 67-2012. The retro - reflective   sheeting shall be covered under 7 year warranty issued for field performance and a certified   opy of three years outdoor exposure report shall be obtained as per IRC 67:2012 . ( as per   MORT&H Specification No.801) and as directed by the SIPCOT Officers.				
a)	25.00 Nos (Twenty Five Numbers only)	Speed Breaker Board: 900mm Equilateral Triangle shape			1 No (One Number)	

CONTRACTOR

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No of Overwritings...

b)	10.00 Nos (Ten Numbers Only)	GIVE WAY: 900mm Equilateral Triangle			1 No (One Number)	
c)	10.00 Nos (Ten Numbers Only)	STOP - 900MM Octagonal			1 No (One Number)	
d)	10.00 Nos (Ten Numbers Only)	Speed Limit - 600MM Circular			1 No (One Number)	
e)	10.00 Nos (Ten Numbers Only)	No Overtaking - 600MM Circular			1 No (One Number)	
Section - E (Eighteen items Only) (18 Items Only)			Sub total			
F) BBD Roads - Phase - I						
1	1500.00 Sqm (One Thousand and Five Hundred Square Metre Only)	Clearing and Removing of Scrub jungles at road side berms & removing away from the site etc., Complete complying with standard specification and as directed by SIPCOT officers.			1 Sqm (One Square metre)	
2	20.00 Rm (Twenty Running Metre Only)	Supplying , Laying and fixing of NP3 RCC Pipe and Collars, Class 300mm Dia Pipes including Labour charges for hoisting and placing the pipes and collars in position as directed by the engineer incharge and packing the pointing the joints with cement mortar 1:3 and all incidental charges etc., complete.( At an interval of 200m)			1 Rm (One Running metre )	
3	167.00 Cum (One Hundrend and Sixty Seven Cubic Metre Only)	Providing and laying wet mixmacadam of 250mm compcted thick using 0.396 m3 of 45-22.4mm IRC Graded metal ,0.258m3 of 22.40-2.36mmIRC Graded metal ,0.396m3 of 2.36 mmIRC Graded metal for 1m3 of consolidated thiuckness inc;uding cost for laying by mechanical process etc., complete standard specification and as directed by SIPCOT officers.			1 Cum (One Cubic metre)	
4	668.00 Sqm (Six Hundred and Sixty Eight Square Metre Only)	Providing and laying singleup low viscosity liquid biuminous materials to the observent WMM surface using 7Kg bituminous Emulsion Primer of 10 Sq.m area including cost of bituminuos primer including labour charges for prpreparing the surface to lay the bituminous and uplaying the required quantity of bituminous primer by the bituminous sprayer etc., completeas per clause502 of most of specification Treated Surface			1 Sqm (One Square metre)	
5	2420.00 Sqm (Two Thousand Four Hundred and Twenty Square metre only)	Providing and laying Tack coat using 2.50 kgs of Bituminous Emulsion Primer for 10 sqm. Over the WMM surface treated with primer using 2.50 kgs of bituminous binder for 10 sqm. Area including cost of bituminous binder including labour charges for applying the required quantity of bituminous binder as tack cost by bitumen sprayer etc., complete as per clause 503 of most specifications.			1 Sqm (One Square metre)	

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No of Overwritings...

6	128.00 Cum (One Hundred and Twenty Eight Cubic Metre Only)	Providing, laying 50mm consolidated thick Dense Bituminous Macadam using 0.24cum of 26.50- 13.20mm, 0.25cum of 13.20-2.36mm and 0.23cum of 2.36mm & below and with 53.20Kgs of VG30 Grade bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen, aggregate and mixing them in the required temperature in Central Hot Mix Plant 20- 30 ton capacity, conveying the mix by tipper trucks to work site, spreading the mix to uniform thickness of 50mm using paver to the specified grades and cross sections and compacted by Vibratory / Pneumatic Roller to the required density etc., including labour for attending to paver at site etc., including hire and fuel charges for 20-30ton CMP with bitumen boiler, tipper trucks, Paver Finisher, Vibratory rollers and all other tools and plant required, including all other incidental charges etc., complete as per specification using CMP as per clause 505 MORTH Rev-5 Specification and complete complying with standard specifications and as directed by SIPCOT Officers			1 Cum (One Cubic metre)	
7	102.00 Cum (one Hundred and Two cubic metre only)	Providing and laying Bituminous Concrete to 40 mm thick using 0.13 cum of 19.00-9.50mm,0.17 cum of 9.50-2.36mm and 0.26 cum of 2.36 and below with 50.30 kgs of VG30 bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 40mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory Roller to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, Paver Finisher Vibratory roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP as per clause 507 of MORTH Rev-5 Specification and complete			1 Cum (One Cubic metre)	
8	264.00 Cum (Two hundred and sixty four cubic metre Only)	Supplying and spreading of gravel with a lead of 5 Km for side berms including cost of gravel, loading and unloading charges etc., complete as directed by SIPCOT officers.			1 Cum (One Cubic metre)	
9	100.00 Sqm (one Hundred Square metre only)	Providing and laying of hot applied thermo plastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per Sq.m. area, thickness of 2.50 mm is exclusive of surface applied glass beads as per IRC : 35. The finished surface to be level, uniform and free from streaks and holes etc., complete as per MORTH Specification No. 803 and as directed by SIPCOT officers.			1 Sqm (One Square metre)	

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No. of Corrections....  
No of Overwritings...

10	140.00 Nos (One hundred and forty Numbers Only)	Providing and fixing reflective Road studs of category 'A' Raised pavement markers made out of poly carbonate / methyl methercrylate/ABS moulded body conbfirming to ASTM - D 788 and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face with retro-reflectance and chromaticity values conforming to ASTM D4280. The reflective raised pavement markers shall also confirm to the MORTH circular No.RW / NH. 33023/10/97- DO.III dt.11.06.97. The height, width and length shall not be less than 15mm, 90mm and 100mm and with minimum relective area of 13 sq.cm on each side and slope to the basec shall be 35 + +/- 5 degree. Each reflector shall have a CIL not less than values specified in table 2 of said MORT &H circular. The strength of detachment of the integrated cylindrical Shanks, ( of diameter not less than 19 +/- 2mm and height not lewss than 30 +/- 2mm) from the body is to be a minimum value of 500 kgf. 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 enginer. The marker shall support a load of 13635 Kg tested in accordance with ASTM D4280 and confirming to IRC 35-guidelines and MORT&H specification 804 etc., complete				
11	6.00 Nos (Six Numbers Only)	Supplying and installation of Delineators (Roadway indicators, hazard markers, object markers), 80-100 cm above ground level painted Black and White in 15 cm. wide strips, fitted with 80 x 100 mm rectangular or 75 mm dia circular reflectorised panels at the top, buried or pressed in to the ground and conforming to IRC79 : 79 etc, complete. ( as per MORT & H specification No.805) as per standard specification and as direted by SIPCOT Officers.			1 No (One Number)	
12	60.00 Nos (Sixty Numbers Only)	Providing and Fixing of Flexible delineator/spring post that are made of tough, high impact resistant, injection-molded, thermoplastic body with property of flexibility to provide high durability. The dimension of Flexible delineator/spring post should not exceed 18.4 cm in height(including shank height),12.5 Cm in width. ,0.65 cm in thickness and shank depth shall be 3.4 cm The body structure shall be rounded at all its corners and edges. The plastic used for molding the Flexible delineator/spring post should survive impact load of 5kg continuously for 750 times at room temperature.The logo of the manufacturer shall be embossed on either side of the body in the injection molding process. The Flexible delineator/spring post shall have flame like shaped body with, fluorescent yellow color retro-reflective sheeting of size not less than 90 Cm square, with fully reflective micro prismatic cube corners as its retro-reflective elements as per IRC 67 2012 and ASTM D4956-09 type XI specifications reflectivity values. The retro-reflective sheeting shall be one or both sides of the Flexible delineator/spring post and shall be edge protected with no exposed edges which will prevent edge lifting, vandalism, sheeting damage , etc. The Flexible delineator/spring post shall be fixed by a combination of epoxy adhesive and grouting as recommended by manufacturer as per standard specification and as direted by SIPCOT Officers.			1 No (One Number)	

CONTRACTOR

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13	65.00 Rm (Sixty five running metre only)	Providing and erecting single sided double guard metal beam crash Barrier system 1.70M High, comprising of 3mm thick wall 'W' beams posts and spacers channels shall be made by cold roll forming using HR Conform to IS 5986 Fe-410/360 and dip galvanized having zinc mass of 550 gms/sq.m minimum 95mm above road /ground level fixed on ISMC series channel vertical post 150x75x5 mm spaced 2 m centre to centre 312 mmx83 mm flange width x3mm thick 4318 mm long post directly embeded in the concrete (M15) PIT Size 350 x350x800mm for a depth of 750mm below ground . All fixing bolts and nuts hot dip galvanized conforming to IS: 1367 Clause 4.60 all complete as per Technical specification and as directed by sipcot officers.			1 Rm (One Running metre )	
14	15.00 Rm (Fifteen running metre only)	Providing & Fixing of AFP sheeting flexible prismatic sheeting shall be of 1ft width and laminated at the back with a 50 micron thick aluminium (Al) foil with sensitive adhesive and liner as per section s2.2 of ASTM, D 4956-09 Type - XI.etc complete as per Technical specification and as directed by sipcot officers.(fixing in metal beam crash Barrier) as directed by SIPCOT officers			1 Rm (One Running metre )	
15		SAFETY, CAUTION AND MANDATORY SIGN BOARDS : Supply & fixing of Retro Reflective Sign Boards made out of wide angle cube corner micro prismatic grade sheeting conforming to Type XI standards of ASTM D 4956 – 09 & as per IRC 67-2012 specifications fully covered over 4mm thick aluminium Composite Panel Sheet & back support frame of 25x25x3mm Mild Steel angle and 1 nos of vertical posts of 50mm OD 304 grade Stainless steel pipe vertical post firmly fixed to the ground by means of properly designed foundation of sand filling 100mm, PCC 1:4:8, 450mm x 450mm x 100mm and M15 cement concrete 450mm x 450mm x 500mm below ground level and 450mm x 450mm x 300mm above ground level . The item includes earthwork excavation, cost of all materials, loading, unloading, lead, lift, transportation etc., complete. 10 years pre-qualification warranty as per clause 6.90 of IRC 67-2012 for Type XI retro reflective sheeting from the manufacturer & a certified copy of test reports from an independent test laboratory conforming to clause 6.70 of IRC 67-2012 including 3 years outdoor weather exposure report for the retro reflective sheeting offered shall be submitted by the contractor for technical qualification in the tender and as directed by the SIPCOT Officers.				
a)	6.00 Nos. (Six numbers only)	Speed breaker Board 900mm Equilateral Triangle shape			1 No (One Number)	
b)	2.00 Nos. (Two numbers only)	GIVE WAY: 900mm Equilateral Triangle			1 No (One Number)	
c)	4.00 Nos (Four Numbers only)	STOP - 900MM Octagonal			1 No (One Number)	
d)	4.00 Nos (Four Numbers only)	Speed Limit - 600MM Circular			1 No (One Number)	

CONTRACTOR

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No of Overwritings...

e)	4.00 Nos (Four Numbers only)	No Overtaking - 600MM Circular			1 No (One Number)	
	Section - F ( Fifteen items Only) (15 Items Only)		Sub total			
G) Street light system for CBR &BBD ROADS Phase-I						
1		Supply, delivery and erection of 10 metre height Hot Dip Galvanized Octogonal Poles with 175mm bottom A/F & 70 mm top A/F made up of 3 mm thick HT sheet along with base plate of size 275 x 275 x 16 mm along with 1000 mm long Single arm braket made up of 40 NB GI Pipe, Backeite sheet connectors for fixing of street light fittings including 4 Numbers of M20 mm dia. MS " J "bolts of size 750 mm long top - EN8 grade foundation bolts along with Template for the above poles & Terminals suitable for the same etc., complete.				
	60.00 Nos (Sixty Numbers Only)	For Single Collar Poles			1 No (One Number)	
2		Supply, installation, testing and commissioning of following capacity of LED street lights (Make like Heavells, crompton, Bajaj , Philips or equivalent) consisting of separate optical and control gear, having IP 65 or better rating, enclosure made of pressure die casting aluminum having toughned glass, Input voltage range of 90 to 270 V AC and Input frequency range of 47 to 63 HZ, PF > 0.9 (lag), external surge protection up to 10 K.V. It shall have CRI > 70 and color temperature range between 3000 - 6000 deg K.LED chips shall be high power 1 W CREE/ NICHIA OR equivalent having efficiency of not less than 100 lumens / watt and junction temp. not exceeding 85 Deg celsius with life of 50000 hours having warranty not less than 5 years. LEDs should be arranged in combination of series and parallel connections: power electronic circuits shall have protection for short circuit , over voltage, over current and over temperature. Thickness of the fixtures not to exceed 70mm, weight shall not exceed 8 kg etc., the fixtures shall be conforming to Indian standards or International standards CE / UL etc., and all materials used in manufacture shall be RoHS compliant etc., complete and as directed by SIPCOT Officers.				
	60.00 Nos (Sixty Numbers Only)	90W LED Fittings			1 No (One Number)	
3		Providing foundation arrangements to the street light poles as per following specifications.				

**CONTRACTOR**

**No. of Corrections....  
No of Overwritings...**



a)	46.00 Cum (Fourty Six Cubic Metre Only)	Earth work excavation for foundation of street light poles and High mast light poles in all classes of soils such as hard stiff clay, stiff black cotton soil, hard red earth, shales, murram, gravel, stoney earth and earth mixed with small size boulders etc. except hard rock requiring blasting as per SS 20-B (HGS SS.20.B.) and depositing the same to the low lying area /median, foot path portion(only good earth to be deposited in median and foot path portion for the required quantity) as directed by Engineer in charge with initial lead of 10m and lift of 2m etc. complete and as directed by the SIPCOT officers.			1 Cum (One Cubic metre)	
b)	4.00 Cum (Four Cubic Metre Only)	Supplying and laying stone dust with required thickness including laying charges etc., complete with standard specification and as directed by SIPCOT officers.			1 Cum (One Cubic metre)	
c)	4.00 Cum (Four Cubic Metre Only)	Providing Plain Cement Concrete 1:4:8 (One cement, four M.sand and eight Jelly) using 40mm size Hard broken granite stone jelly for foundation concrete of street light poles and High mast light poles, etc. laid in layers not exceeding 15cm thick including dewatering wherever necessary well rammed, consolidated etc. complete complying including cost and conveyance of all materials and labour to work site, mixing, laying, compacting (Curing with all leads of soft potable water with standard specifications and as directed by "SIPCOT" officers. (in all heights and all depths)			1 Cum (One Cubic metre)	

CONTRACTOR

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d)	42.00 Cum (Forty Two Cubic Metre Only)	Providing Reinforced Cement Concrete 1: 1 1/2 : 3 (One cement, One and a half M.sand and three jelly) for pedestal concrete using Machine crushed 20mm size Hard Broken granite ISS stone Jelly for all "REINFORCED CEMENT CONCRETE WORKS" including cost and conveyance of all materials and labour to work site excluding cost of centering, shuttering, strutting and cost of MS / RTS Reinforcement grills placed in position but including machine mixing of concrete, laying, vibrating with mechanical vibrators, finishing, curing, including cost of soft potable water treatment of bearing, smooth with cement mortar 1:3 (One cement and Three sand) and kraft paper laid over it without claim for extra and and all labour charges for mixing concrete, laying, curing, vibrating charges, hire charges for all tools and plants and all other incidental charges etc. as directed by SIPCOT officers etc. complete complying with standard specifications and as directed by "SIPCOT" officers.			1 Cum (One Cubic metre)	
e)	265.00 Sqm (Two Hundred and Sixty Five Square Metre Only)	Supplying and erecting form work for (vertical surfaces) steel centering for sides and soffits including supports and strutting upto a height of 3.90m in all floors for RCC street light pedestal concrete pillars etc., with all cross bracings using mild steel BG 10 sheets of required size stiffened with welded mild steel angles of size 25mm x 25mm x 3mm laid over silver oak (country wood) joists of size 10cm x 6.5cm at required spacing and supported by casurina props of 10 cm to 13cm dia at required spacing etc., Complete complying with standard specification and as directed by SIPCOT Officers.			1 Sqm (One Square metre)	
f)	55.00 Qtl (Fifty five Quintal only)	Supplying, Fabricating and placing in position steel reinforcement grills using M.S. / R.T.S. rods of all sizes of reinforcement for all Reinforced cement concrete works (for pedestal pillar concrete) including cost and conveyance of steel, binding wire, spacer bars, cover blocks, labour charges for unbending of rods, straighteing, cutting, fabricating, tying, lifting, placing in position, overlapping to the required length wherever necessary cover blocks and all other incidental charges etc. complete complying with standard specifications and as directed by "SIPCOT" officers. (The steel rods must be Fe 415 grade of any brand with ISI marking and necessary test certificate to be produced before using it at site)			1 Qtl (one Quintal only)	
4	3.00 Nos (Three Numbers Only)	Fabrication, supply, installation, of out -door street lighting service pillar box of size 900 mm x 900 mm x 300 mm made by 16 SWG sheet steel metal fitted with required size of wooden plank board, 1 No. 100 Amps main switch, 3 Nos. of 100A fuse unit, suitable copper bus bars for neutral line, etc., complete. The pillar box fabricated with front double door arrangements with locking facility painted with one coat of primer and 2 coats of aluminium finish. The pillar to be erected with suitable angle iron frame pedestal with concrete grouting etc. complete including cost and conveyance of all materials and labour including pedestal concrete and angle iron frame pedestal etc., complete and as directed by SIPCOT Officers.			1 No (One Number)	

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5	27.00 Nos (Twenty Seven Numbers Only)	Supply and installation of cabinet type class 1 & 2 combined model SPD to arrest surges and overvoltages in the power line due to lightning switching action etc. they must be installed in the incoming MCC panel / DB of the respective buling in parallel to the power circuitr. Model: PSV4/12.5/400TT (3 phase power network) etc complete as per standard specification and as directed by SIPCOT Officers			1 No (One Number)	
6		Supply , laying and jointing of following size of PVC armoured LTUG Aluminium cable with ISI mark in a trench to be excavated at a depth of 0.75 m, and routing the cable into the 90 mm dia. HDPE Pipes laid completely and refilling the earth to make good and as per standard specification and as directed by SIPCOT officers (Excluding the cost of HDPE Pipes and laying the same into trenches will be extra)				
a)	150.00 Rm (one hundred and fifty running metre only)	3 1/2 Core x 50 Sq.mm. PVC Armoured LT UG Aluminium Cable			1 Rm (One Running metre )	
b)	2150.00 Rm (Two Thousand one Hundred and Fifty Running metre only)	4 Core x 16 Sq.mm. PVC Armoured LT UG Aluminium Cable			1 Rm (One Running metre )	
7	750.00 Rm (Seven hundred and Fifty Running Metre only)	Supply, laying, jointing and testing of 2 core x 1.50 sq.mm PVC insulated SC unsheathed Cu.cable conductor cable of 1100 V grade with necessary jointing materials etc., complete including cost and conveyance of cable and labour charges for laying the cable etc. complete complying with appropriate specification / standards and as directed by SIPCOT Officers etc. complete.			1 Rm (One Running metre )	
8	3.00 Nos (Three Numbers Only)	Earthing as per the ISI specification with an earth electrode of 2.10 m class "B" GI Pipe of dia. Not less than 40 mm , with copper earth plate of size 125 mm x 50 mm x 6 mm, with necessary funneling arrangements and masonry work , 38 mm RCC Cover slab for brick masonry etc., complete as per PWD SED item No. 233 and as directed by SIPCOT Officers.			1 No (One Number)	
9	60.00 Nos (Sixty Numbers Only)	Coil earth to street light poles with 8 SWG GI wire of 11.50 mtrs. Of length in which 10 mtrs of total length compressed in to a coil of one metre length connected suitable with hexagonal earth bolt of size 8 mm x in to 25 mm welded on the pole at one end with a coil position fixed on the earth etc., complete as per standard specification.			1 No (One Number)	
10	1810.00 Rm (One Thousand Eight Hundred and Ten Running Metre Only)	Supply, delivery and laying of 90 mm dia HDPE Pipes including cost and laying charges into trenches etc., complete as directed by SIPCOT Officers.			1 Rm (One Running metre )	

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11	130.00 Rm (One Hundred and Thirty Running Metre Only)	Supply, delivery and laying of 50 mm OD - 4 Kg/cm2 PVC Rigid Pipes including cost and laying charges into Pole pillars for connecting cable into Poles etc., complete as directed by SIPCOT Officers.			1 Rm (One Running metre )	
	<b>Section - F ( Eleven items Only) (11 Items Only)</b>		<b>Sub total</b>			
	<b>TOTAL - SECTION A + B + C + D + E + F</b>					

CONTRACTOR

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No of Overwritings...