Underground Metro: Tunnels to run as deep as 22 storeys

February 1, 2023

Online Desk: The country's first underground metro rail will be running at a depth of 10 to 30 metres below the ground along most of the 19.87-kilometre route from Dhaka Airport to Kamalapur. However, the depth would be as deep as 70 metres in Malibagh and Rajarbagh areas. According to engineers, 70 metres is as high as 22 storeys. The metro authorities revealed the information yesterday as Prime Minister Sheikh Hasina will be officially opening the physical work of the Mass Rapid Transit (MRT) Line-1 tomorrow.

MAN Siddique, managing director of Dhaka Mass Transit Company Ltd (DMTCL), the implementing agency of the project, said, "The prime minister will inaugurate the depot development work, which falls under package no-1, on February 2, and with this the construction of the country's first underground metro rail will begin."The depot will be developed over 92.97 acres of land in Pitalganj of Narayanganj's Rupganj.

The PM will first unveil the project's plaque at Purbachal New Town in Rupganj and then take part in a rally there, Siddique said at a press conference at the DMTCL office in the capital's Eskaton. The 31.24km MRT-1 rail line will have two parts — 19.87kms from Hazrat Shahjalal International Airport to Kamalapur (Airport route) will be underground, while around 11.36kms will be elevated from Notunbazar to Purbachal (Purbachal route).

The airport route will have 12 stations and the Purbachal route will have nine, seven of which will be above the ground. Two stations on the Purbachal route — Nadda and Notunbazar — will be underground and used as a transit for passengers to switch between routes. Of the Tk 52,561.43 crore required for MRT-1, the government will provide Tk 13,111 crore and Japan will give a soft loan of Tk 39,450 crore. Officially, the project will be completed by December 2026, after which the line will be able to carry eight lakh passengers daily. This will be the second metro line in operation after MRT Line-6, which was launched partially in December last year.

UNDERGROUND METRO: –

MAN Siddique said the project will be implemented under 12 packages and they have already hired a Japan-Bangladesh joint-venture firm to develop the depot under package no.1. Japan's Tokyu Construction Co Ltd of Japan and Bangladesh's Max Infrastructure Ltd are to complete the work within 910 days at the cost of Tk 607.65 crore. The tender for the remaining 11 packages is now at different stages, he said.

Unlike the MRT Line-6, the works of the MRT-1 will start simultaneously in difference places and most of it will be done underground using cutting-edge technologies, he said. Two tunnels will be constructed side by side using tunnel boring machines at 10 to 30 metres below the surfaces of expanded roads, he said. However, as the roads in Malibagh and Rajarbagh areas are relatively narrow, one tunnel will be on top of another and the depth will be as far as 70 metres from the surface, he added. Asked, he said the construction work will not create problems for nearby buildings.

Regarding media reports saying a portion of the Purbachal Expressway will have to be taken down for the MRT Line-1 construction, he said it would not happen, adding that they have been coordinating with the expressway authority and three to four metres of land was kept free on the expressway median strip. "We will take around 1.5 metre land for the metro rail, so no road has to be broken down for it." He said the MRT Line-1 trains, with eight coaches each, will operate at the frequency of 2.5 minutes and will even have a system to operate at the interval of 100 seconds.

He said the underground stations will be built following an open-cut method of tunnelling. But to reduce people's sufferings, they will first cut half of the area and then take the equipment inside and arrange the operation of vehicles there before cutting the other part. It would not take more than six months to complete this, he added. Queried, he said they are hopeful of achieving the target by December 2026. Replying to another question, he said when the project was approved, the US dollar was traded at Tk 85 in the foreign exchange market in Bangladesh and future will determine whether project cost will increase or not.