

Micro-tunnelling methods used in sewerage project – Ahmedabad Municipal Corporation

Introduction:

Establishment of sewerage pipe network within a city is a complex activity. This requires permissions from various department such as railways, NHAI, traffic department etc. to dig the road and laying the pipelines. Further, the traditional pipe laying process takes much more time and has hindrances to carry the work during monsoon as well due to the traffic congestions, water blockage etc. Hence, in order to avoid such challenges, Ahmedabad Municipal Corporation (AMC) has been using Micro-tunnelling technology for laying of sewerage pipeline under the AMRUT scheme. The advantage of using this technology in congested area, across the highway and railway crossing is to eliminate disturbance to the existing traffic and ensure low environmental impact.

Objective and rationale:

To enhance the sewerage capacity of the city, and to avoid waterlogging in the city.

Key stakeholders:

Ahmedabad Municipal Corporation (AMC)

Implementation strategy:

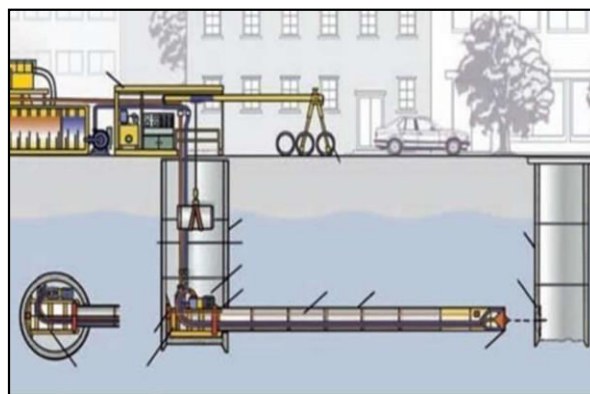
AMC is among the first municipal corporations in the country to adopt micro tunnelling technology to install underground drainage lines. Currently, the technology is being used to lay drainage lines in western part the city - Vadaj to Mahalaxmi Crossroads and passing through Sabarmati riverfront. The project is being carried out at a cost of Rs. 120 crore for a stretch of about 6.5 km. The lines will be of different diameters of 1400 mm, 1600 mm, 1800 mm and 2200 mm against 450 mm lines under the existing network. A similar line is also being planned for transporting of storm water in the eastern part of the city with an estimated investment of INR 125 crore.

Resource utilization:

The project was carried out at a cost of Rs 120 crores in the span of 2 years.

Impact:

With the implementation of these projects, waterlogging issues will be eliminated substantially in the city as the pipelines being laid have the capacity to evacuate 500 MLD of storm water. It is noted that waterlogging has been resolved to the extent of 90% in the city. Some locations from where waterlogging complaints were received, the water receded within an hour. Earlier, it took at least eight hours for water to be cleared. Despite heavy rains, there was no waterlogging reported from the underpasses. Further, several lakes also received new water, including the ones at Chandola, Makarba, Hebatpur, Vastrapur and Chandlodia.



Key challenges and Lesson learnt:

Advantages of micro tunnel technology have been able to achieve the objective in terms of managing the storm water drainage in the city. Further by using this technology, cost and time over run have not been witnessed and completed within the timeline without any hindrances. Hence, it can be attributed that an advance technology and financial sustainability and appropriate design of AMRUT scheme are major success factors of the project.

Replicability and Sustainability:

The technology is now readily available and hence can be taken up by all ULBs across the country.

Source: (Ahmedabad Mumbai Mirror, 2019), (Ahmedabad: Overflowing of sewerage lines to be a thing of the past soon, 2019)

<https://ahmedabadmirror.indiatimes.com/ahmedabad/civic/waterlogging-at-18-spots-compared-to-208-last-year/articleshow/70506261.cms>