

Schedule -A		
NAME OF WORK : FORMATION OF SIX LANE APPROACH ROAD (60 m WIDE) FROM NH-44 TO PHASE-IV (SHOOLAGIRI) AT SIPCOT INDUSTRIAL PARK, HOSUR		
Section	Description of work	Amount (Rs.)
	Formation of six lane approach road (60m wide) from NH-44 to Phase –IV (Shoolagiri) at SIPCOT Industrial Park, Hosur.	
	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
A) RCC STORM WATER DRAIN FROM CHAINAGE 0/054 KM TO 0/554 KM						
1	3790.00 Cum (Three Thousand Seven Hundred and Ninety Cubic Metre Only)	Earth work excavation and depositing on bank with 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)	
2	190.00 Cum (One Hundred and Ninety Cubic Metre)Only	Supplying and filling of stone dust to a thickness of 100mm including cost and conveyance of stone dust to work site including labour charges for spreading etc., as per standard specification and as directed by SIPCOT Officials.			1 Cum (One Cubic metre)	
3	190.00 Cum (One Hundred and Ninety Cubic Metre Only)	Providing Plain cement concrete 1:4:8 (one cement, Four sand and Eight Jelly) 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 Officials			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 joints of size 10 cm x 6.50 cm spaced at 90 cm c/c and supported by causaring 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 (For DRAIN)				
a)	6710.00 Sqm (Rupees Six Thousand Seven Hundred and Ten Square Metre Only)	Vertical Surface			1 Sqm (One Square metre)	
b)	1010.00 Sqm (One Thousand and Ten Square Metre Only)	Plane Surface			1 Sqm (One Square metre)	

CONTRACTOR

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

5	1410.00 Cum (One Thousand Four Hundred and Ten Cubic Metre Only)	Providing Reinforced Cement Concrete 1: 1 1/2 : 3 (One cement, One and a half M.sand and three jelly) using 20mm size Hard Broken granite stone Jelly including cost and conveyance of all materials 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,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. complete complying with standard specifications and as directed by "SIPCOT" officers..(For DRAIN)			1 Cum (One Cubic metre)	
6	340.00 Nos (Three Hundred and Forty Numbers Only)	Supplying, fixing and placing in position of GI Drainage spouts 100 mm dia as per GOI drawing SD/205 and projecting atleast 300mm in the RCC wall with grating arrangements in RCC drain at a intervals of 3m including the cost and conveyance of galvanised iron pipes and flats etc.,complete as per cl 2705 of MORTH specification (Vth revsion) and as directed by SIPCOT officers. (For DRAIN)			1 No (One Number)	
7	1833.00 Qtl (One Thousand Eight Hundred and ThirtyThree Quintal Only)	Supplying, Fabricating and placing in position steel reinforcement grills using M.S. / R.T.S. rods of required sizes of reinforcement for all Reinforced cement concrete works 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, overlaping 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 certicate to be produced before using it at site)			1 Qtl (One Quintal Only)	
8	560.00 Sqm (Five Hundred and Sixty Square Metre Only)	Painting Two coats with Plastic emulsion paint over one priming coat including cost of materials and labour charges etc., complete as per standarad Specification and as directed by SIPCOT officers. (For DRAIN)			1 Sqm (One Square metre)	
	Section - A (Eight items Only) (8 Items Only)		Sub total			

CONTRACTOR

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

B) RCC BOX CULVERTS - 6 Nos						
1	1190.00 Cum (One Thousand One Hundred and Ninety Cubic Metre Only)	Earth work excavation and depositing on bank with 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 except hard rock requiring blastering etc. as per SS20B 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	50.00 Cum (Fifty Cubic Metre Only)	Supplying and filling of Stone dust to a thickness of 100 mm including cost and conveyance of stone dust to work site including labour charges for spreading etc., complete for bottom of culvert as per standard specification and as directed by SIPCOT Officials.			1 Cum (One Cubic metre)	
3	75.00 Cum (Seventy Five Cubic Metre Only)	Plain Cement Concrete 1:3:6 (one cement, Three M.sand and Six aggregates) using 40mm Hard broken granite stone jelly laid in required thickness including dewatering wherever necessary, well rammed, consolidated etc. including cost and conveyance of all materials and labour to work site for mixing, laying, compacting etc. complete complying with standard specifications 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 25mm x 25mm x 3mm of boarding, laid over silver oak joints of size 10cm x 6.50cm spaced at 90cm c/c and supported by casuriona props of 10cm to 13cm dia spaced at 75cm c/c complying with standard specifications etc., complete and as directed by SIPCOT Officers				

a)	1345.00 Sqm (One Thousand Three Hundred and Forty Five Square Metre Only)	Vertical Surface			1 Sqm (One Square metre)	
b)	280.00 Sqm (Two Hundred and Eighty Square Metre Only)	Plane Surface			1 Sqm (One Square metre)	
5	525.00 Cum (Five Hundred and Twenty Five Cubic Metre Only)	Providing Reinforced Cement Concrete 1: 1 1/2 : 3 (One cement, One and a half M.sand and three jelly) using 20mm size Hard Broken granite stone Jelly including cost and conveyance of all materials 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,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. complete complying with standard specifications and as directed by "SIPCOT" officers. (For CULVERT)			1 Cum (One Cubic metre)	
6	685.00 Qtl (Six Hundred and Eighty Five Quintal Only)	Supplying, Fabricating and placing in position steel reinforcement grills using M.S. / R.T.S. rods of required sizes of reinforcement for all Reinforced cement concrete works 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 certicate to be produced before using it at site)			1 Qtl (one Quintal only)	
	Section - B (Six items Only) (6 Items Only)		Sub total			
C) PCC KERB WALL						
1		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 25mm x 25mm x 3mm of boarding, laid over silver oak joints of size 10cm x 6.50cm spaced at 90cm c/c and supported by casuriona props of 10cm to 13cm dia spaced at 75cm c/c complying with standard specifications etc., complete and as directed by SIPCOT Officers				

CONTRACTOR

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

a)	2065.00 Sqm (Two Thousand and Sixty Five Square Metre Only)	Vertical Surface			1 Sqm (One Square metre)	
2	345.00 Cum (Three Hundred and Forty Five Cubic Metre Only)	Plain cement concrete 1:2:4 (one cement, Two sand and Four aggregates) using 20 mm HBGS stone jelly including cost and conveyance of all materials to work site excluding cost of centering, shuttering, strutting and including mixing charges, laying, finishing, and all labour charges for mixing concrete, laying, curing, hire charges for all tools and plants and all other incidental charges etc. complete complying with standard specifications and as directed by "SIPCOT" officers.(For Kerb wall)			1 Cum (One Cubic metre)	
3	680.00 Sqm (Six Hundred and Eighty Square Metre Only)	Painting Two coats with 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)	
4	500.00 Rm (Five Hundred Running Metre Only)	<u>Stainless Steel Rails:</u> Fabrication,Supplying and Fixing of stainless steel rails using 75mm dia 304L Grade stainless steelpipe of 1.60mm thick with tubular supports made up of 304L Grade pipe at required location to a required height from the finished kerb wall level & the supports to be grouted into kerb wall to a depth of 300 mm inclusive of cutting, bending, grinding, welding, polishing, fixing in postion, conveyance to the site & labour charges. complete as per Technical specification and as directed by SIPCOT officers.			1 Rm (One Running metre)	
	Section - C (Four items Only) (4 Items Only)		Sub total			

CONTRACTOR

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

D) FORMATION OF APPROACH ROAD FROM NH-44 (CHAINAGE 0/0 TO 0/554 Km) & PROVIDING ROAD SIGNAGES.							
1	19960.00 Sqm (Nineteen Thousand Nine Hundred and Sixty Square Metre Only)	Clearing and Removing of light jungles at formation portion and removing away from the site etc., Complete complying with standard specification and as directed by SIPCOT officers.				1 Sqm (One Square metre)	
2	3623.00 Cum (Three Thousand Six Hundred and TwentyThree Cubic Metre Only)	Earth work excavation and depositing on bank with 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.(For Road cutting)				1 Cum (One Cubic metre)	
3	1150.00 Cum (One Thousand One Hundred and Fifty Cubic Metre Only)	Quarrying, Wedging and Chiseling the hard rock measured in solid and removing them away from site where blasting is prohibited etc., complete as per standard specification and as directed by SIPCOT Officers.				1 Cum (One Cubic metre)	
4	4548.00 Cum (Four Thousand Five Hundred and Forty Eight Cubic Metre Only)	Supplying and refilling of excavated earth for forming embankment including cost of 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	9665.00 Cum (Nine Thousand Six Hundred and Sixty Five Cubic Metre Only)	Formation of embankment using carted earth with lead of 5km having CBR not less than 12% including cost of all labour charges, materials, tools, equipments and all incidental charges, including compacting with power roller, watering, including all hire and fuel charges for all tools and plants etc., complete with standard specification and as directed by SIPCOT Officers.				1 Cum (One Cubic metre)	
6	2395.00 Cum (Two Thousand Three Hundred and Ninety Five Only)	Refilling of available earth (cutting earth) for filling portion (centre median and shoulder portion) including cost of spreading, breaking clods, consolidation by using machineries etc.,complete with standard specification and as directed by SIPCOT Officers.				1 Cum (One Cubic metre)	
7	120.00 Cum (One Hundred and Twenty Cubic Metre Only)	Supplying and spreading of gravel with a lead of 5 Km for side berms including cost of gravel, spreading charges, loading and unloading charges and including all labour charges etc., complete as directed by SIPCOT officers..				1 Cum (One Cubic metre)	

CONTRACTOR

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

8	155.00 Rm (One Hundred and Fifty Five Running Metre Only)	Supplying , Laying and fixing of NP3 Class 300mm Dia RCC Hume Pipes including Labour charges for hoisting and placing the pipes and collars in position as directed by the engineer incharge and packing and pointing the joints with cement mortar 1:3 and all incidental charges etc., complete as directed by SIPCOT officers.			1 Rm (One Running metre)	
9	3385.00 Cum (Three Thousand Three Hundred and Eighty 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)	
10	3920.00 Cum (Three Thousand Nine Hundred andTwenty Cubic Metre Only)	Providing and laying, spreading and compacting graded stone aggregates to Wet Mix Macadam Base Course of 250mm compcted thick using 0.396 m3 of 45-22.4 mm IRC Graded metal ,0.528m3 of 22.40-2.36mm IRC Graded metal ,0.396m3 of 2.36 mm IRC Graded metal for 1m3 of consolidated thiickness of 125mm including pre-mixing the materials with water at OMC in mechanical mix plant carriage of mixed matrerial by tipper to site laying in uniform layers with favours in subbase/ base course on well prepared surface and compacting with vibratory roller to achieve the desired density including cost of material, labour charges, rental for machinery, fuel and all other incidental charges etc., complete as per clause 406 of MORTH Rev.-5 etc., complete complying with standard specification and as directed by SIPCOT officers.			1 Cum (One Cubic metre)	
11	15800.00 Sqm (Fifteen Thousand Eight Hundred Square Metre Only)	Providing and laying Prime Coat over WBM/ WMM surface using 7 Kg of Emulsion Bitumen (SS1) per 10 sqm for preparatory to another bituminous construction over it, including cost of material, labour charges, rentals for machinery, fuel and all other incidental charges etc., complete as perClause 502 of MORTH Rev-5.			1 Sqm (One Square metre)	

CONTRACTOR

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

12	15800.00 Sqm (Fifteen Thousand Eight Hundred Square Metre Only)	Providing and laying Tack Coat over WMM Surface using 2.5 Kg of Bitumen Emulsion (RS1) per 10 sqm for preparatory to another bituminous construction over it including cost of material, labour charges, rentals for machinery, fuel and all other incidental charges etc., complete as per Clause 503 of MORTH Rev-5.			1 Sqm (One Square metre)	
13	1587.00 Cum (One Thousand Five Hundred and Eighty Seven Cubic Metre Only)	Providing and laying 100mm 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 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 work site, spreading the mix to uniform thickness of 100mm 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)	
14	635.00 Cum (Six Hundred Thirty Five Cubic Metre Only)	Providing and laying Bituminous Concrete 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			1 Cum (One Cubic metre)	

CONTRACTOR

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

15	560.00 Sqm (Five Hundred and Sixty 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)	
16	796.00 Nos (Seven Hundred and Ninety Six Numbers Only)	Providing and fixing reflective Road studs of category 'A' Raised pavement markers made out of poly carbonate / methyl methacrylate/ABS moulded body conforming 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 conform 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 reflective area of 13 sq.cm on each side and slope to the base shall be 35 + \pm 5 degree. Each reflector shall have a CIL not less than values specified in table 2 of said MORTH &H circular. The strength of detachment of the integrated cylindrical Shanks, (of diameter not less than 19 \pm 2mm and height not less than 30 \pm 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 conforming to IRC 35- guidelines and MORTH &H specification 804 etc., complete and as directed by SIPCOT officers.			1 No (One Number)	
17	24.00 Nos (Twenty Four 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 MORTH & H specification No.805) as per standard specification and as directed by SIPCOT Officers.			1 No (One Number)	

CONTRACTOR

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

		<u>ROAD SIGNAGES</u>				
18		<u>SAFETY, CAUTION AND MANDATORY SIGN BOARDS</u> : 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, specification 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 49cmX45cmX60cm size including cost and conveyance of all materials, equipment, Machinery and labour with all leads and lifts, loading charges necessary for satisfactory 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 copy of three years outdoor exposure report shall be obtained as per IRC 67:2012 . (as per MORT&H Specification No.801) as directed by the SIPCOT Officers.				
a)	4.00 Nos (Four Numbers Only)	Speed Breaker Board: 900mm Equilateral Triangle shape			1 No (One Number)	
b)	1.00 No (One Number Only)	GIVE WAY: 900mm Equilateral Triangle			1 No (One Number)	
c)	1.00 No (One Number Only)	STOP - 900MM Octagonal			1 No (One Number)	
d)	1.00 No (One Number Only)	Side Road - 600MM Circular			1 No (One Number)	
e)	1.00 No (One Number Only)	Road Merging - 900mm Equilateral Triangle shape			1 No (One Number)	

CONTRACTOR

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

f)	1.00 No (One Number Only)	No Entry - 600MM Circular			1 No (One Number)	
g)	1.00 No (One Number Only)	No Left Turn - 600MM Circular			1 No (One Number)	
h)	1.00 No (One Number Only)	No Right Turn - 600MM Circular			1 No (One Number)	
i)	1.00 No (One Number Only)	One way - 600MM Circular			1 No (One Number)	
j	1.00 No (One Number Only)	No Parking - 600MM Circular			1 No (One Number)	
k)	1.00 No (One Number Only)	Compulsary direction control - 600MM Circular			1 No (One Number)	
l)	1.00 No (One Number Only)	Hazarad board - 600MM Rectangle			1 No (One Number)	
m)	4.00 Nos (Four Numbers Only)	Speed limit - 600MM Circular			1 No (One Number)	

CONTRACTOR

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

19		<p><u>Gantry Board:</u> Providing and fixing of Digitally Printed Retro Reflectorized Overhead Gantry Informatory sign made of cube corner Micro Prismatic grade sheeting conforming to Type XI standards of IRC67 - 2012 and ASTM D4956 – 09, specification, Digitally Printed using Latex Printer for Traffic color logos/text and laminated with clear electro-cuttable film and applied to properly prepared sign substrates, fixed over 2mm thick aluminum sheet with back supporting frame of size 50mm x 50mm x 6mm MS Angle and supported on 2 numbers of vertical posts of 300NB (Nominal Bore) MS Pipe of 12mm thick with a ground clearance of 6 meters along with 80NB (Nominal Bore) MS Pipe with 4mm thick and 40NB (Nominal Bore) MS Pipe with 3.20mm thick support posts. The sign board should be painted as per IRC 67-2012 and firmly fixed to the ground by means of properly designed substructure and foundation with Reinforced cement concrete M20 grade column (1.25m x 1.25m x 1.90m) and footing (1.80mx1.80mx0.30m) with Fe 500 steel over Plain cement concrete M15 grade levelling course of 100mm thick. The minimum depth of foundation shall not be less than 2.00m. 1 number of MS Base plate of size 1200mm x 1200mm x 25mm with anchor bolts of 25mm dia and 1000mm length, 2 numbers of MS Top plate of size 900mm x 900mm x 16mm with suitable bolts, nuts and washers, suitable numbers of MS stiffener plates of 8mm thick are to be used to hold the sign board at the bottom and top respectively including cost and conveyance of all materials, equipment, machinery and labour with all leads and lifts, loading charges and fixing the overhead sign board in position etc., for satisfactory completion of the work as per structural and foundation drawings approved by the competent authority and as directed by the Engineer-in-charge. The micro-prismatic grade reflector sheet should have minimum co-efficient of retro-reflection values as per the table 6.9 of IRC 67-2012. The retro-reflective sheeting shall be covered under 10 years warranty issued for field performance and a certified copy of three years Outdoor exposure report shall be obtained. The warranty shall be inclusive of digitally printed logos/texts/legends and their bonding to the retro-reflective sheeting (as per MoRT&H Specification No.801). The latex printer used for digital printing should be used with inks of low VOC emissions and should have green guard, eco logot certificates as per UL 2801 standards. Complete and as directed by SIPCOT officers.</p>				
a)	1.00	Over Head Gantry Sign Board : 30m (3 Leg)			1 No (One Number)	

CONTRACTOR

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

20		<p><u>SIPCOT WELCOME BOARD</u> : Supply & fixing of Retro Reflective Welcome Board Sign Boards of Size 1800 x 1200mm 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 supported by 38mm OD 304 grade Stainless steel pipe all around and 2 nos of vertical posts of 75mm 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 x450mm 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.</p>				
a)	1.00 No (One Number Only)	SIPCOT WELCOME BOARD			1 No (One Number)	
21		<p><u>Hazard Marker Traffic Signs - Type - IV:</u> Providing and Erecting of Retro - Reflectorised Hazard Marker Traffic Sign made out of High Intensity Prismatic Grade Sheetting confirming to Type - IV standards of IRC - 67: 2012 and ASTM D 4956-09, specification and fixed over 2mm thick Aluminium sheet fixed over a back supporting frame of 25mm x 25mm x 3mm Mild Steel angle and supported on a mild steel angle post 75mm x 75mm x 6mm 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 450mm x 450mm x 600mm size including cost and conveyance of all materials, equipment, machinery and labour with all leads and lifts, loading charges necessary for satisfactory completion of the work as directed by the SIPCOT officers. 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 copy 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 SIPCOT officers.</p>				

CONTRACTOR

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

a)	4.00 Nos (Four Numbers Only)	Hazard Marker Traffic Signs			1 No (One Number)	
22	505.00 Nos (Five Hundred and Five Numbers Only)	Providing fixing of Median marker double sided made of polycarbonate for impact resistance and good weather ability. Polycarbonate used for molding the median marker shall have a minimum Izod impact strength value of 600 J/m at room temperature. The impact strength of the poly carbonate should not decrease to less than 70% of its initial value on being subjected to UV weathering as per ASTM G 155 for 1000 hours or exposure to 2 years of natural weathering. The body of the median marker shall be in the form of an isosceles trapezoidal structure of length 15 cm height and width of 10 x 10 cm. The median marker shall have fluorescent yellow retro - reflective sheeting confirming to Tpe XI specifications as per ASTM D 4956.Area of reflective sheeting should not be less than 70 cm2 .Edge of retro reflective shall be concealed using a grill/mesh/similar mechanism to prevent vandalism and sheeting pilferage. The logo of the manufacturer shall be embossed and painted in contrasting colour on both side of median marker for distinct identification and as directed by sipcot officers.(@5m intervals)			1 No (One Number)	
	Section - D (Twenty Two items Only) (22 Items Only)		Sub total			

CONTRACTOR

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

E) PROVIDING STREET LIGHT FOR APPROACH ROAD FROM NH-44 (CHAINAGE 0/0 TO 0/554 KM)						
1		Supply, delivery and erection of 10 metre height Hot Dip Galvanized Octogonal Poles with 175 mm bottom A/F & 70 mm top A/F made upto of 3 mm thick HT sheet along with base plate of size 275 x 275 x 16 mm thick and 4Nos of M24 x 750mm height 'J' type EN8 grade foundation bolts along with template, supply of 1m long hot dip galvanised single/double arm bracket made upto 40 NB dia GI pipe suitable to mount on pole having top 70mm A/F, supply of bakelite sheet with 1 No/2 Nos. 6A SP MCB and stud tupe connector suitable for 4C x 16Sqm cable etc.,.complete complying with standard specifications and as directed by SIPCOT Officers.				
a)	17.00 Nos (Seventeen Numbers Only)	For Double Collar Poles			1 No (One Number)	
b)	7.00 Nos (Seven 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.				
a)	41.00 Nos (Forty One Numbers Only)	90W LED Fittings			1 No (One Number)	

CONTRACTOR

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

3		Providing foundation arrangements to the street light poles as per following specifications.				
a)	18.00 Cum (Eighteen Cubic Metre Only)	Earth work excavation and depositing on bank with 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)SS20.B			1 Cum (One Cubic metre)	
b)	2.00 Cubic (Two Cubic Metre Only)	Supplying and filling of Stone dust to a thickness of 100 mm including cost and conveyance of stone dust to work site including labour charges for spreading etc., complete for bottom of culvert as per standard specification and as directed by SIPCOT Officials.			1 Cum (One Cubic metre)	
c)	2.00 Cubic (Two 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 laid in required thickness including dewatering wherever necessary, well rammed, consolidated etc. including cost and conveyance of all materials and labour to work site for mixing, laying, compacting etc. complete complying with standard specifications and as directed by "SIPCOT" officers			1 Cum (One Cubic metre)	
d)	18.00 Cum (Eighteen Cubic Metre Only)	Providing Reinforced Cement Concrete 1: 1 1/2 : 3 (One cement, One and a half M.sand and three jelly) using 20mm size Hard Broken granite stone Jelly including cost and conveyance of all materials 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,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. complete complying with standard specifications and as directed by "SIPCOT" officers.			1 Cum (One Cubic metre)	

CONTRACTOR

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

e)	105.00 Sqm (One Hundred and 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 Square (One square metre)	
f)	22.00 Qtl (TwentyTwo Quintal Only	Supplying, Fabricating and placing in position steel reinforcement grills using M.S. / R.T.S. rods of required 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 certicate to be produced before using it at site)			1 Qtl (One Quintal)	
4	2.00 Nos (Two 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)	

5	2.00 Nos (Two Numbers Only)	Fabrication, supply and installation of TNEB Power distribution pillar box outdoor type of size 1250 mm x 900 mm x 300 mm made out of 16 SWG MS sheet steel with lockable door, with 1 No. 100 A TPN rewirable fuse switch and 32 A 4 way fuse DB with 12 Nos. 63A porcelain fuse cut-outs with 1No. copper earth link and neutral link and 1 No. of 63 A TP Contactor with 230 V Coil and 1 No. of 24 Hours Timer of L & T make or equivalent with its control wiring, power interconnection with 7/16 copper wire from main switch to contactor and contactor to fuse DB etc., complete. The pillar painted with one coat of red-oxide and 2 coats of aluminium finish as required by TNEB etc., The pillar to be installed in angle iron frame pedestal with concrete grouting etc. including cost and conveyance of all materials and labour including pedestal concrete and angle iron frame pedestal etc. complete and as directed by SIPCOT Officials.			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. (Excluding the cost of HDPE Pipes and laying the same into trenches will be extra)				
a)	200.00 Rm (Two Hundred Running Metre Only)	3 1/2 Core x 50 Sq.mm. PVC Armoured LT UG Aluminium Cable			1 Rm (One Running metre)	
b)	1000.00 Rm (One Thousand Running Metre Only)	4 Core x 16 Sq.mm. PVC Armoured LT UG Aluminium Cable			1 Rm (One Running metre)	
7	350.00 Rm (Three Hundred 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	4.00 Nos (Four 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)	

CONTRACTOR

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

9	24.00 Nos (Twenty Four 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	800.00 Rm (Eight Hundred 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)	
11	50.00 (Fifty 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)	
	Section - E (Eleven items Only) (11 Items Only)		Sub total			
	TOTAL - SECTION A + B + C + D + E					

CONTRACTOR

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