



## **KOCHI METRO RAIL LIMITED**

### **KOCHI METRO RAIL PROJECT**

#### **TENDER DOCUMENT FOR**

**Supply and Installation Works (Including Fabrication) of Signage and Graphics including all transportation, loading and unloading, etc. for Six Elevated Metro Stations viz. Muttom, Kalamassery, CUSAT, Pathadipalam, Edapally, Changampuzha Park, of Kochi Metro Rail Limited Project.**

**Tender No: KMRL/PRJ/STN SIGN/235/2015/TEN 01-16**

#### **FINANCIAL PROPOSAL**

**FEBRUARY - 2016**

**Regd. Office.  
8th Floor, Revenue Tower, Park Avenue  
Kochi. 682011 Kerala , India.**

## KOCHI METRO RAIL PROJECT

**Name of Tender: “Supply and Installation Works (Including Fabrication) of Signage and Graphics including all transportation, loading and unloading, etc. for Six Elevated Metro Stations viz. Muttom, Kalamassery, CUSAT, Pathadipalam, Edapally, Changampuzha Park, of Kochi Metro Rail Limited Project.**

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### PREAMBLE to BoQ

1. The Bill of Quantities shall be read in conjunction with the instructions to Tenderers, Conditions of Contract, Notice Inviting Tender, Technical Specifications, Tender Drawings, Schedule, Annexure and Addendums.
2. The quantities given in the” Bill of Quantities” are provisional and are given to provide a common basis for tendering. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the quoted price on the estimated rate for each item in the accepted priced “Bill of Quantities”, where applicable.
3. The BOQ is meant for reference so as to understand the item description. The quoted rates are for completed and finished items of work as per specifications and complete in all respects. Rates to be quoted in BOQ and final amount in “Annexure – 1 to BOQ”.
4. Payment for additional works apart from the items available BOQ will be paid in accordance with KPWD SOR 2015-16.
5. Tenderer’s offer shall be inclusive of -
  - a. All fabrication space, tools, machinery, labour, supervision, materials, lead, lift, fuel, consumables, electric power, water, transportation, all temporary works and scaffolding, packaging and protection of sign parts, lighting, night working, inspection facilities, safety measures at work sites/casting yard for workmen and road users, preparation of temporary design and drawings pertaining to the fabrication, supply and installation etc, establishment and overhead charges, insurance costs for labour and works, contractor’s profit, all taxes, royalties, duties, cess, octroi, VAT and other levies and other charges together with all general risks, liabilities and obligations set out or implied in the contract and including remedy of any defects during the Defect Liability Period, unless otherwise provided in BOQ.
  - b. Cost of complying with the provisions of the Contract.
  - c. Considering field constraints, availability of front, preparation of detailed scheme for taking necessary clearance and approval from the concerned authority and other local bodies etc.

- d. All Taxes, Levies, Duties and other charges leviable and payable to the authorities including taxes to be deducted at source. The Employer shall deduct Tax at source from the payments made to the Contractor, which the Employer will be required by law for deposition with statutory authorities in India. The Employer shall further furnish to the Contractor a certificate for such tax deducted at source.
6. All columns in the “Annexure-1” to BOQ shall be filled in ink or type written and the total tender amount shown in the bottom. The person authorized to sign on behalf of the tenderer shall sign in full at bottom of all pages and at the end of schedule with date, name and designation.
7. General directions and description of works and materials are not necessarily repeated or summarized in the Bill of Quantities.
8. The method of measurement of completed work for payment shall be in accordance with the requirements as stated in the individual sections of the Technical Specifications and Special Conditions of Contract (SCC).
9. Errors will be corrected by the Employer for any arithmetical errors in computation or summation as indicated in Contract Document.
10. In the defined grade of concrete mix, the first figure defines the strength of concrete and second figure defines the maximum size of coarse aggregates to be used for production of particular concrete mix. e.g. M 35/20 means “M-35” is the grade of concrete and “20” is the maximum size of coarse aggregate in mm to be used.
11. Tenderer shall maintain complete records of duties; levies, taxes etc., payable to various authorities in relation to the works and submit receipts/records for verifications, as and when demanded by the Employer.
12. Following list of items to be prototyped. Please note
- 1.1.1a Suspended Sing/Illuminated, 2 sided
  - 1.1.7a Post mounted sing/Illuminated, 2 sided
  - 2.1.7a Post mounted sign/Non-illuminated, 1 sided
  - 3.2b Face mounted frame sign/Non-illuminated
  - 3.1.3e Post mounted sign/1 sided, Non-illuminated
  - 2.5a Face mounted plate sign/Non-illuminated
  - 7.1f Face mounted vinyl.
  - 7.2f Face mounted vinyl.
  - 7.3b Face mounted vinyl.
- a. No extra payments will be given on account of prototyping of given listed sign
- b. Prototype Sign have to be installed at the specific location as marked in Sign drawings.
- c. Prototype, which will be approved, will remain at the place and shall be accepted as the sign installed against BOQ Quantity.

- d. Prototype sign (rejected) has to be reinstalled after reworking or re-fabrication, modification and improvement required at the risk and cost of the contractor.
  - e. Prototypes or Sample signages will be approved by KMRL by 4<sup>th</sup> week from the issue of LOA.
13. Items considered as item rates and will be paid after on site actual measurements of elements installed. This specially applies to the sign fixings like Suspender, projected and post mounted signs.
14. The Contractor should comply with all labor enactments.

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### Annexure - 1

Sl. No.	Brief Description	Total Amount (INR)**	
		In figures	In words
<b>1</b>	<b>2</b>	<b>6</b>	<b>7</b>
1	Total estimated value of items given in Bill of Quantities for Signage & Graphics.		

- Note:** 1. The Tenderer should quote his **Bid Amount** in this Summary Sheet only and not elsewhere.  
2. Extra items apart from BOQ will be paid as per Clause 27.0 Special Conditions of Contract.

### BILL OF QUANTITIES

Name of the Tender : Supply and Installation Works (Including Fabrication) of Signage and Graphics including all transportation, loading and unloading, etc. for Six Elevated Metro Stations viz., Muttom, Kalamassery, CUSAT, Pathadipalam, Edapally and Changampuzha Park of Kochi Metro Rail Limited Project.

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)	
					Muttom	Kalamassery	CUSAT	Pathadipalam	Edapally				Changampuzha Park
			Please read this in conjunction with Sign Structure detailing book(Fabrication Drawings of Signages). The details of Sign Structure detailing will be final consideration.										
		1.1.1	<b>Suspended sign, Illuminated, 2 sided</b> <i>Suspended</i>										
		<b>Drg. No.</b>	<b>1.1.1a,b,c</b>										
			Providing and fixing illuminated signs including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>										
			<b>Sign Box</b>										
			The sign box 130mm deep shall be fabricated out of 15 mm thick Aluminium extrusion channel. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated in RAL classic 7916..										

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			<b>Bilingual text panel - Illuminated surface</b>									
			Providing and fixing of backlit sign panel on both side of sign box with 8mm thk clear acrylic with a layer of milky white translucent self-adhesive film as per specification applied on the entire surface of acrylic and plotter cut blackout self adhesive vinyl as per specification applied on top of the first layer to produce the desired design intent.									
			<b>Pictogram panel - Illuminated surface</b>									
			Providing and fixing of backlit sign panel on both side of sign box with 8mm thk clear acrylic cut and bent as per design detail specification.The acrylic is pasted on the base acrylic panel with 3M VHB adhesive. The edge of the acrylic to be frosted.The surface is finished with self-adhesive translucent vinyl as per specification. Plotter-cut block out vinyl as per specification is applied above the translucent vinyl. Refer drawing for details.									
			<b>Illumination</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and fixing the LED strips for proper									
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
			Accessories: Providing and fixing all accessories such as nut-inserts, screws , rivets, bolts, washers, nuts, etc. complete as per drawing.>>									
			<b>Sign fixingSuspended</b> : Sign box shall be fixed to the indicated surface (Ceiling) using 12mm dia anchor fastners of specified make duly approved by the Engineer-in-Charge.>>									
		<b>Sizes</b>										
1	1.1.1a	600 x 300	Interior Direction Sign	Nos	1	1	1	1	2	2	8	
2	1.1.1b	1200 x 300	Interior Direction Sign	Nos	4	6	6	6	6	3	31	
3	1.1.1c	1500 x 300	Interior Direction Sign	Nos	4	7	7	5		12	35	
4	1.1.1d	1800 x 300	Interior Direction Sign	Nos	9	3	3	3	17	10	45	
5	1.1.1e	2100 x 300	Interior Direction Sign	Nos		1	1	2		2	6	
6	1.1.1f	2400 x 300	Interior Direction Sign	Nos	4	3	5	4	3	5	24	

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
7	1.1.1susp		<p>Suspended Sign fixing : Providing and fixing suspension for the signs using MS Hollow Circular sections cut, fabricated as per drawing and provided with connectors plates for mounting with holes and entire assembly finished in PU paint to colour to match RAL CLASSIC 7016 color as approved by the Engineer -in-chagre. Suspenders shall be made to required lengths for each sign for its location after studying the site and ensuring a perfectly aligned and leveled sign installation. This item includes all work done on false ceiling like opening/dismantling/local cutting to pass the suspender and reinstalling/doing good/assembling the same after fixing and installation on the sign. Length of suspender for one sign is calculated as total length of 2 suspenders used for that sign.</p> <p>Providing and fixing at location using 50mm dia NB 3.6mm thick MS hollow sections, fabricated and finished as specified. The cost shall be quoted for providing 1m long suspenders for 1 sign.</p> <p>The suspenders shall be fixed to the overhead concrete beams/slabs using 6mm thick MS plate. 12mm dia anchor fastners of specified make duly approved by the Engineer-in-charge and connected to the sign using M8 Bolts with lock nuts and lock clip washers in numbers as specified in the drawings. This suspender shall include cover plate made in MS Hollow section with a 20mm flange made in 2mm thick CRCA MS sheet and powdercoated to match GreyG3</p>	Nos	22	21	23	21	28	34	149	
		1.1.2	<b>Suspended sign, illuminated, 2 sided, double height</b>									
			<i>Suspended</i>									
		<b>Drg. No.</b>	<b>1.1.2 a,b,c</b>									
			<p>Providing and fixing illuminated signs including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.&gt;&gt;</p>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			<b>Sign Box</b>									
			The sign box 130mm deep shall be fabricated out of 15 mm thick Aluminium extrusion channel. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated in RAL classic 7916...									
			<b>Sign panel - 2 side Illuminated face</b>									
			Providing and fixing sign panel on both side of sign box made out of 8mm thick acrylic sheet. Sign face shall be made in 8mm thick clear white acrylic (as specified) having graphics pasted in Plotter cut vinyl and entire panel covered with a protective over laminate. The films to wrap around the edge of the acrylic to a distance of 25mm on the back side. The acrylic Sign Panel should be fixed on the Sign box with appropriate adhesive.									
			<b>Illumination</b>									
			Providing and fixing the LED strips for proper illumination.									
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
			Accessories: Providing and fixing all accessories such as nut-inserts, screws , rivets, bolts, washers, nuts, etc. complete as per drawing.>>									
		<b>Sizes</b>										
8	1.1.2a	1500 x 600		Nos						3	3	

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
9	1.1.2b	1200 x 600	Interior Direction Sign	Nos	1			1			2	
10	1.1.2c	1800 x 600	Interior Direction Sign	Nos	4	3	2	4	16	5	34	
11	1.1.2d	2100 x 600	Interior Direction Sign	Nos	1	2		1		1	5	
12	1.1.2susp		<p>Suspended Sign fixing : Providing and fixing suspension for the signs using MS Hollow Circular sections cut, fabricated as per drawing and provided with connectors plates for mounting with holes and entire assembly finished in PU paint to colour to match RAL CLASSIC 7016 color as approved by the Engineer -in-chagre. Suspenders shall be made to required lengths for each sign for its location after studying the site and ensuring a perfectly aligned and leveled sign installation. This item includes all work done on false ceiling like opening/dismantling/local cutting to pass the suspender and reinstalling/doing good/assembling the same after fixing and installation on the sign. Length of suspender for one sign is calculated as total length of 2 suspenders used for that sign.</p> <p>Providing and fixing at location using 50mm dia NB 3.6mm thick MS hollow sections, fabricated and finished as specified. The cost shall be quoted for providing 1m long suspenders for 1 sign. The suspenders shall be fixed to the overhead concrete beams/slabs using 6mm thick MS plate. 12mm dia anchor fastners of specified make duly approved by the Engineer-in-charge and connected to the sign using M8 Bolts with lock nuts and lock clip washers in numbers as specified in the drawings. This suspender shall include cover plate made in MS Hollow section with a 20mm flange made in 2mm thick CRCA MS sheet and powdercoated to match GreyG3</p>	Nos	6	5	2	6	16	9	44	
		1.1.3	<b>Face mounted sing, illuminated</b>									
			<i>Suspended,</i>									
		<b>Drg. No.</b>	<b>1.1.3a,b,c</b>									
			Providing and fixing illuminated signs including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			<b>Sign Box</b>									
			The sign box 70mm deep shall be fabricated out of 15 mm thick Aluminium extrusion channel. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated in RAL classic 7916 as per approved sample.									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			<b>Sign panel - 1 side illuminated face</b>									
			Providing and fixing sign panel on front side of sign box made out of 8mm thick acrylic sheet. Sign face shall be made in 8mm thick clear white acrylic (as specified) having graphics pasted in Plotter cut vinyl and entire panel covered with a protective over laminate. The films to wrap around the edge of the acrylic to a distance of 25mm on the back side. The acrylic Sign Panel should be fixed on the Sign box with appropriate adhesive.									
			<b>Illumination</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and fixing the LED strips for proper illumination.									
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
			Accessories: Providing and fixing all accessories such as nut-inserts, screws , rivets, bolts, washers, nuts, etc. complete as per drawing.>>									
		<b>Sizes</b>										
13	1.1.3a	1200 x 300	Interior Direction Sign	Nos				1		1		
14	1.1.3face		<b>Sign Mounting : Face</b> :The sign mounting frame made up of 40x40x5mm MS Equal angles as a frame back to back provided with welded angle cleats plates in 40x40x5mm MS Equal angles along the perimeter of frame with slots to receive the rivets to fix the sign frame as per drawing . Complete mounting frame including channel supports are to be PU painted to match GreyG2 of approved make and duly approved by Engineer-in-Charge. >>	Nos				1		1		
		1.1.4	<b>Face mounted sign, illuminated, double height</b> <i>Face mounted</i>									
		<b>Drg. No.</b>	<b>1.1.4a,b,c</b>									
			Providing and fixing Non-illuminated signs in exterior areas including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Box</b>									
			The sign box 70mm deep shall be fabricated out of 15 mm thick Aluminium extrusion channel. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated to match Grey as per specifications..									
			<b>Sign panel - 1 side illuminated face</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and fixing sign panel on front side of sign box made out of 8mm thick acrylic sheet. Sign face shall be made in 8mm thick clear white acrylic (as specified) having graphics pasted in Plotter cut vinyl and entire panel covered with a protective over laminate. The films to wrap around the edge of the acrylic to a distance of 25mm on the back side. The acrylic Sign Panel should be fixed on the Sign box with appropriate adhesive.									
			<b>Illumination</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and fixing the LED strips for proper illumination.									
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
			Accessories: Providing and fixing all accessories such as nut-inserts, screws , rivets, bolts, washers, nuts, etc. complete as per drawing.>>									
		<b>Sizes</b>										
15	1.1.4a		Interior Direction Sign	Nos						0		
16	1.1.4face		<b>Sign Mounting : Face</b> :The sign mounting frame made up of 40x40x5mm MS Equal angles as a frame back to back provided with welded angle cleats plates in 40x40x5mm MS Equal angles along the perimeter of frame with slots to receive the rivets to fix the sign frame as per drawing . Complete mounting frame including channel supports are to be PU painted to match GreyG2 of approved make and duly approved by Engineer-in-Charge. >>	Nos						0		

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
		1.1.5	<b>Projected Sign, Illuminated, 2 sided</b>									
			<i>Projected</i>									
		Drg. No.	<b>1.1.5a,b,c</b>									
			Providing and fixing Non-illuminated signs in exterior areas including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Box</b>									
			The sign box 130mm deep shall be fabricated out of 15 mm thick Aluminium extrusion channel. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated to match Grey as per specifications..									
			<b>Sign panel - 2 side Illuminated face</b>									
			Providing and fixing sign panel on both side of sign box made out of 8mm thick acrylic sheet. Sign face shall be made in 8mm thick clear white acrylic (as specified) having graphics pasted in Plotter cut vinyl and entire panel covered with a protective over laminate. The films to wrap around the edge of the acrylic to a distance of 25mm on the back side. The acrylic Sign Panel should be fixed on the Sign box with appropriate adhesive.									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			<b>Illumination</b>									
			Providing and fixing the LED strips for proper illumination.									
		<b>Sizes</b>										
17	1.1.5a	1200 x 300	Interior Direction Sign	Nos						1	1	
18	1.1.5Proj		<b>Projected</b> - Providing and fixing projected support for signs using 50mm dia NB 3.6mm thick MS hollow sections based on the sign length, cut and finished to required length and welded to the bracket as per design at one end and closed at the other, providing connectors for sign in 32mm dia NB 2.6mm thick MS hollow sections. including providing connecting tie rods for signs larger than 1500mm as per fabrication drawings. The entire assembly shall be finished in PU paint in colour RAL CLASSIC 7016 color to match as per drawing and as approved by the Engineer -in-charge. Including fixing at site after due site checking and making good all the surface finishes after the sign is installed perfectly aligned and leveled.>>	Nos	0	0	0	0	0	1	1	
		1.1.6	<b>Projected Sign, Picto, Illuminated, 2 sided</b> <i>Projected</i>									
		<b>Drg. No.</b>	<b>1.1.6a,b,c</b>									
			Providing and fixing Non-illuminated signs in exterior areas including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			<b>Sign Box</b>									
			The sign box 130mm deep shall be fabricated out of 15 mm thick Aluminium extrusion channel. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated to match Grey as per specifications..									
			<b>Sign panel - 2 side Illuminated face</b>									
			Providing and fixing sign panel on both side of sign box made out of 8mm thick acrylic sheet. Sign face shall be made in 8mm thick clear white acrylic (as specified) having graphics pasted in Plotter cut vinyl and entire panel covered with a protective over laminate. The films to wrap around the edge of the acrylic to a distance of 25mm on the back side. The acrylic Sign Panel should be fixed on the Sign box with appropriate adhesive.									
			<b>Illumination</b>									
			Providing and fixing the LED strips for proper illumination.									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			<b>Projected</b> - Providing and fixing projected support for signs using 50mm dia NB 3.6mm thick MS hollow sections based on the sign length, cut and finished to required length and welded to the bracket as per design at one end and closed at the other, providing connectors for sign in 32mm dia NB 2.6mm thick MS hollow sections. including providing connecting tie rods for signs larger than 1500mm as per fabrication drawings. The entire assembly shall be finished in PU paint in colour Grey to match as per drawing and as approved by the Engineer -in-charge. Including fixing at site after due site checking and making good all the surface finishes after the sign is installed perfectly aligned and leveled.>>									
		<b>Sizes</b>										
19	1.1.6d	1200 x 300	Interior Direction Sign	Nos	1					1		
20	1.1.6Proj		<b>Projected</b> - Providing and fixing projected support for signs using 50mm dia NB 3.6mm thick MS hollow sections based on the sign length, cut and finished to required length and welded to the bracket as per design at one end and closed at the other, providing connectors for sign in 32mm dia NB 2.6mm thick MS hollow sections. including providing connecting tie rods for signs larger than 1500mm as per fabrication drawings. The entire assembly shall be finished in PU paint in colour RAL CLASSIC 7016 color to match as per drawing and as approved by the Engineer -in-charge. Including fixing at site after due site checking and making good all the surface finishes after the sign is installed perfectly aligned and leveled.>>	Nos	1	0	0	0	0	1		
		1.1.7	<b>Post Mounted Sign, Illuminated, 2 sided</b> <i>Post mounted</i>									
		<b>Dr. No.</b>	1.1.7a, b, c									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and fixing Non-illuminated signs in exterior Vicinity areas os stations in a radius of 500m with station at center at important junction on major roads. including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									

SI. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			<b>Sign Box</b>									
			The sign box 130mm deep shall be fabricated out of 15 mm thick Aluminium extrusion channel. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated to match Grey as per specifications..									
			<b>Sign panel - 2 side Illuminated face</b>									
			Providing and fixing sign panel on both side of sign box made out of 8mm thick acrylic sheet. Sign face shall be made in 8mm thick clear white acrylic (as specified) having graphics pasted in Plotter cut vinyl and entire panel covered with a protective over laminate. The films to wrap around the edge of the acrylic to a distance of 25mm on the back side. The acrylic Sign Panel should be fixed on the Sign box with appropriate adhesive.									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			<b>Illumination</b>									
			Providing and fixing the LED strips for proper illumination.									
			Accessories: Providing and fixing all accessories such as nut-inserts, screws , rivets, bolts, washers, nuts, etc. complete as per drawing>>									
			Sign fixing : Each sign shall be suspended/projected/post mounted as per the site condition and elaboratd in the sign schedule. A consolidated detail is provided in the next item and all the fixings. >>									
		<b>Sizes</b>										
21	1.1.7a	900 x 450	Interior/Exterior direction sign	Nos						0		
			<b>Post</b>									
22	1.1.7Post		Providing a Sign post of 80mm dia NB 5.4mm thick MS hollow sections including welded Base plate in 8mm thick MS Plate and Gussets in 6mm thick MS Plate as per drawing with holes to fix it on holding down bolts anchored in concrete footing. The post shall closed with a 6 mm thick MS plate and parts kept uinpainted to weld the sign structure as per the drawing to ensure a rigid connection at site. Providing a 6A SPN MCB electrical junction box welded to the post as specified location and making holes in the post for passing the electrical cable. The entire post assembly shall be painted in PU paint to match colour Grey as specified and approved by the Engineer-In-charge. The Post shall be always be a single continuous element without any joints. Cost to include all activities and temporary props used for a perfect vertical in plumb installation, shim Plates for adjustment of levels and filling the gap with concrete slury etc required for fixing the sign in an external location. >>	Nos	0	0	0	0	0	0	0	
			<b>Foundation and Pedestal</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and laying foundation for the Totem sign in PCC (concrete M20) including its compaction and all activities like Excavation, PCC base layer, Casting of holding down HTS anchor J bolts of 16mm dia using a sized template in MS 8mm thick for locating and accurate spacing of bolts as per drawing. Providing and fixing in position Sadarhalli stone pedestal in hand dressed rough finish surface in required size and shape as per drawing in 2 parts. Making cavity in stone for accommodating electrical box installing the two halves joined together by filling Plain cement concrete (M25) keeping a clear groove of 25mm wide recessed and finished as per drawing. 2mm thk SS clamps bolted and set into 3mm thk groove made 150mm from top and 200mm from bottom of the pedestal to keep it intact and flushed to face. The item cost includes cutting and opening the floor finish at location, and making good the location to the match the original finish after fixing and installation of sign >>	Nos								

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
		1.1.8	<b>Post Mounted Sign, Non-Illuminated, 2 sided</b> <i>Post mounted</i>									
		<b>Drg. No.</b>	<b>1.1.8a,b,c</b>									
			Providing and fixing illuminated totem in exterior areas of stations with theKMRL symbol close to the entrance visible form approach road including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Box</b>									
			The sign box 130mm deep shall be fabricated out of 15 mm thick Aluminium extrusion channel. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated to match Grey as per specifications..									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			<b>Sign panel - 2 side Non-Illuminated face</b>									
			Providing and fixing sign panel on both side of sign box made out of 8mm thick acrylic sheet. Sign face shall be made in 8mm thick clear white acrylic (as specified) having graphics pasted in Plotter cut vinyl and entire panel covered with a protective over laminate. The films to wrap around the edge of the acrylic to a distance of 25mm on the back side. The acrylic Sign Panel should be fixed on the Sign box with appropriate adhesive.									
		<b>Sizes</b>										
23	1.1.8a	900 x 450	Direction Vacinity sign	Nos	9	9	9	9	9	9	54	
			<b>Post</b>									
25	1.1.8Post		Providing a Sign post of 80mm dia NB 5.4mm thick MS hollow sections including welded Base plate in 8mm thick MS Plate and Gussets in 6mm thick MS Plate as per drawing with holes to fix it on holding down bolts anchored in concrete footing. The post shall closed with a 6 mm thick MS plate and parts kept uinpainted to weld the sign structure as per the drawing to ensure a rigid connection at site. The entire post assembly shall be painted in PU paint to match colour Grey as specified and approved by the Engineer-In-charge. The Post shall be always be a single contnuous element without any joints.Cost to include all activities and temporary props used for a perfect vertical in plumb installation, shim Plates for adjustment of levels and filling the gap with concrete slury etc required for fixing the sign in an external location. >>	Nos	9	9	9	9	9	9	54	
			<b>Foundation and Pedestal</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and laying foundation for the Totem sign in PCC (concrete M20) including its compaction and all activities like Excavation, PCC base layer, Casting of holding down HTS anchor J bolts of 16mm dia using a sized template in MS 8mm thick for locating and accurate spacing of bolts as per drawing. Providing and fixing in position Sadarhalli stone pedestal in hand dressed rough finish surface in required size and shape as per drawing in 2 parts. Making cavity in stone for accommodating electrical box installing the two halves joined together by filling Plain cement concrete (M25) keeping a clear groove of 25mm wide recessed and finished as per drawing. 2mm thk SS clamps bolted and set into 3mm thk groove made 150mm from top and 200mm from bottom of the pedestal to keep it intact and flushed to face. The item cost includes cutting and opening the floor finish at location, and making good the location to the match the original finish after fixing and installation of sign >>	Nos								
		1.1.9	<b>Post Mounted Sign, Non-Illuminated, 2 sided</b> <i>Post mounted</i>									
		<b>Drg. No.</b>	<b>1.1.9a,b,c</b>									
			Providing and fixing illuminated totem in exterior areas of stations with theKMRL symbol close to the entrance visible form approach road including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Box</b> The sign box 130mm deep shall be fabricated out of 15 mm thick Aluminium extrusion channel. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated to match Grey as per specifications..									
			<b>Sign panel - 2 side Non-Illuminated face</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and fixing sign panel on both side of sign box made out of 8mm thick acrylic sheet. Sign face shall be made in 8mm thick clear white acrylic (as specified) having graphics pasted in Plotter cut vinyl and entire panel covered with a protective over laminate. The films to wrap around the edge of the acrylic to a distance of 25mm on the back side. The acrylic Sign Panel should be fixed on the Sign box with appropriate adhesive.									
		<b>Sizes</b>										
26	1.1.9a	1200 x 300		Nos	1					2	3	
27	1.1.9b	1500 x 300		Nos	1				1		2	
28	1.1.9c	600 x 300		Nos		1			1		2	
			<b>Post</b>									
29	1.1.9Post		Providing a Sign post of 80mm dia NB 5.4mm thick MS hollow sections including welded Base plate in 8mm thick MS Plate and Gussets in 6mm thick MS Plate as per drawing with holes to fix it on holding down bolts anchored in concrete footing. The post shall closed with a 6 mm thick MS plate and parts kept uinpainted to weld the sign structure as per the drawing to ensure a rigid connection at site. The entire post assembly shall be painted in PU paint to match colour Grey as specified and approved by the Engineer-In-charge. The Post shall be always be a single contnuous element without any joints. Cost to include all activities and temporary props used for a perfect vertical in plumb installation, shim Plates for adjustment of levels and filling the gap with concrete slury etc required for fixing the sign in an external location. >>	Nos	2	1	0	0	2	2	7	
			<b>Foundation and Pedestal</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and laying foundation for the Totem sign in PCC (concrete M20) including its compaction and all activities like Excavation, PCC base layer, Casting of holding down HTS anchor J bolts of 16mm dia using a sized template in MS 8mm thick for locating and accurate spacing of bolts as per drawing. Providing and fixing in position Sadarhalli stone pedestal in hand dressed rough finish surface in required size and shape as per drawing in 2 parts. Making cavity in stone for accommodating electrical box installing the two halves joined together by filling Plain cement concrete (M25) keeping a clear groove of 25mm wide recessed and finished as per drawing. 2mm thk SS clamps bolted and set into 3mm thk groove made 150mm from top and 200mm from bottom of the pedestal to keep it intact and flushed to face. The item cost includes cutting and opening the floor finish at location, and making good the location to the match the original finish after fixing and installation of sign >>	Nos								

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
		2.1.1	<b>Suspended Sign, Non-Illuminated, 2sided, single Height</b> <i>Suspended</i>									
		<b>Drg. No.</b>	<b>2.1.1a,b,c</b>									
			Providing and fixing Non-illuminated signs including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Box</b>									
			The sign box 98mm deep shall be fabricated out of 5 mm thick Aluminium sheet. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated to match Grey as per specifications..									
			<b>Sign panel - 1 side non-Illuminated face</b>									
			Providing and fixing sign panel on both side of sign box made out of 5mm thick aluminium sheet. Sign face shall be have graphics pasted in Plotter cut vinyl and entire panel covered with a protective over laminate. The films to wrap around the edge of the acrylic to a distance of 25mm on the back side. The acrylic Sign Panel should be fixed on the Sign box with appropriate adhesive.									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
			Accessories: Providing and fixing all accessories such as nut-inserts, screws , rivets, bolts, washers, nuts, etc. complete as per drawing.>>									
		<b>Sizes</b>										
30	2.1.1a	300 x 500	TVM Sign	Nos	9	9	9	11	12	10	60	
31	2.1.1susp		<p><b>Suspended Sign fixing</b> : Providing and fixing suspension for the signs using MS Hollow Circular sections cut, fabricated as per drawing and provided with connectors plates for mounting with holes and entire assembly finished in PU paint to colour to match RAL CLASSIC 7016 color as approved by the Engineer -in-chagre. Suspenders shall be made to required lengths for each sign for its location after studying the site and ensuring a perfectly aligned and leveled sign installation. This item includes all work done on false ceiling like opening/dismantling/local cutting to pass the suspender and reinstalling/doing good/assembling the same after fixing and installation on the sign. Length of suspender for one sign is calculated as total length of 2 suspenders used for that sign.</p> <p>Providing and fixing at location using 50mm dia NB 3.6mm thick MS hollow sections, fabricated and finished as specified. The cost shall be quoted for providing 1m long suspenders for 1 sign.</p> <p>The suspenders shall be fixed to the overhead concrete beams/slabs using 6mm thick MS plate. 12mm dia anchor fastners of specified make duly approved by the Engineer-in-charge and connected to the sign using M8 Bolts with lock nuts and lock clip washers in numbers as specified in the drawings. This suspender shall include cover plate made in MS Hollow section with a 20mm flange made in 2mm thick CRCA MS sheet and powdercoated to match GreyG3</p>	Nos	9	9	9	11	12	10	60	
			<b>2.2 Face mounted sign, , non-Illuminated</b> <i>Face mounted</i>									
		<b>Drg. No.</b>	2.2a,b,c									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Changam puzha Park	Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally				
			Providing and fixing front illuminated station name sign on exterior walls of stations for visibility and identification from approaching roads including operations from fabrication to installation all complete as per relevant drawings, technical specifications, signae schedule and to the satisfaction of the Engineer-in-charge.										
			<b>Logo Panel 1000 x 600</b>										
			Providing and fixing Logo panels mounte on mounting frame, made out of 4 mm thick Aluminium composite sheet white color(as specified) folded and reveted ove a frame fabricated in 40x40x3.2 MS square Hollow section to required size and shape, with welded cleat plates at every 500mm in 3mm thick MS sheet 100mm long as per drawing for fixing to mounting frame. All corners and hairline joints of sign face shall be finished and filled neat wigh white/clear silicon sealent. KMRL Logo shall be fixed 25mm away from the back panel using original artworks laser cut from 3mm aluminium powder coated white (RAL 9016) with Transluscent vinyl pasted to match specified color(Pantone 7463C) of specified make duly approved by the Engineer-in-charge. Fixing with 6mm dia 100mm long Aluminium pins brazed by managing consistant gap with the help of 15mm thick spacer made out of circular Aluminium Extrusion 8mm ID an permanently fixed using epoxy adhesive. Fixing the logo should be done using a template to position all parts correctly. The sign panel shall be fixed to sign mounting frame using Blind revers. Fabrication of Hollow sections shall ensure no openings/cavities for access of moisture to the inside of hollow section. Cost includes all the necessary arrangement like templates, props, scaffolding upto a height of 6m for a parfect alignment and placement of the sign as specified and approved by the Engineer-in-charge.										
			<b>Name Panel</b>										

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			The letters will be fixed 25mm away from the panel using original artworks profile laser cut from 3mm thick aluminium letters powder coated white (RAL 9016) in 2 language-Malayalam and English of specified make duly approved by the Engineer-in-charge. Fixing with 6mm dia 100mm long Aluminium pins brazed by managing constant gap with the help of 15mm thick spacer made out of circular Aluminium extrusion 8mm ID and permanently fixed using epoxy adhesive on the panel. The sign panel shall be fixed to sign mounting frame using Blind rivets. Fabrication of Hollow sections shall ensure no opening/cavities for access of moisture to the inside of hollow section. Cost includes all the necessary arrangements like templates, props, scaffolding up to a height of 6m for a perfect alignment and placement of the sign as specified and approved by Engineer-in-charge.									
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
			Accessories: Providing and fixing all accessories such as nut-inserts, screws , rivets, bolts, washers, nuts, etc. complete as per drawing.>>									
		<b>Sizes</b>										
32	2.2b	2561 x 1300	Station name Sign	Nos	4					4		
33	2.2c	2770 x 1300	Station name Sign	Nos				2		2		
34	2.2d	4113 x 1300	Station name Sign	Nos					2	2		
35	2.2e	5070 x 1300	Station name Sign	Nos			4			4		
36	2.2f	10100 x 1300	Station name Sign	Nos.		1				1		
37	2.2g	3960 x 1300		Nos/		3				3		
38	2.2h	3378 x 1300		Nos				4		4		
39	2.2face		<b>Sign Mounting : Face</b> :The sign mounting frame made up of 40x40x5mm MS Equal angles as a frame back to back provided with welded angle cleats plates in 40x40x5mm MS Equal angles along the perimeter of frame with slots to receive the rivets to fix the sign frame as per drawing . Complete mounting frame including channel supports are to be PU painted to match GreyG2 of approved make and duly approved by Engineer-in-Charge. >>	Nos	4	4	4	4	2	2	20	

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
		<b>2.3</b>	<b>Face mounted sign, , externally illuminated</b>									
			<i>Face mounted</i>									
		<b>Drg. No.</b>	<b>2.3a,b,c</b>									
			Providing and fixing Non-illuminated signs including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Logo Panel 1000 x 1000</b>									
			Providing and fixing Logo panels mounte on mounting frame, made out of 4 mm thick Aluminium composite sheet white color(as specified) folded and reveted ove a frame fabricated in 40x40x3.2 MS square Hollow section to required size and shape, with welded cleat plates at every 500mm in 3mm thick MS sheet 100mm long as per drawing for fixing to mounting frame. All corners and hairline joints of sign face shall be finished and filled neat wigh white/clear silicon sealent. KMRL Logo shall be fixed 25mm away from the back panel using original artworks laser cut from 3mm aluminium powder coated white (RAL 9016) with Transluscent vinyl pasted to match specified color(Pantone 7463C) of specified make duly approved by the Engineer-in-charge. Fixing with 6mm dia 100mm long Aluminium pins brazed by managing consistant gap with the help of 15mm thick spacer made out of circular Aluminium Extrusion 8mm ID an permanently fixed using epoxy adhesive. Fixing the logo should be done using a template to position all parts correctly. The sign panel shall be fixed to sign mounting frame using Blind revers. Fabrication of Hollow sections shall ensure no openings/cavities for access of moisture to the inside of hollow section. Cost includes all the necessary arrangement like templates, props, scaffolding upto a height of 6m for a perfect alignment and placement of the sign as specified and approved by the Engineer-in-charge.									
			<b>Name Panel</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			The letters will be fixed 25mm away from the panel using original artworks profile laser cut from 3mm thick aluminium letters powder coated white (RAL 9016) in 2 language-Malayalam and English of specified make duly approved by the Engineer-in-charge. Fixing with 6mm dia 100mm long Aluminium pins brazed by managing constant gap with the help of 15mm thick spacer made out of circular Aluminium extrusion 8mm ID and permanently fixed using epoxy adhesive on the panel. The sign panel shall be fixed to sign mounting frame using Blind rivets. Fabrication of Hollow sections shall ensure no opening/cavities for access of moisture to the inside of hollow section. Cost includes all the necessary arrangements like templates, props, scaffolding up to a height of 6m for a perfect alignment and placement of the sign as specified and approved by Engineer-in-charge.									
			<b>illumination</b> : The Sign should be provided with down type focus lights, hanging from top to bottom, as approved by the Engineer-in-charge.									
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
			Accessories: Providing and fixing all accessories such as nut-inserts, screws , rivets, bolts, washers, nuts, etc. complete as per drawing.>>									
		<b>Sizes</b>										
40	2.3b	10100 x 1100	Overhead Station name	Nos	2	1	2	2		7		
41	2.3c	6500 x 1100	Overhead Station name	Nos				2		2		
42	2.3d	6300 x 1100	Overhead Station name	Now					2	2		
43	2.3face		<b>Sign Mounting : Face</b> :The sign mounting frame made up of 40x40x5mm MS Equal angles as a frame back to back provided with welded angle cleats plates in 40x40x5mm MS Equal angles along the perimeter of frame with slots to receive the rivets to fix the sign frame as per drawing . Complete mounting frame including channel supports are to be PU painted to match GreyG2 of approved make and duly approved by Engineer-in-Charge. >>	Nos	2	1	2	2	2	11		

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
		<b>2.1.3</b>	<b>Face mounted sign, , Non-Illuminated</b>									
			<i>Face mounted</i>									
		<b>Drg. No.</b>	<b>2.1.3a,b,c</b>									
			Providing and fixing Non-illuminated signs including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Box</b>									
			The sign box 70mm deep shall be fabricated out 15mm thick 70mm wide aluminium extrusion. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated to match Grey as per specifications. 5mm thk aluminium sheet is bent and fixed to the box frame with angles and printed opaque vinyl as per specification is applied on the surface. Refer drawing for details.									
			<b>Sign panel - 1 side non-illuminated face</b>									
			5mm thk aluminium sheet is bent and fixed to the box frame with angles and printed opaque vinyl as per specification is applied on the surface. Refer drawing for details.									
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
			Accessories: Providing and fixing all accessories such as nut-inserts, screws , rivets, bolts, washers, nuts, etc. complete as per drawing.>>									
		<b>Sizes</b>										
44	2.1.3a	1500 x 300	Lift to concourse sign	Nos	2		2	2	5	1	12	
45	2.1.3b	1800 x 300	Lift to concourse sign	Nos	6	6	5	6	3	3	29	
46	2.1.3e	1200 x 300		Nos	2						2	
47	2.1.3f	2100 x 300		Nos						1	1	

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
48	2.1.3face		<b>Sign Mounting : Face</b> :The sign mounting frame made up of 40x40x5mm MS Equal angles as a frame back to back provided with welded angle cleats plates in 40x40x5mm MS Equal angles along the perimeter of frame with slots to receive the rivets to fix the sign frame as per drawing . Complete mounting frame including channel supports are to be PU painted to match GreyG2 of approved make and duly approved by Engineer-in-Charge. >>	Nos	10	6	7	8	8	5	44	

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
		2.1.4	<b>Projected sign(picto), Non-Illuminated</b>									
			<i>Projected</i>									
		Drg. No.	<b>2.1.4a,b,c</b>									
			Providing and fixing Non-illuminated signs in exterior areas including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Box</b>									
			The sign box 70mm deep shall be fabricated out 15mm thick 70mm wide aluminium extrusion. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated to match Grey as per specifications. 5mm thk aluminium sheet is bent and fixed to the box frame with angles and printed opaque vinyl as per specification is applied on the surface. Refer drawing for details.									
			<b>Sign panel - 1 side non-Illuminated face</b>									
			5mm thk aluminium sheet is bent and fixed to the box frame with angles and printed opaque vinyl as per specification is applied on the surface. Refer drawing for details.									
		<b>Sizes</b>										
49	2.1.4a	6900 x 300	Drinking water sign	Nos						0		
50	2.1.4b	4700 x 300	Drinking water sign	Nos						0		
51	2.1.4c	4200 x 300	Drinking water sign	Nos						0		

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
52	2.1.4.Proj		<b>Projected</b> - Providing and fixing projected support for signs using 50mm dia NB 3.6mm thick MS hollow sections based on the sign length, cut and finished to required length and welded to the bracket as per design at one end and closed at the other, providing connectors for sign in 32mm dia NB 2.6mm thick MS hollow sections. including providing connecting tie rods for signs larger than 1500mm as per fabrication drawings. The entire assembly shall be finished in PU paint in colour RAL CLASSIC 7016 color to match as per drawing and as approved by the Engineer -in-charge. Including fixing at site after due site checking and making good all the surface finishes after the sign is installed perfectly aligned and leveled.>>	Nos	0	0	0	0	0	0	0	
		2.1.5	<b>Post mounted sign(picto), Non-Illuminated, 2-sided, double height</b> <i>Post mounted</i>									
		Drg. No.	<b>2.1.5a,b,c</b>									
			Providing and fixing Non-illuminated Location signs as Pictograms in exterior areas of stations including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Box</b>									
			The sign box 70mm deep shall be fabricated out 15mm thick 70mm wide aluminium extrusion. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated to match Grey as per specifications. 5mm thk aluminium sheet is bent and fixed to the box frame with angles and printed opaque vinyl as per specification is applied on the surface. Refer drawing for details.									
			<b>Sign panel - 1 side non-illuminated face</b>									
			5mm thk aluminium sheet is bent and fixed to the box frame with angles and printed opaque vinyl as per specification is applied on the surface. Refer drawing for details.									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
			Accessories: Providing and fixing all accessories such as nut-inserts, screws , rivets, bolts, washers, nuts, etc. complete as per drawing.>>									
		<b>Sizes</b>										
53	2.1.5c	325 x 600	Drop-off point + handicapped sign	Nos		2	2	2	2	2	10	
			<b>Post</b>									
54	2.1.5Post		Providing a Sign post of 80mm dia NB 5.4mm thick MS hollow sections including welded Base plate in 8mm thick MS Plate and Gussets in 6mm thick MS Plate as per drawing with holes to fix it on holding down bolts anchored in concrete footing. The post shall closed with a 6 mm thick MS plate and parts kept unpainted to weld the sign structure as per the drawing to ensure a rigid connection at site. Providing a 6A SPN MCB electrical junction box welded to the post as specified location and making holes in the post for passing the electrical cable. The entire post assembly shall be painted in PU paint to match colour Grey as specified and approved by the Engineer-In-charge. The Post shall be always be a single continuous element without any joints. Cost to include all activities and temporary props used for a perfect vertical in plumb installation, shim Plates for adjustment of levels and filling the gap with concrete slury etc required for fixing the sign in an external location. >>	Nos	0	2	2	2	2	2	10	
			<b>Foundation and Pedestal</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and laying foundation for the Totem sign in PCC (concrete M20) including its compaction and all activities like Excavation, PCC base layer, Casting of holding down HTS anchor J bolts of 16mm dia using a sized template in MS 8mm thick for locating and accurate spacing of bolts as per drawing. Providing and fixing in position Sadarhalli stone pedestal in hand dressed rough finish surface in required size and shape as per drawing in 2 parts. Making cavity in stone for accommodating electrical box installing the two halves joined together by filling Plain cement concrete (M25) keeping a clear groove of 25mm wide recessed and finished as per drawing. 2mm thk SS clamps bolted and set into 3mm thk groove made 150mm from top and 200mm from bottom of the pedestal to keep it intact and flushed to face. The item cost includes cutting and opening the floor finish at location, and making good the location to the match the original finish after fixing and installation of sign >>	Nos								
		2.1.6	<b>Post mounted sign(picto), Non-Illuminated, 2-sided, Post mounted</b>									
		Drg. No.	<b>2.1.6a,b,c</b>									
			Providing and fixing Non-illuminated Location signs as Pictograms in exterior areas of stations including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Box</b>									
			The sign box 70mm deep shall be fabricated out 15mm thick 70mm wide aluminium extrusion. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated to match Grey as per specifications. 5mm thk aluminium sheet is bent and fixed to the box frame with angles and printed opaque vinyl as per specification is applied on the surface. Refer drawing for details.									
			<b>Sign panel - 1 side non-Illuminated face</b>									
			5mm thk aluminium sheet is bent and fixed to the box frame with angles and printed opaque vinyl as per specification is applied on the surface. Refer drawing for details.									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
			Accessories: Providing and fixing all accessories such as nut-inserts, screws , rivets, bolts, washers, nuts, etc. complete as per drawing.>>									
		<b>Sizes</b>										
55	2.1.6a	325 x 300	Drop-off point sign	Nos	8	10	4	4	2	3	31	
			<b>Post</b>									
56	2.1.6Post		Providing a Sign post of 40mm dia NB 2mm thick MS hollow sections including welded Base plate in 3mm thick MS Plate and Gussets in 6mm thick MS Plate as per drawing with holes to fix it on holding down bolts anchored in concrete footing. The post shall closed with a 6 mm thick MS plate and parts kept unpainted to weld the sign structure as per the drawing to ensure a rigid connection at site. Providing a 6A SPN MCB electrical junction box welded to the post as specified location and making holes in the post for passing the electrical cable. The entire post assembly shall be painted in PU paint to match colour Grey as specified and approved by the Engineer-In-charge. The Post shall be always be a single continuous element without any joints. Cost to include all activities and temporary props used for a perfect vertical in plumb installation, shim Plates for adjustment of levels and filling the gap with concrete slury etc required for fixing the sign in an external location. >>	Nos	8	10	4	4	2	3	31	
			<b>Foundation and Pedestal</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and laying foundation for the Totem sign in PCC (concrete M20) including its compaction and all activities like Excavation, PCC base layer, Casting of holding down HTS anchor J bolts of 16mm dia using a sized template in MS 8mm thick for locating and accurate spacing of bolts as per drawing. Providing and fixing in position Sadarhalli stone pedestal in hand dressed rough finish surface in required size and shape as per drawing in 2 parts. Making cavity in stone for accommodating electrical box installing the two halves joined together by filling Plain cement concrete (M25) keeping a clear groove of 25mm wide recessed and finished as per drawing. 2mm thk SS clamps bolted and set into 3mm thk groove made 150mm from top and 200mm from bottom of the pedestal to keep it intact and flushed to face. The item cost includes cutting and opening the floor finish at location, and making good the location to the match the original finish after fixing and installation of sign >>	Nos								
		<b>2.4</b>	<b>Totem Sign, Illuminated, 2 sided</b>									
			<i>Post mounted</i>									
		<b>Drg. No.</b>	<b>2.4a,b,c</b>									
			Providing and fixing illuminated and 2 sided totem in exterior areas of stations with KMRL Symbol close to the entrance visible from approach road including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-charge.									
			<b>Sign structure</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and fixing in position internal structure for sign made in 50x50x5 MS angles and 6mm thick MS gusset plates and provided with 25x25x3 MS square Hallow section and 3 nos 25x3 MS flat rings for mounting tubelights, as per the drawing nd dimenstions. Entire structure shall be made as one unit and finished in PU paint to match Color Grey after all welding and grinding of burr, making holes/slots receiving sign panels, fitting the LED lights and electronic ballasts, including provisin of unpainted areas of welding the structure on post. The structure shall be panels covering from top and bottom made in 4 mm thick Aluminium composite Grey in color with the bottom panel allowing for ventilation of the sign as approved by the engineer-in_chanrge. The fixing at edges of the top panel shall be done using EPO gasket and also sealed using Silicon sealent. The Sign structure shall be covered from bottom using Aluminium composite panels as per drawing with provision for opening for accessibility and									
		<b>Sizes</b>										
57	2.4a	1000 x 1000	Station Identification sign	Nos	2	2	3	2	2	3	14	
			<b>Post</b>									
58	2.4Post		Providing a Sign post of 40mm dia NB 2mm thick MS hollow sections including welded Base plate in 3mm thick MS Plate and Gussets in 6mm thick MS Plate as per drawing with holes to fix it on holding down bolts anchored in concrete footing. The post shall closed with a 6 mm thick MS plate and parts kept unpainted to weld the sign structure as per the drawing to ensure a rigid connection at site. Providing a 6A SPN MCB electrical junction box welded to the post as specified location and making holes in the post for passing the electrical cable. The entire post assembly shall be painted in PU paint to match colour Grey as specified and approved by the Engineer-In-charge. The Post shall be always be a single continuous element without any joints.Cost to include all activities and temporary props used for a perfect vertical in plumb installation, shim Plates for adjustment of levels and filling the gap with concrete slury etc required for fixing the sign in an external location. >>	Nos	2	2	3	2	2	3	14	
			<b>Foundation and Pedestal</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and laying foundation for the Totem sign in PCC (concrete M20) including its compaction and all activities like Excavation, PCC base layer, Casting of holding down HTS anchor J bolts of 16mm dia using a sized template in MS 8mm thick for locating and accurate spacing of bolts as per drawing. Providing and fixing in position Sadarhalli stone pedestal in hand dressed rough finish surface in required size and shape as per drawing in 2 parts. Making cavity in stone for accommodating electrical box installing the two halves joined together by filling Plain cement concrete (M25) keeping a clear groove of 25mm wide recessed and finished as per drawing. 2mm thk SS clamps bolted and set into 3mm thk groove made 150mm from top and 200mm from bottom of the pedestal to keep it intact and flushed to face. The item cost includes cutting and opening the floor finish at location, and making good the location to the match the original finish after fixing and installation of sign >>	Nos								
		2.1.7	<b>Post mounted sign(Text), Non-Illuminated, 1-sided</b> <i>Post mounted</i>									
		<b>Drg. No.</b>	<b>2.1.7a,b,c</b>									
			Providing and fixing Non-illuminated Location signs as Pictograms in exterior areas of stations including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Box</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			The sign box 75mm deep shall be made out of 2 mm thick Aluminium sheet fabricated and provided with same material support channel spot welded (5mm dia) every 40mm c/c and 'Z' shape ties made in 2mm thick MS sheet CO2 welded to sign channel. All fabrication shall be done using CNC machines as per drawings. The box shall made with least welding by making a continuous folded channel and bent at corners to achieve a true right angled sign box. The entire box including channel supports are to be powder coated to match RAL CLASSIC 7016 colour duly approved by Engineer-in-Charge. Sign box flange receiving the sign face shall be provided with nut inserts to receive the screws to fix the sign frame. >>									
			<b>Sign panel - 1 face</b>									
			Providing and fixing sign panels on both side of sign box made out of 2mm thick Aluminium sheet frame fabricated to required size and shape, the frame to be welded on 2 bottom corners making a 'L' and top part of frame fixed at site after inserting the sign face, complete frame shall be powder coated on all faces to match RAL CLASSIC 7016. Sign face shall be made in 2mm thick aluminium sheet powder coated in White (RAL 9016) (as specified) having graphics pasted in Plotter cut Blockout vinyl pasted over a translucent white vinyl and entire panel covered with a protective overlaminated. The Plotter cut blockout vinyl to match the specified colour (colour Pantone7463 and Pantone 306C) and of specified make duly approved by the Engineer-in-Charge. The 'L' frame to be made out of single sheets in continuous length without any joints and fixed to sign using Blind rivets as specified and approved by Engineer-in-Charge. The top member of frame shall be fixed using cross headed M4 screws to allow opening the frame for servicing. Powder coating shall be done on all internal as well as external surfaces. >>									
			<b>Back panel</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and fixing Back panel on the inside of sign box made out of 2mm thick Aluminium sheet frame fabricated to required size and shape, shall be powder coated on all faces to match RAL CLASSIC 7016 color. The back panel shall be fixed to the sign using blind rivets as specified. Powder coating shall be done on all internal as well as external surfaces. >>									
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
			Accessories: Providing and fixing all accessories such as nut-inserts, screws , rivets, bolts, washers, nuts, etc. complete as per drawing.>>									
		<b>Sizes</b>										
59	2.1.7a	1500 x 450	Station name on platform sign	Nos	9	6	6	6	6	6	39	
			<b>Post</b>									
60	2.1.7Post		Providing a Sign post of 40mm dia NB 2mm thick MS hollow sections including welded Base plate in 3mm thick MS Plate and Gussets in 6mm thick MS Plate as per drawing with holes to fix it on holding down bolts anchored in concrete footing. The post shall closed with a 6 mm thick MS plate and parts kept unpainted to weld the sign structure as per the drawing to ensure a rigid connection at site. Providing a 6A SPN MCB electrical junction box welded to the post as specified location and making holes in the post for passing the electrical cable. The entire post assembly shall be painted in PU paint to match colour Grey as specified and approved by the Engineer-In-charge. The Post shall be always be a single continuous element without any joints. Cost to include all activities and temporary props used for a perfect vertical in plumb installation, shim Plates for adjustment of levels and filling the gap with concrete slurry etc required for fixing the sign in an external location. >>	Nos	9	6	6	6	6	6	39	
			<b>Foundation and Pedestal</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and laying foundation for the Totem sign in PCC (concrete M20) including its compaction and all activities like Excavation, PCC base layer, Casting of holding down HTS anchor J bolts of 16mm dia using a sized template in MS 8mm thick for locating and accurate spacing of bolts as per drawing. Providing and fixing in position Sadarhalli stone pedestal in hand dressed rough finish surface in required size and shape as per drawing in 2 parts. Making cavity in stone for accommodating electrical box installing the two halves joined together by filling Plain cement concrete (M25) keeping a clear groove of 25mm wide recessed and finished as per drawing. 2mm thk SS clamps bolted and set into 3mm thk groove made 150mm from top and 200mm from bottom of the pedestal to keep it intact and flushed to face. The item cost includes cutting and opening the floor finish at location, and making good the location to the match the original finish after fixing and installation of sign >>	Nos								

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
		2.5	Door signs, non-illuminated, 1 sided Face mounted									
		<b>Drg. No.</b>	<b>2.5a,b,c</b>									
			Providing and fixing Non-illuminated Information poster sign in interiors of stations form procuring, fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign frame</b>									
			Providing and fixing plate signs made in 2mm Aluminium Sheet neatly trimmed and corners rounded and dressed with holes punched/drilled as per size given in drawing. Complete plate on both faces to be powdercoated in white colour as specified and duly approved by Engineer-in-charge, edge to edge graphics to be pasted on the plate printed over self adhesive vinyl as per artwork and complete plate covered with an protective overlamine as specified and duly approved by Engineer-in-charge. Cost to include fixing of sign at location on to Plasted surface/concrete/Granite cladding etc including all marking, alignment, drilling, plugs, Philips hexagonal head stainless steel screws and 3mm thick EPDM Rubber spacers etc complete as specified in drawings and at locations approved by the Engineer-in-charge >>									
		<b>Sizes</b>										

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
61	2.5a	162.5 x 150	Door names	Nos	3	3	3	3	6	3	21	
62	2.5b	225 x 150	Door names	Nos	7	8	8	8	6	5	42	
63	2.5d	150 x 225		Nos						2	2	

SI. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
		3.1.1	Face mounted sign, non-illuminated <i>Face Mounted</i>									
		<b>Drg. No.</b>	<b>3.1.1a,b,c</b>									
			Providing and fixing Non-illuminated Information poster sign in interiors of stations form procuring, fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			<b>Sign frame</b>									
			Providing and fixing at location made in readily available hinged clickable secure aluminium extrusions (max 30mm wide on face and capable of holding a sandwich graphic with total thickness of max 8mm) made into a frame with miter joint and assembled with corner pieces, entire frame mounted on same size 2mm thick aluminium sheet powder coated in White (RAL 9016), mounted with fabricated angle cleats 25x25x3 of MS equal angle to mount on the mounting frame. The Aluminium sections shall be powdercoated in colour as specified and approved by the Engineer-in-charge base on a presented sample of the sign>>									
			<b>Graphics</b>									
			Providing and fixing, matt laminated printed graphic cut to size and mounted on 3mm PVC foam sheet inside the frame covered and protected with a cut to size 4mm thick Clear polycarbonate sheet. The graphic shall be printed using original artworks and all colours in graphics shall be duly approved by the Engineer-in-charge based on a sample print.>>									
		<b>Sizes</b>										
64	3.1.1a	297 x 841		Nos	4	2	4	4	2	16		

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Changam puzha Park	Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally				
65	3.1.1b	594 x 841		Nos	1	1	1		8		11		
66	3.1.1c	1250 x 900		Nos	1			2	6	1	10		
67	3.1.1.d	906 x 297		Nos					2		2		
68	3.1.1.e	2500 x 900						6		1	7		
69	3.1.1face		<b>Sign Mounting : Face</b> :The sign mounting frame made up of 40x40x5mm MS Equal angles as a frame back to back provided with welded angle cleats plates in 40x40x5mm MS Equal angles along the perimeter of frame with slots to receive the rivets to fix the sign frame as per drawing . Complete mounting frame including channel supports are to be PU painted to match GreyG2 of approved make and duly approved by Engineer-in-Charge. >>	Nos	6	3	5	12	18	2	46		
		3.1.2	<b>Post mounted sign, non-illuminated</b> <i>Face Mounted</i>										
		<b>Drg. No.</b>	<b>3.1.1a,b,c</b>										
			Providing and fixing Non-illuminated Information poster sign in interiors of stations form procuring, fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>										
			<b>Sign frame</b>										
			Providing and fixing at location made in readily available hinged clickable secure aluminium extrusions (max 30mm wide on face and capable of holding a sandwich graphic with total thickness of max 8mm) made into a frame with miter joint and assembled with corner pieces, entire frame mounted on same size 2mm thick aluminium sheet powder coated in White (RAL 9016), mounted with fabricated angle cleats 25x25x3 of MS equal angle to mount on the mounting frame. The Aluminium sections shall be powdercoated in colour as specified and and approved by the Engineer-in-charge base on a presented sample of the sign>>										
			<b>Graphics</b>										

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and fixing, matt laminated printed graphic cut to size and mounted on 3mm PVC foam sheet inside the frame covered and protected with a cut to size 4mm thick Clear polycarbonate sheet. The graphic shall be printed using original artworks and all colours in graphcis shall be duly approved by the Engineer-in-charge based on a sample print.>>									
		<b>Sizes</b>										
70	3.1.2c	1250 x 900		Nos	5	10		2	4	3	24	
71	3.1.2Post		<b>Sign Mounting : Face</b> :The sign mounting frame made up of 40x40x5mm MS Equal angles as a frame back to back provided with welded angle cleats plates in 40x40x5mm MS Equal angles along the perimeter of frame with slots to receive the rivets to fix the sign frame as per drawing . Complete mounting frame including channel supports are to be PU painted to match GreyG2 of approved make and duly approved by Engineer-in-Charge. >>	Nos	5	10	0	2	4	3	24	
		<b>3.3</b>	<b>Face mounted sign, non-illuminated, double height</b>									
			<i>Face Mounted</i>									
		<b>Drg. No.</b>	<b>3.3a,b,c</b>									
			Providing and fixing Non-illuminated Information poster sign in interiors of stations form procuring, fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Box</b>									
			The sign box 20mm deep shall be fabricated out 3mm thick aluminium sheet. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated to match Grey as per specifications. The Frame is fixed on 5mm thk aluminium sheet and painted as per specification. Refer drawing for details.									
			<b>Sign panel - 1 side non-illuminated face</b>									
			5mm thk aluminium sheet is bent and fixed to the box frame with angles and printed opaque vinyl as per specification is applied on the surface. Refer drawing for details.									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			<b>Mounting angles</b>									
			Providing and fixing equal angles fabricated in 3mm thick MS 25x25 provided with holes for fixing the sign frame and to mount the angles on wall/cladding surface using 8mm dia anchor fastners. Cost to include fixing of sign at location on to Plastared surface/concrete/Granite cladding etc including all marking, alignment, drilling using 8mm thick EPDM Rubber spacers etc complete as specified in drawings and at locations approved by the Engineer-in-charge>>									
		<b>Sizes</b>										
72	3.3a	1200 x 600	Platform information sign	Nos	1	1	1	1	4	3	11	
73	3.3face		<b>Sign Mounting : Face</b> :The sign mounting frame made up of 40x40x5mm MS Equal angles as a frame back to back provided with welded angle cleats plates in 40x40x5mm MS Equal angles along the perimeter of frame with slots to receive the rivets to fix the sign frame as per drawing . Complete mounting frame including channel supports are to be PU painted to match GreyG2 of approved make and duly approved by Engineer-in-Charge. >>	Nos	1	1	1	1	4	3	11	
		3.1.2	<b>Post Mounted Sign, 1 sided, Non-Illuminated, Post mounted,</b>									
		<b>Drg. No.</b>	<b>3.1.2a,b,c</b>									
			Providing and fixing non-illuminated Post mounted sign in exterior areas of stations with the KMRL Area map including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Frame</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and fixing at location poster panel made in readily available hinged clickable secure aluminium extrusions (max 30mm wide on face and capable of holding a sandwich graphic with total thickness of max 8mm) made into a frame with miter joint and assembled with corner pieces, entire frame mounted on same size 2mm thick aluminium sheet powder coated in White, mounted with fabricated angle cleats 25x25x3 of MS CRCA sheet to mount on the mounting frame. The Aluminium sections shall be powdercoated in colour to match Grey and and approved by the Engineer-in-charge base on a presented sample of the sign>>									
			<b>Graphics</b>									
			Providing and fixing, matt laminated printed graphic cut to size and mounted on 3mm PVC foam sheet inside the frame covered and protected with a cut to size 4.5mm thick Clear polycarbonate sheet. The graphic shall be printed using original artworks and all colours in graphcis shall be duly approved by the Engineer-in-charge based on a sample print.>>									
		<b>Sizes</b>										
74	3.1.2a	1250 x 900	Area map/system map	Nos			13			13		
			<b>Post</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Changam puzha Park	Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally				
75	3.1.2Post		Providing a Sign post of 80mm dia NB 5.4mm thick MS hollow sections including welded Base plate in 8mm thick MS Plate and Gussets in 6mm thick MS Plate as per drawing with holes to fix it on holding down bolts anchored in concrete footing. The post shall closed with a 6 mm thick MS plate and parts kept unpainted to weld the sign structure as per the drawing to ensure a rigid connection at site. Providing a 6A SPN MCB electrical junction box welded to the post as specified location and making holes in the post for passing the electrical cable. The entire post assembly shall be painted in PU paint to match colour Grey as specified and approved by the Engineer-In-charge. The Post shall be always be a single continuous element without any joints. Cost to include all activities and temporary props used for a perfect vertical in plumb installation, shim Plates for adjustment of levels and filling the gap with concrete slury etc required for fixing the sign in an external location. >>	Nos	0	0	13	0	0	0	13		
			<b>Foundation and Pedestal</b>										
			Providing and laying foundation for the Totem sign in PCC (concrete M20) including its compaction and all activities like Excavation, PCC base layer, Casting of holding down HTS anchor J bolts of 16mm dia using a sized template in MS 8mm thick for locating and accurate spacing of bolts as per drawing. Providing and fixing in position Sadarhalli stone pedestal in hand dressed rough finish surface in required size and shape as per drawing in 2 parts. Making cavity in stone for accommodating electrical box installing the two halves joined together by filling Plain cement concrete (M25) keeping a clear groove of 25mm wide recessed and finished as per drawing. 2mm thk SS clamps bolted and set into 3mm thk groove made 150mm from top and 200mm from bottom of the pedestal to keep it intact and flushed to face. The item cost includes cutting and opening the floor finish at location, and making good the location to the match the original finish after fixing and installation of sign >>	Nos									
			<b>3.1.5 Post Mounted Sign, 1 sided, Non-Illuminated, 2post Post mounted</b>										
			<b>Drg. No. 3.1.5a,b,c</b>										

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and fixing non-illuminated Post mounted sign in exterior areas of stations with the KMRL Area map including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Frame</b>									
			The sign Frame shall be fabricated out of 2 mm thick Aluminium extrusion channel. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated to match Grey as per specifications..									
			<b>Sign panel - 1 side non-illuminated face</b>									
			Providing and fixing sign frame made out of 3mm thick Polycarbonate sheet. Sign face shall be made in 3mm thick clear white Polycarbonate (as specified) having graphics pasted on ACP and entire panel covered with a protective over laminate as Polycarbonate sheet.									
		<b>Sizes</b>										
<b>76</b>	<b>3.1.5a</b>	<b>2500 x 900</b>	<b>Area map + System map</b>	<b>Nos</b>	<b>7</b>	<b>5</b>	<b>7</b>	<b>3</b>	<b>3</b>	<b>5</b>	<b>30</b>	
			<b>Post</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
77	3.1.5.Post		Providing a Sign post of 80mm dia NB 5mm thick MS hollow sections including welded Base plate in 8mm thick MS Plate and Gussets in 6mm thick MS Plate as per drawing with holes to fix it on holding down bolts anchored in concrete footing. The post shall closed with a 6 mm thick MS plate and parts kept unpainted to weld the sign structure as per the drawing to ensure a rigid connection at site. Providing a 6A SPN MCB electrical junction box welded to the post as specified location and making holes in the post for passing the electrical cable. The entire post assembly shall be painted in PU paint to match colour Grey as specified and approved by the Engineer-In-charge. The Post shall be always be a single continuous element without any joints. Cost to include all activities and temporary props used for a perfect vertical in plumb installation, shim Plates for adjustment of levels and filling the gap with concrete slury etc required for fixing the sign in an external location. >>	Nos	7	5	7	3	3	5	30	
			<b>Foundation and Pedestal</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and laying foundation for the Totem sign in PCC (concrete M20) including its compaction and all activities like Excavation, PCC base layer, Casting of holding down HTS anchor J bolts of 16mm dia using a sized template in MS 8mm thick for locating and accurate spacing of bolts as per drawing. Providing and fixing in position Sadarhalli stone pedestal in hand dressed rough finish surface in required size and shape as per drawing in 2 parts. Making cavity in stone for accommodating electrical box installing the two halves joined together by filling Plain cement concrete (M25) keeping a clear groove of 25mm wide recessed and finished as per drawing. 2mm thk SS clamps bolted and set into 3mm thk groove made 150mm from top and 200mm from bottom of the pedestal to keep it intact and flushed to face. The item cost includes cutting and opening the floor finish at location, and making good the location to the match the original finish after fixing and installation of sign >>	Nos								
			<b>3.4 Post mounted sign, Digital Illuminated, 1-sided</b> <i>Post mounted</i>									
			<b>Drg. No. 2.1.5a,b,c</b>									
			Providing and fixing Non-illuminated Location signs as Pictograms in exterior areas of stations including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Box</b>									
			Providing and fixing of brought out item, 42" LED of Leading Brand as approved by Engineer-in-Chanrge.									
			<b>Connecting Frame</b>									
			Providing and fixing connecting frame on Post. The LED mounting bracket to be fixied on this and on top of that, the LED to be mounted									
			<b>Post</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing a Sign post of 80mm dia NB 5.4mm thick MS hollow sections including welded Base plate in 8mm thick MS Plate and Gussets in 6mm thick MS Plate as per drawing with holes to fix it on holding down bolts anchored in concrete footing. The post shall closed with a 6 mm thick MS plate and parts kept unpainted to weld the sign structure as per the drawing to ensure a rigid connection at site. Providing a 6A SPN MCB electrical junction box welded to the post as specified location and making holes in the post for passing the electrical cable. The entire post assembly shall be painted in PU paint to match colour Grey as specified and approved by the Engineer-In-charge. The Post shall be always be a single continuous element without any joints. Cost to include all activities and temporary props used for a perfect vertical in plumb installation, shim Plates for adjustment of levels and filling the gap with concrete slury etc required for fixing the sign in an external location. >>									
			<b>Foundation and Pedestal</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and laying foundation for the Totem sign in PCC (concrete M20) including its compaction and all activities like Excavation, PCC base layer, Casting of holding down HTS anchor J bolts of 16mm dia using a sized template in MS 8mm thick for locating and accurate spacing of bolts as per drawing. Providing and fixing in position Sadarhalli stone pedestal in hand dressed rough finish surface in required size and shape as per drawing in 2 parts. Making cavity in stone for accommodating electrical box installing the two halves joined together by filling Plain cement concrete (M25) keeping a clear groove of 25mm wide recessed and finished as per drawing. 2mm thk SS clamps bolted and set into 3mm thk groove made 150mm from top and 200mm from bottom of the pedestal to keep it intact and flushed to face. The item cost includes cutting and opening the floor finish at location, and making good the location to the match the original finish after fixing and installation of sign >>									
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
			Accessories: Providing and fixing all accessories such as nut-inserts, screws , rivets, bolts, washers, nuts, etc. complete as per drawing.>>									
		<b>Sizes</b>										
78	3.4a	42" inch LCD	42" LCD TV (BROUGHT OUT ITEM)	Nos	13	10	12	10	9	8	62	

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
79	3.4Post		Providing a Sign post of 80mm dia NB 5.4mm thick MS hollow sections including welded Base plate in 8mm thick MS Plate and Gussets in 6mm thick MS Plate as per drawing with holes to fix it on holding down bolts anchored in concrete footing. The post shall closed with a 6 mm thick MS plate and parts kept unpainted to weld the sign structure as per the drawing to ensure a rigid connection at site. Providing a 6A SPN MCB electrical junction box welded to the post as specified location and making holes in the post for passing the electrical cable. The entire post assembly shall be painted in PU paint to match colour Grey as specified and approved by the Engineer-In-charge. The Post shall be always be a single continuous element without any joints. Cost to include all activities and temporary props used for a perfect vertical in plumb installation, shim Plates for adjustment of levels and filling the gap with concrete slury etc required for fixing the sign in an external location. >>	Nos	13	10	12	10	9	8	62	
			<b>Foundation and Pedestal</b>									
			Providing and laying foundation for the Totem sign in PCC (concrete M20) including its compaction and all activities like Excavation, PCC base layer, Casting of holding down HTS anchor J bolts of 16mm dia using a sized template in MS 8mm thick for locating and accurate spacing of bolts as per drawing. Providing and fixing in position Sadarhalli stone pedestal in hand dressed rough finish surface in required size and shape as per drawing in 2 parts. Making cavity in stone for accommodating electrical box installing the two halves joined together by filling Plain cement concrete (M25) keeping a clear groove of 25mm wide recessed and finished as per drawing. 2mm thk SS clamps bolted and set into 3mm thk groove made 150mm from top and 200mm from bottom of the pedestal to keep it intact and flushed to face. The item cost includes cutting and opening the floor finish at location, and making good the location to the match the original finish after fixing and installation of sign >>	Nos								
			<b>3.1.3 Post mounted sign, non-Illuminated, 1-sided</b> <i>Post mounted</i>									
			<b>Drg. No. 2.1.5a,b,c</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and fixing Non-illuminated Location signs as Pictograms in exterior areas of stations including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Box</b>									
			Providing and fixing at location poster panel made in readily available hinged clickable secure aluminium extrusions (max 35mm wide on face and capable of holding a sandwich graphic with total thickness of max 8mm) made into a frame with miter joint and assembled with corner pieces, entire frame mounted on same size 2mm thick aluminium sheet powder coated in White (RAL 9016), mounted with fabricated angle cleats 25x25x3 of MS CRCA sheet to mount on the mounting frame. The Aluminium sections shall be powdercoated in colour to match Grey and and approved by the Engineer-in-charge base on a presented sample of the sign>>									
			<b>Graphics</b>									
			Providing and fixing, matt laminated printed graphic and mounted on 3mm PVC foam sheet inside the frame covered and protected with a cut to size 4.5mm									
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
			Accessories: Providing and fixing all accessories such as nut-inserts, screws , rivets, bolts, washers, nuts, etc. complete as per drawing.>>									
			<b>Sizes</b>									
80	3.1.3d	906 x 297	Double line map	Nos	4	4	4	6		2	20	
81	3.1.3e	297 x 841	Double line map							2	2	
82	3.1.3f	594 x 841	Double line map							2	2	
			<b>Post</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
83	3.1.3Post		Providing a Sign post of 80mm dia NB 5.4mm thick MS hollow sections including welded Base plate in 8mm thick MS Plate and Gussets in 6mm thick MS Plate as per drawing with holes to fix it on holding down bolts anchored in concrete footing. The post shall closed with a 6 mm thick MS plate and parts kept unpainted to weld the sign structure as per the drawing to ensure a rigid connection at site. Providing a 6A SPN MCB electrical junction box welded to the post as specified location and making holes in the post for passing the electrical cable. The entire post assembly shall be painted in PU paint to match colour Grey as specified and approved by the Engineer-In-charge. The Post shall be always be a single continuous element without any joints. Cost to include all activities and temporary props used for a perfect vertical in plumb installation, shim Plates for adjustment of levels and filling the gap with concrete slury etc required for fixing the sign in an external location. >>	Nos	4	4	4	6	0	6	24	
			<b>Foundation and Pedestal</b>									
			Providing and laying foundation for the Totem sign in PCC (concrete M20) including its compaction and all activities like Excavation, PCC base layer, Casting of holding down HTS anchor J bolts of 16mm dia using a sized template in MS 8mm thick for locating and accurate spacing of bolts as per drawing. Providing and fixing in position Sadarhalli stone pedestal in hand dressed rough finish surface in required size and shape as per drawing in 2 parts. Making cavity in stone for accommodating electrical box installing the two halves joined together by filling Plain cement concrete (M25) keeping a clear groove of 25mm wide recessed and finished as per drawing. 2mm thk SS clamps bolted and set into 3mm thk groove made 150mm from top and 200mm from bottom of the pedestal to keep it intact and flushed to face. The item cost includes cutting and opening the floor finish at location, and making good the location to the match the original finish after fixing and installation of sign >>	Nos								
			<b>3.1.4 Post mounted sign, non-Illuminated, 2-sided</b> <i>Post mounted</i>									
			<b>Drg. No. 2.1.5a,b,c</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and fixing Non-illuminated Location signs as Pictograms in exterior areas of stations including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Box</b>									
			Providing and fixing at location poster panel made in readily available hinged clickable secure aluminium extrusions (max 35mm wide on face and capable of holding a sandwich graphic with total thickness of max 8mm) made into a frame with miter joint and assembled with corner pieces, entire frame mounted on same size 2mm thick aluminium sheet powder coated in White (RAL 9016), mounted with fabricated angle cleats 25x25x3 of MS CRCA sheet to mount on the mounting frame. The Aluminium sections shall be powdercoated in colour to match Grey and and approved by the Engineer-in-charge base on a presented sample of the sign>>									
			<b>Graphics</b>									
			Providing and fixing, matt laminated printed graphic and mounted on 3mm PVC foam sheet inside the frame covered and protected with a cut to size 4.5mm thick Clear polycarbonate sheet. The graphic shall be printed using original artworks and all colours in graphcis shall be duly approved by the Engineer-in-charge based on a sample print.>>									
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
			Accessories: Providing and fixing all accessories such as nut-inserts, screws , rivets, bolts, washers, nuts, etc. complete as per drawing.>>									
			<b>Sizes</b>									
84	3.1.3a	300 x 300	Single line map	Nos						0		
85	3.1.3b	300 x 600	Single line map	Nos						0		
86	3.1.3c	300 x 900	Single line map	Nos						0		
			<b>Post</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
87	3.1.3Post		Providing a Sign post of 80mm dia NB 5.4mm thick MS hollow sections including welded Base plate in 8mm thick MS Plate and Gussets in 6mm thick MS Plate as per drawing with holes to fix it on holding down bolts anchored in concrete footing. The post shall closed with a 6 mm thick MS plate and parts kept unpainted to weld the sign structure as per the drawing to ensure a rigid connection at site. Providing a 6A SPN MCB electrical junction box welded to the post as specified location and making holes in the post for passing the electrical cable. The entire post assembly shall be painted in PU paint to match colour Grey as specified and approved by the Engineer-In-charge. The Post shall be always be a single continuous element without any joints. Cost to include all activities and temporary props used for a perfect vertical in plumb installation, shim Plates for adjustment of levels and filling the gap with concrete slury etc required for fixing the sign in an external location. >>	Nos	0	0	0	0	0	0	0	
			<b>Foundation and Pedestal</b>									
			Providing and laying foundation for the Totem sign in PCC (concrete M20) including its compaction and all activities like Excavation, PCC base layer, Casting of holding down HTS anchor J bolts of 16mm dia using a sized template in MS 8mm thick for locating and accurate spacing of bolts as per drawing. Providing and fixing in position Sadarhalli stone pedestal in hand dressed rough finish surface in required size and shape as per drawing in 2 parts. Making cavity in stone for accommodating electrical box installing the two halves joined together by filling Plain cement concrete (M25) keeping a clear groove of 25mm wide recessed and finished as per drawing. 2mm thk SS clamps bolted and set into 3mm thk groove made 150mm from top and 200mm from bottom of the pedestal to keep it intact and flushed to face. The item cost includes cutting and opening the floor finish at location, and making good the location to the match the original finish after fixing and installation of sign >>	Nos								
		4.1	<b>Suspended sign, Illuminated, 2 sided, single height</b> <i>Suspended</i>									
		<b>Drg. No.</b>	<b>4.1a,b,c</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and fixing brought out illuminated signs including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge. The Artwork to be fixed on Toughened Glass. Part Name :ISIGN DISPLAY. Manufacturer : Cosign Modular Sign Systems. The Company appointed Executer will manufacture as per size and also fix at site.									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			<b>Sign Box</b>									
			The sign box 50mm deep shall be fabricated with Aluminium extrusion channel from Cosign. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated to match Grey as per specifications..									
			<b>Sign panel - 2 side Illuminated face</b>									
			Providing and fixing sign panel on both side of sign box made out of acrylic sheet. The acrylic Sign Panel should be fixed on the Sign box with appropriate adhesive.									
			<b>Illumination</b>									
			Providing and fixing the LED strips for proper illumination.									
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
			Accessories: Providing and fixing all accessories such as nut-inserts, screws , rivets, bolts, washers, nuts, etc. complete as per drawing.>>									
			<b>Sign fixingSuspended</b> : Sign box shall be fixed to the indicated surface (Ceiling)duly approved by the Engineer-in-Charge.>>									
		<b>Sizes</b>										
88	4.1a	1000 x 300	Way to ETS at platform	Nos				2	4	6		
89	4.1b	1200 x 300	Way to ETS at platform	Nos	2	2	2	4	6	4	20	
90	4.1c	1500 x 300	Way to ETS at platform	Nos	2	6	6	2	4	2	22	
	4.1d	600 x 300		Nos	6	2	2	8	4	7	29	

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
91	4.1susp		<p><b>Suspended Sign fixing</b> : Providing and fixing suspension for the signs using MS Hollow Circular sections cut, fabricated as per drawing and provided with connectors plates for mounting with holes and entire assembly finished in PU paint to colour to match RAL CLASSIC 7016 color as approved by the Engineer -in-chagre. Suspenders shall be made to required lengths for each sign for its location after studying the site and ensuring a perfectly aligned and leveled sign installation. This item includes all work done on false ceiling like opening/dismantling/local cutting to pass the suspender and reinstalling/doing good/assembling the same after fixing and installation on the sign. Length of suspender for one sign is calculated as total length of 2 suspenders used for that sign.</p> <p>Providing and fixing at location using 50mm dia NB 3.6mm thick MS hollow sections, fabricated and finished as specified. The cost shall be quoted for providing 1m long suspenders for 1 sign.</p> <p>The suspenders shall be fixed to the overhead concrete beams/slabs using 6mm thick MS plate. 12mm dia anchor fastners of specified make duly approved by the Engineer-in-charge and connected to the sign using M8 Bolts with lock nuts and lock clip washers in numbers as specified in the drawings. This suspender shall include cover plate made in MS Hollow section with a 20mm flange made in 2mm thick CRCA MS sheet and powdercoated to match GreyG3</p>	Nos	10	10	10	16	18	13	77	
		4.2	<p><b>Face mounted sign, illuminated, 1 sided</b> <i>Face mounted</i></p>									
		Drg. No.	4.2a,b,c									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and fixing brought out illuminated signs including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge. The Artwork to be fixed on Toughened Glass. Part Name :ISIGN DISPLAY. Manufacturer : Cosign Modular Sign Systems. The Company appointed Executer will manufacture as per size and also fix at site.									
			<b>Sign Box</b>									
			The sign box 50mm deep shall be fabricated with Aluminium extrusion channel from Cosign. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated to match Grey as per specifications..									
			<b>Sign panel - 1 side illuminated face</b>									
			Providing and fixing sign panel on one side of sign box made out of acrylic sheet. The acrylic Sign Panel should be fixed on the Sign box with appropriate adhesive.									
			<b>Illumination</b>									
			Providing and fixing the LED strips for proper illumination.									
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
			Accessories: Providing and fixing all accessories such as nut-inserts, screws , rivets, bolts, washers, nuts, etc. complete as per drawing.>>									
			<b>Sign fixing Face mounted</b> : Sign box shall be fixed to the indicated surface (Wall) duly approved by the Engineer-in-Charge.>>									
			<b>Sizes</b>									
92	4.2a	1200 x 300	Way to emergency exit	Nos		4	4			8		
93	4.2b	1500 x 300	Way to emergency exit	Nos				1		1		
94	4.2c	600 x 300	Way to emergency exit	nos	10	7	8	4	26	69		
95	4.2d	1000 x 300		Nos		2				2		

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
96	4.2face		<b>Sign Mounting : Face</b> :The sign mounting frame made up of 40x40x5mm MS Equal angles as a frame back to back provided with welded angle cleats plates in 40x40x5mm MS Equal angles along the perimeter of frame with slots to receive the rivets to fix the sign frame as per drawing . Complete mounting frame including channel supports are to be PU painted to match GreyG2 of approved make and duly approved by Engineer-in-Charge. >>	Nos	10	13	12	4	27	14	80	
			<b>4.3 Projected sign, illuminated, 2 sided, single height</b> <i>Projected</i>									
		<b>Drg. No</b>	<b>4.3a,b,c</b>									
			Providing and fixing brought out illuminated signs including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge. The Artwork to be fixed on Toughened Glass. Part Name :ISIGN DISPLAY. Manufacturer : Cosign Modular Sign Systems. The Company appointed Executer will manufacture as per size and also fix at site.									
			<b>Sign Box</b>									
			The sign box 50mm deep shall be fabricated with Aluminium extrusion channel from Cosign. The frame work is to be completed with internally blind revetting and brackets. Complete sign box is to be powder coated to match Grey as per specifications..									
			<b>Sign panel - non-illuminated face</b>									
			Providing and fixing sign panel on both side of sign box made out of acrylic sheet. The acrylic Sign Panel should be fixed on the Sign box with appropriate adhesive.									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			<b>Projected</b> - Providing and fixing projected support for signs. The entire assembly shall be finished in PU paint in colour Grey to match as per drawing and as approved by the Engineer -in-charge. Including fixing at site after due site checking and making good all the surface finishes after the sign is installed perfectly aligned and leveled.>>									
		<b>Sizes</b>										
97	4.3b	1000 x 300	Way to emergency exit	Nos	2		2			4		
98	4.3c	1200 x 300	Way to emergency exit	Nos	2				1	3		
99	4.3d	600 x 300	Way to emergency exit	Nos					2	2		
100	4.3Proj		<b>Projected</b> - Providing and fixing projected support for signs using 50mm dia NB 3.6mm thick MS hollow sections based on the sign length, cut and finished to required length and welded to the bracket as per design at one end and closed at the other, providing connectors for sign in 32mm dia NB 2.6mm thick MS hollow sections. including providing connecting tie rods for signs larger than 1500mm as per fabrication drawings. The entire assembly shall be finished in PU paint in colour RAL CLASSIC 7016 color to match as per drawing and as approved by the Engineer -in-charge. Including fixing at site after due site checking and making good all the surface finishes after the sign is installed perfectly aligned and leveled.>>	Nos	4	0	2	0	2	1	9	
		3.2	<b>Face mounted frame sign, non-illuminated, Face mounted</b>									
		<b>Drg. No.</b>	<b>3.2a,b,c</b>									
			Providing and fixing non-illuminated signs including all operations from fabrication to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Box</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and fixing frame signs made in 2mm thick aluminium sheet powder coated in white (RAL9016) fabricated as tray with a 28mm return with corners joined on inside with Silicon sealant and neatly finished on outside and mounted on a frame made out of 3mm thick MS fabricated equal anges 25x25 powdercoated to match colour Grey. Printed Graphics over self Adhesive Vinyl as per artwork to be pasted on the sign face wrapped on the sides and complete plate covered with an protective overlamine as specified and uly approved by Engineer-in-charge. Cost to include fixing of sign at location on to Plastared surface/concrete/Granite cladding etx., including all marking aignment, drilling, ;lugs, counter sunk stainless steel screws and 8mm thick EPDM Rubber spacers etc complate as specified in drawings and at locations approved by the Engineer-in-charge.									
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
			Accessories: Providing and fixing all accessories such as nut-inserts, screws , rivets, bolts, washers, nuts, etc. complete as per drawing.>>									
		<b>sizes</b>										
101	3.2a	300 x 600	Entry strictly prohibited	Nos	4	4	4	4	4	4	24	
102	3.2b	450 x 300	Entry strictly prohibited	Nos	4	4	4	4	4	4	24	
103	3.2c	300 x 450	Entry strictly prohibited	Nos	2	2	2	2	2	2	12	
104	3.2d	450 x 375	Entry strictly prohibited	Nos	1	1	1		1		4	
105	3.2e	800 x 240	Entry strictly prohibited	Nos					4	2	6	
106	3.2face		<b>Sign Mounting : Face</b> :The sign mounting frame made up of 40x40x5mm MS Equal angles as a frame back to back provided with welded angle cleats plates in 40x40x5mm MS Equal angles along the perimeter of frame with slots to receive the rivets to fix the sign frame as per drawing . Complete mounting frame including channel supports are to be PU painted to match GreyG2 of approved make and duly approved by Engineer-in-Charge. >>	Nos	11	11	11	10	15	12	70	

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
		7.1	<b>Vinyl Sign, non-illuminated, Face mounted</b>									
		Drg. No.	<b>7.1a,b,c</b>									
			Providing and fixing non-illuminated signs including all operations from printing to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Face</b>									
			Providing and fixing graphics directly pasted on the glass surfaces. printed over self adhesive vinyl as per artwork and completed and laminated with protective overlamite as specified and duly approved by Engineer-in-charge. Cost to include fixing of sign at location on to glass surface including its cleaning. marking, alignment, complete as specified in drawings and at locations approved by the Engineer-in-charge									
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
			<b>Sizes</b>									
107	7.1a	7400 x 300	Ticket counter 1 sided	Nos	1					1		
108	7.1b	325 x 300		Nos	1	2	2		1	7		
109	7.1c	225 x 300		Nos	4	2	4	4		18		
110	7.1d	12800 x 300	Customer Care 4 sided(3200+3200+3200+3200)	Nos	1	1	1			3		
111	7.1e	150 x 225		Nos	2	2	2	1	2	11		
112	7.1f	3000 x 300	Ticket counter 1 sided	Nos					2	2		
113	7.1g	8100 x 300	Customer Care 3 sided(3800+2500+1800)	Nos					1	1		
114	7.1h	8200 x 300	Customer Care 3 sided(3500+2700+2000)	Nos					1	1		
115	7.1i	300 x 225	Authorised person only	Nos	7	3	3	9	5	27		
116	7.1j	3200 x 300		Nos					1	1		
117	7.1k	3300 x 300		Nos					1	1		
118	7.1l	4900 x 300		Nos					1	1		
119	7.1m	6000 x 300		Nos		1	1			2		
120	7.1n	5100 x 300		Nos				1		1		
121	7.1o	12400 x 300		Nos				1		1		
		7.2	<b>Print on Self Adhesive Frosted Film, Face mounted</b>									
		Drg. No.	<b>7.2a,b,c</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and fixing non-illuminated signs including all operations from printing to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Face</b>									
			Providing and Pasting Digitally printed signs on transperent self adhesive vinyl directly pasted the backside of glass surfaces(seen from Customer end), and applying frosted film on top of that , and duly approved by Engineer-in-charge. Cost to include fixing of sign at location on to back surface of glass inlucing its cleaning. marking, alignment, complete as spedified in artwork drawings and at locations approved by the Engineer-in-charge									
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
		<b>Sizes</b>										
122	7.2a	5000 x 300	Customer care 2 sided(2500+2500)	Nos	1	1	1			3		
123	7.2b	7400 x 300	Ticket counter (5 counter)	Nos	1					1		
124	7.2c	3000 x 300	Ticket counter (4 counter)	Nos				3	2	5		
125	7.2d	3000 x 300	Customer care 1 sided (3000)	Nos				2		2		
126	7.2e	2300 x 300							1	1		
127	7.2f	2200 x 300							1	1		
128	7.2g	6000 x 300	Ticket counter	Nos		1	1			2		
129	7.2h	5100 x 300		Nos				1		1		
130	7.2i	4800 x 300						1		1		
		<b>7.3</b>	<b>Print on Self Adhesive Frosted Film, Face mounted</b>									
		<b>Drg. No.</b>	<b>7.3a,b,c</b>									
			Providing and fixing non-illuminated signs including all operations from printing to installation all complete as per relevant drawings, technical specifications, signage schedule and to the satisfaction of the Engineer-in-Charge.>>									
			<b>Sign Face</b>									

Sl. No.	Item Name	Sign type	Item description	Unit	Stations					Total Qty.	Rate (In Rs.)	amount (In Rs.)
					Muttom	Kalamas sery	CUSAT	Pathadipa lam	Edapally			
			Providing and fixing graphics directly pasted on the floor surfaces. printed over self adhesive vinyl , as per artwork and complited as specified and duly approved by Engineer-in-chanrg. Cost to include fixing of sign at location on to floor surface inlucing its cleaning. marking, alignment, complete as spedified in drawings and at locations approved by the Engineer-in-charge									
			Above description generally holds good for the following signage unless otherwise specified except due modifications with special mention>>									
		<b>Sizes</b>										
131	7.3a	76000 x 76	Floor mariking sign	Nos					2	2		
132	7.3b	900 x 900	Floor mariking sign	Nos	4	4	4	4	4	24		
133	7.3c	80000 x 76	Floor mariking sign	Nos	2	2	2	2	2	10		

344	316	328	315	417	340	2060	
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