

Work on 1st Metro viaduct over water body completed

Metro Line 5 likely to witness 3.03 lakh daily ridership by 2031

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THE FIRST Metro viaduct in the Mumbai Metropolitan Region (MMR), which will pass over a water body, has been completed. The last span of the 550-metre-long Kasheli Creek Metro viaduct was erected on Sunday as part of the Phase I of Mumbai Metro Line 5, connecting Thane to Kalyan via Bhiwandi. The Mumbai Metropolitan Region Development Authority (MMRDA) is the project implementing authority of Metro Line 5.

The Kasheli Creek bridge — first to be 15 m above a water body — comprises 13 spans, including nine on water, with each span being 42.23m in length; and 15 segments. The spans were erected with the help of launching girders in 123 days i.e around four months.

Mumbai-based infrastructure company 'Afcons', which constructed the Kasheli Creek bridge, is also constructing one 11-km viaduct, including integration of Metro Line 4 (Wadala to Kasarvadavali) with Line 5, and six Metro stations namely Balkum, Kasheli, Kalher, Purna, Anjurphata and Dhamankar Naka for the same project. According to Afcons, 9.3 km of the 11.68-km viaduct is already completed with superstructure, and over 60 per cent of the work in all the six stations is done. Over 70 per cent work has been completed for the package (CA-28).

"There were multiple challenges during the construction of Kasheli Creek bridge... The rotary drill machine choked frequently due to entanglement of unwanted material. We were forced, by necessity, to remove the drilling arrangement completely and reinsert the same after cleaning," said Afcons project manager Sukesh Singh. Since a major portion of the bridge was over the water surface, the team had to depend on barges and tugboats for the construction work. However, strong tide conditions made the manoeuvre risky and

WATER WORLD

- 15 m: height of the viaduct above the creek
- 550 m: length of the viaduct
- 13 spans erected, including nine on water

tricky. "The marine equipment was moved only during the high tide period. Casting of the tie-beam in navigational spans became a challenge as it was below the high-tide level. We had a tight window of four hours for the construction every day. However, due to meticulous planning and close monitoring of equipment and processes, we were able to construct 22 tie-beams within four months," Singh said.

Once completed, Mumbai Metro Line 5 will ease travel for commuters along the Central suburbs. It is a 24.9-km-long corridor built at a cost of Rs 8,417 crore, of which, Asian Infrastructure Investment Bank, and OPEC Fund for International Development have funded 2,357.25 crore. Metro Line 5 has been divided into two phases — Phase 1 between Thane and Bhiwandi, and Phase 2 between Bhiwandi and Kalyan.

Earlier, *The Indian Express* was the first to report that the MMRDA will begin the Phase 2 work from 2023 onwards, keeping aside the 4-km underground stretch as the state government is yet to give an official approval for the same. So, there will be a missing link between the two phases — from Dhamankar Naka to Temghar (underground) — which is part of the work for the 11.8-km-long second phase from Bhiwandi to Kalyan.

Metro Line 5 is likely to witness 3.03 lakh ridership per day by 2031. The work on Phase 1 — Kapurbawadi-Dhamankar Naka — is likely to be completed by November or December 2024, and Phase 2 by December 2025.



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