

Maha-Metro Rail Corporation Limited

CORRIGENDUM - III

Tender No. N1-T09/2018, Dated 25.01.2018
E-Tender Portal Sr.No 123

NAME OF THE WORK - Supply, Installation, Testing and Commissioning of Ballastless Track of Standard Gauge Phase-1, North-South Corridor of Reach-2 (Sitaburdi – Automotive Square) and East-West Corridor of Reach-4 (Sitaburdi to Prajapati Nagar) Sections of elevated Ballastless Track of Nagpur Metro Rail Project.

SN	Part No.	Clause No.	Bid Condition	Maha-Metro Amendment
1	Part 1,Section IV,Bidding Forms	Form no. 4.4.C.C1.(a) Technical Requirements	Normally track structures detailed design for consideration of DMRC. However life cycle claimed. For this purpose contractor & not less than 14T axle load which are in operation for public carriage of passenger for not less than year. The performance..... International standards.	Normally track structures detailed design for consideration of Maha-Metro. However life cycle claimed. For this purpose contractor & not less than 16T axle load and a maximum permissible speed of 90kmph, which are in operation for public carriage of passenger for not less than 5 year. The performance..... International standards.
2	Part 1,Section IV,Bidding Forms	Form no. 4.4.C.C1.(c) Technical Requirements	Details of proposed MSS along with its proven record for use in Tunnel. If any change..... infringement of SOD.	Details of proposed MSS along with its proven record for use on viaduct . If any change..... infringement of SOD.
3	Part 1,Section IV,Bidding Forms	Form no. 4.4.C.C1.(e) Technical Requirements	Methodology for handling/rehandling, transportation of the P. Way materials imported by the Employer from Mumbai Port/ to the site , stacking/storage of such material, security of material against theft, loss and damage.	Methodology for handling/rehandling, transportation of the P. Way materials supplied by the employer from Mihan/Hingna depot or storage area on the section to the site , stacking/storage of such material, security of material against theft, loss and damage.
4	Part 1,Section IV,Bidding Forms	Form no. 4.4.C.C1.(h) Technical Requirements	Proposal for production of concrete along with methodology for concreting of plinth /slab construction inside box /bored tunnel.	Proposal for production of concrete along with methodology for concreting of plinth /slab construction on viaduct for normal track plinth and for turnouts slabs etc.
5	Part 1, Section IV, Annexure-IV A: Pricing Document BOQ	2.2 Bill No BLT1 page 38:Item 1(e) & page 39: Item 8	1(e). Rate over and above 1(a)for provision of approved plinth beam including rebate & 8. Extra for associated concrete in precast concrete Note: In the above BLT1, item at Sr. No 8 is to be quoted by the bidder which would be paid extra over and above the cast-in-situ concrete rate for plinth beam mentioned earlier if it is decided by Maha-Metro to carry out the work with precast concrete item for plinth beam, RCC slab etc. For bid comparison also, the rate quoted and the amount against the same for precast concrete at Sr.No 8 shall be considered.	Both the items along with the note mentioned alongside for Sr.No 8 stands deleted.



6	Part 2, Section VII, Particular Specifications Chapter 8 - Material and Workmanship: Installation	Clause no. 8.8	8.8 Mass Spring system as Noise Mitigation Measure on Nagpur Metro Project. 8.8.1 Mass spring system on viaduct The solutionby the MRTS	Clause No. 8.8.1 is replaced as mentioned in Annexure "A"
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GM (Procurement),
Maha-Metro

ANNEXURE "A"

8.8 Mass Spring System as Noise Mitigation Measure on Nagpur Metro Project

8.8.1.2 GENERAL REQUIREMENTS TO THE QUALITY OF THE MAT/ELASTIC PAD OF MASS SPRING SYSTEM

- a. The elastic pad should be reliable, homogeneous and having lasting elasticity.
- b. It should have homogeneous stiffness distribution.
- c. It should not be hygroscopic as it may cause a loss of their mechanical stiffness
- d. It should be possible to overload the elastic pad for short term without deterioration and it should not damage when heavy vehicle is driven over it.
- e. It should have high efficiency & should provide long term stability.
- f. It should be designed & installed so that no maintenance is required during lifetime of the track.
- g. The elasticity of the pad must be based on the compressibility of the material & not on the shape of the product structure.
- h. Any geometrical forms like dimples or notches or groves on the material surface must be avoided as this might influence the elasticity of the material in a negative manner due to sediments or dust.
- i. Use of Binders/ softening agents/ plasticizers may be avoided in pad material as diffusion of same may stiffen the system.
- j. The elastic pad may be previously cut into special sizes to ensure a rapid & optimal installation.
- k. The elastic pad must resist the following environmental factors:
 - Presence of environmental chemical agents including acid rain, oxidation & alkaline fluids.
 - Lubricants in general.
 - Presence of biological agents.
 - Ultra-violet rays (ozone).
 - Affluent from tunnel leakages



- i. ~~MSS shall be with a proven track record. MSS should have satisfactory~~ performance record of minimum 10 years in service in ballast less track on operational metro system and or mainline railways for minimum 16 ton axle load on a similar (elastic) fastening system for a minimum speed of 80 kmph giving information about natural frequency, insertion loss in relevant frequency range (40 Hz) & rail deflection of system where it was installed. In this regard, supplier should submit certificate of performance from user metro and or mainline railway administration including proof of usage of MSS.

The Proven performance certificate of full surface MSS should contain following details.

SN	Item	
1.	Name of Metro railway and line on which laid	
2.	Operational speed of Metro	
3.	Axle load of the metro system	
4.	Country in which laid	
5.	Month and year of commencement of operation after installation of mitigation measure	
6.	Type of Track work – (details of technical parameters of fastening), embedded track	
7.	Total length in which installed (meters)	
8.	Maximum continuous length (meters)	
9.	Acceptance criterion and test protocol followed by reference metro	
10.	Is the performance satisfactory as per the design criteria and as per client requirements as on the date of issue of certificate.	

- m. MSS shall have design service life of 35 years.
- n. The elastic pads should be volume compressible.
- o. It is to be labeled at the manufacturer's premises indicating the manufacturer and year of manufacturing.

8.8.1.3 THE CONTRACTOR IS REQUIRED TO ENSURE THE FOLLOWING FOR THE MSS

- a. MSS shall be installed duly keeping the drainage in view.
- b. The static and dynamic stiffness of the elastic pad must be evaluated in order to achieve the performance of MSS in terms of natural frequency, transmissibility, insertion loss and rail deflection and further to determine the acceptance criteria of the elastic pad at the time of testing.
- c. Design requirements for mitigation performance should achieve natural frequency < 20 Hz and insertion losses of at least 10 dB in the relevant frequency band of 40 Hz.
- d. Total rail deflection due to running train (for slab + fastening) to be limited to 4 mm.
- e. Thickness of MSS mat (to be provided in single layer only) should not exceed 25 mm.
- j. The resilient mat installation must be completed in the full width and length of the track substructure and on the vertical sides in order to obtain a truly floating concrete slab.
- l. If there are shear keys, a full decoupling of the shear key from the floating slab shall be achieved by covering the shear key with the elastic pad.



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DEPARTMENT OF CHEMISTRY

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