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Metro Rail accomplishes mission impossible

- ▶ Bridge completed in highly challenging conditions
- ▶ Bridge Builder system used for the first time
- ▶ Utmost safety precautions taken

OUR BUREAU

Hyderabad: Metro Rail RoB over the Begumpet Railway lines and the Railway station was successfully completed, thus closing a critical gap in Metro Rail corridor III. With this achievement and after completion of Oliphant Bridge near Secunderabad Railway station, which is expected in the next few weeks, the extension of the 8-km stretch of Nagole-Mettuguda up to Begumpet becomes feasible. The construction of this bridge was done in highly challenging conditions. The Railway lines and the Railway station below are busy round-the-clock with continuous train movement and large number of passengers using the station.

The total length of the Metro

RoB at Begumpet completed with rare technical skills



Metro Rail RoB at Begumpet being readied

Bridge is 450 ft (137 mts). It is in a curve and wedged between Begumpet flyover on one side

and several buildings on the other side. In view of the curved nature of the Metro ROB to be

built over such a long length and at a height of 60ft from the below narrow road and Railway

lines, a special method called 'Bridge Builder' method was used for the first time in the Hy-

derabad Metro Rail project, HMRL MD NVS Reddy has said.

To meet these multiple technical challenges, the 'Bridge Builder' was specially built and load tested initially in the Uppal casting yard for all safety parameters and structural stability before bringing it to Begumpet site and mounting it on the already built Metro viaduct from both Varun Motors and Country Club sides.

The whole Metro Bridge was built in three parts with the main portion (span) over the Railway lines and Railway station being 213ft and both ends being 130ft and 107ft respectively.

After erecting the Bridge Builder on both sides, it was anchored safely with proper counter weights, special steel bars called MacAlloy steel bars and so on to ensure stability of the Bridge Builder against overturning. Some 18 segments weighing 50 tons each were incrementally launched as a cantilever hanging bridge from both sides with utmost care and safety standards. All the 18 pre-

cast segments were attached to the earlier portion of the bridge incrementally one after one from both Varun Motors and Country Club sides and they became a 100 feet long cantilever hanging bridge till both sides reached the midpoint. Indian Railways could give only '3 hour blocks' for launching each segment after stopping trains beyond midnight once a week, depending upon the feasibility.

Utmost safety precautions were taken in every aspect of the bridge construction and the erection process, as lifting and balancing of heavy segments and other equipments were involved and even a small tool falling from that height on to the station platform and road users below would have had serious repercussions.

Admiring the skills and dedication of the specialised bridge team of L&T, led by an eminent Railway bridge engineer K M Rao and his assistant MY Kondalu, NVS Reddy has stated that the entire bridge construction was flawless and done with military precision.