



**KOLKATA METRO RAIL CORPORATION LIMITED**

**East West Corridor of Kolkata Metro**

**CONTRACT: Design, Fabrication, Supply & Erection of Prefabricated Steel Roof structure including Roof Portals, Purlins, Sheeting etc. for 6 Elevated stations and Foot Over Bridges for 2 stations, Cable Runner for 1 station of East West Corridor of Kolkata Metro.**

**CONTRACT NO: EWSR**

**TENDER DOCUMENTS**

**VOLUME 4**

**PRICE BID DOCUMENT**

**KOLKATA METRO RAIL CORPORATION LTD.  
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MUNSHI PREMCHAND SARANI  
KOLKATA 700021.**



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## **VOLUME IV: PRICE BID DOCUMENT**

### **1 GENERAL**

#### **1.1 INTRODUCTION**

Kolkata Metro Rail Corporation Ltd (KMRCL) invites sealed tenders from eligible /prequalified applicants for Contract No EWSR: Design, Fabrication, Supply & Erection of Prefabricated Steel Roof structure including Roof Portals, Purlins, Sheeting etc. for 6 Elevated stations and Foot Over Bridges for 2 stations, Cable Runner for 1 station of East West Corridor of Kolkata Metro.

The Tender documents consist of 4 volumes and GCC, Conditions of contract on SHE, along with their annexure, appendices, addenda and errata, if any as described in Clause 1.1.3 of Notice Inviting Tender. (NIT).

Tenders shall be prepared and submitted in accordance with the instructions given herein.

#### **1.1.2 The Tender documents consist of:**

##### **Volume 1**

- Notice Inviting Tender (NIT)
- Instructions to Tenderers (ITT)
- Special Conditions of Contract (SCC)

##### **Volume 2**

- General Specifications
- Special Specifications

##### **Volume 3 (Drawings)**

- Tender Drawings including Schedule of Dimensions

##### **Volume 4**

- Pricing Document: Bill of Quantities (BOQ) & Schedule of Payment

Following two documents too form part of tender document. The work is to be carried out in accordance with GCC & all provisions of conditions of contract on Safety, Health & Environment (SHE) shall be strictly followed. The tenderers while quoting their rates must carefully consider all the requirements of these documents:

- General conditions of contract – Part Design and Build only Contracts.
- Conditions of contract on Safety, Health & Environment (SHE).

**All these documents will form integral part of Contract Agreement also.**

This Volume- Price Bid Document should be read in conjunction with other volumes including drawings.

## CONTRACT -EWSR- Price Bid Document

Sl.No.	Item	Quantity	Unit	Rate (Rs.)	Amount
1.0	<p>Designing, providing, fabricating, painting, transporting, erecting and securing in position Prefabricated steel roof work for 6 Elevated Stations complete as per specifications, approved shop drawings and / or instructions</p> <p>Work under this item would generally cover all structural steel work for roof in the Stations, including roof portals, purfins, gutters, runners etc. in the station steel roof structure (but excluding down take pipes and sheeting on roof as per specification) along with attachments / provision for fixing E&amp;M, and Signalling/ Telecommunications equipments in the station steel roof structure.</p> <p>Work to include all intermediate stages of activities not defined herein, but otherwise implied for total completion of work</p> <p>Cost to include but not be limited to, all materials including wastage, all consumables, fasteners of all types for both temporary and permanent stages of work, all temporary stays, labour, temporary works including staging, scaffolding, tools, plant and equipments, and additional costs of all incidentals and necessary testing of material, workmanship etc including cost of painting as per specifications.</p> <p>Measurement will be on plan areas along outermost edge of station roof excluding gutters for individual stations.</p>				
1.1	Roof for Platforms and staircase from ground to concourse for 6 Elevated Stations.	26,280.00	SQM		
1.2	Designing, providing, fabricating, painting, transporting, erecting and securing in position Prefabricated steel work for Cable runner for Central park Station, Foot-over Bridges for Central Park (2 nos) and Sector V Stations (1 no.), using rolled sections or built-up sections, including composite action connectors, base plates, foundation bolts, etc and securing in position, complete, as per specifications, approved shop drawings and/or instructions	566.00	SQM		
<p>NOTE : Providing, fabricating and supplying Hot-Dip Galvanized Holding Down Bolts' including all assemblies and accessories that are required to be embedded in concrete work by other agencies are included in the rate quoted by the tenderer in item no 1.0</p> <p>Bolts shall be of sufficient length to ensure that sufficient length of threaded portion is embedded in concrete as per design. Threaded portion to be left projecting outside the concrete surface shall be as per requirement of supplier's design and approved drawing</p> <p>Cost of fabricated, assembled and supplied Bolts shall include all necessary expenses incurred, including costs of all washers, nuts, lock nuts and pins that may be required for securing the structural member with the embedded bolts.</p> <p>Work of actual fastening of the structural components with the embedded bolts shall have to be carried out by the supplier of the steel structure. However the foundation bolts shall be installed in foundation by civil contractor for construction of Elevated Stations.</p> <p>Supplier's quoted rate for the item shall include cost of executing the work for Bolts of all diameters and lengths</p>					

Sl.No.	Item	Quantity	Unit	Rate (Rs.)	Amount
2.0	<p>Providing, bending to required curved profile and fixing single skin Hi-Rib Profiled sheeting 930-1020 mm cover width, 28-32 mm crests @ 186-333 mm c/c manufactured out of 0.45 mm BMT (Base Metal Thickness) Hi-Tensile Galvalume/zincalume steel. The sheets shall have wide pans with 2-3 nos. stiffening ribs for effective water shedding and special male/female ends with full return legs on side laps for purlins support and anti-capillary flite in side lap. The sheets shall have a hot-dip metallic Zinc-Aluminium alloy coating (150 gms/Sq.m zinc (45%) / alum (55%)). Coating mass total on both sides. AZ-150 or equivalent as per AS 1397-1993), minimum 550 Mpa yield strength with SMP coating (min. silicone content 30%-50%) or Super Polyester XRW quality paint coat of approved colour. The coating shall be as per AS/NZS-2728 :1997 (category 3). The total coating thickness of 35 microns, comprising of 20 microns exterior coat of SMP orb superpolyester XRW on top surface over 5 micron primar coats on both surfaces including side and end laps. End laps shall not be less than 225 mm.</p> <p>(The sheets shall be fixed using polymer coated hot dip galvanised hex head self drilling fasteners as per AS: 3568 class 3 on each crest of sheets for connection with purlins and polymer coated hot dip stitching fasteners at 300 mm centres on all side and end laps and including providing and fixing corrugated cyclone assembly "Con-lok" or its equivalent in Zincalume K2-150 class 3 etc). The measurement shall be based on per unit of finished/flat area. Item to include curved sheets also wherever required. Approved Sealing tapes shall be used on side laps and end laps of sheets and closures to be provided at the last end o sheet.</p> <p>All types of steel sheets shall be load tested to safely carry 1.10 times the design wind loads and coating thickness to the satisfaction of Engineer-In-charge. Fasteners shall also be load tested. The contractor is to submit design and shop drawings for approval on the sheet profile, design and details before installation.</p>				
2.1	As per item 2 for roof sheeting / side cladding including for flashing etc in complete for platform and for staircase from ground to concourse, FOB.	22,707.80	SQM		
2.2	As per item 2 above but for plain, 0.5 mm total thickness SMP coated Galvalume steel of similar material for barge boards, gutters etc. complete.	2,474.33	SQM		

Sl.No.	Item	Quantity	Unit	Rate (Rs.)	Amount
3.0	Providing and fixing in position 3 mm thick corrugated clear polycarbonate sheets, Lexan LCS or other approved make for roof sky light, the corrugation profile shall match with the profile of roof sheets as listed out in item 1 above, including capping and fixing to roof sheets and steel girts by same fasteners as used for roof sheeting, minimum end laps of 200 mm sealign of laps with silicon sealant, water tight complete in all respects. (Payment shall be made on plan area of Polycarbonate sheet excluding end caps between sheets).	3,571.20	SQM		
4.0	Providing, fabricating to required profile and shape, transporting, erecting and fixing in position structural steel work conforming to 'IS 2062 Grade B' or equivalent including procurement of all raw steel materials, bolts, nuts & washer incl. Its testing, allowance for all types of wastages, straightening, cutting, bending of section wherever specified, drilling holes, bolting, provision of necessary tools, testing etc. The rate shall also include required surface preparation for application of all coats of shop and site primers and paints as specified. The rate shall also include preparation of complete detailed fabrication drawings based on the design drawings, required for all permanent and temporary structures and their approval from Engineer prior to execution. The rate shall also include provision and installation of ase plate, anchor bolts (measured in tonnes) etc as per drawings and specifications.				
4.1	Any temporary support, staging braces, strutting, tying or anchor bolts, black bolts, fasteners, weldign required to withstand the stresses of erection and carrying of plant and equipments are to ber included in ther rate.	30.00	MT		
5.0	Drainage work				
5.1	Providing & fixing on wall face M.S. Pipe rain water pipes conforming to IS:1239/2589 including jointing with seal ring, leaving 10mm gap for thermal expansion, as per drawings and specifications.				
	a) 125mm dia	480.00	RM		
	b) 150mm dia	100.00	RM		
	c) 200mm dia	1675.00	RM		
	<b>TOTAL</b>				

Sl.No.	Item	Quantity	Unit	Rate (Rs.)	Amount
	<b>Payment Terms</b>				
	A) Stage Payment for item 1 of BOQ:				
i	Procurement & testing of steel quantities on receipt in fabrication workshop against documentary evidence of purchase from approved supplier subject to a maximum of quantities as indicated in approved fabrication drawing and also as indicated in schedule.		45% of BOQ item rate.		
ii	On completion of fabrication of steel work quantities and testing of fabricated members including painting as per specifications and its approval by Engineer in charge.		25% of BOQ item rate.		
iii	On transportation and receipt of fabricated material in good condition at site in Delhi; approval of Engineer in charge regarding physical receipt of fabricated materials in good condition.		10% of BOQ item rate.		
iv	Final erection of the roof portals, purlins, gutters and provision for fixing of E&M, OHE and Signalling/ Telecommunications equipments in the station steel roof structure steel buildings at designated site location in all respects by the contractor and aligning them in proper position over the respective supports and its approval by the engineer in charge		Balance 20% of BOQ item rate.		
	- The payment for items (i) & (ii) above shall be against the Bank Guarantee duly executed in a form acceptable to the employer for an amount equivalent to the payment. The payment for item (iii) shall be against an indemnity bond duly executed !				
	- The Bank Guarantee shall be initially be valid for a minimum six months. It should be subsequently extended from time to time depending upon the progress of work.				
	The Bank Guarantee shall be released to the extent to the fabricated material reaches KMRCL site on completion of activity (iii) in good condition and certified by Engineer incharge to this effect.				
	B) Payment for items other than item no. 1 of BOQ:				
	For items other than item no. 1 of BOQ, payment shall be based on completed quantities as per the unit rate quoted by the tenderer for the respective items.				

