

## **Technical visit to the project 'Relocation of Sha Tin Sewage Treatment Works to Caverns' By Mr Marco WONG**

On the morning of 8 March 2025, the YMC organised the captioned visit to the Community Liaison Centre for the Relocation of Sha Tin Sewage Treatment Works (STSTW) to Caverns project. A total of 30 participants took part in the visit. The programme featured a technical briefing on the cavern construction, photos and video showcases, a question-and-answer session, and an interactive Augmented Reality experience that allowed participants to virtually explore the interior layout of the caverns. There was also opportunity to visit the actual cavern entry, which provided valuable insights into the scale, complexity, and innovation of this landmark infrastructure initiative.

The relocation of the STSTW marks a groundbreaking milestone in Hong Kong's infrastructure development. As the largest secondary sewage treatment works in the city, STSTW currently serves nearly one million people with a daily treatment capacity of 340,000 m<sup>3</sup>. The ambitious relocation project to caverns at Nui Po Shan not only enhances operational efficiency, but also serves as a paradigm shift in wastewater management for Asia and beyond.

A highlight of this project is its transformative land-use strategy. By relocating STSTW, approximately 28 hectares of prime land will be freed up for housing and other beneficial developments. This initiative aligns with sustainable urban planning principles, demonstrating how infrastructure can coexist with environmental and societal needs. Moreover, while the new cavern-based facility will reduce the plant's overall footprint by half, it will stand as the largest cavern sewage treatment works in Asia.

Environmental considerations are at the forefront of this relocation. One of the major challenges of sewage treatment is odour control. The cavern setting provides natural barriers, significantly improving odour containment. In addition, all odour sources will be enclosed and equipped with state-of-the-art de-odourisation systems. This innovative approach will enhance the surrounding environment and set a new benchmark for sewage treatment facilities worldwide.

The construction methodology also incorporates cutting-edge technology. The main cavern complex, covering approximately 14 hectares with a total volume of 2.3 million m<sup>3</sup>, is an impressive feat of modern engineering. To ensure worker safety, the project adopted the Smart Site Safety System (4S), which leverages real-time monitoring and data analytics to mitigate risks effectively. This proactive approach underscores the commitment to maintaining the highest safety standards.

The relocation of STSTW exemplifies a forward-thinking solution that balances urban development, environmental sustainability, and technological innovation. It not only enhances Hong Kong's sewage treatment capabilities, but also serves as an inspiring model for cities worldwide. The visit provided invaluable insights into how engineering ingenuity can redefine infrastructure for a smarter, greener future.



Participants at the Tunnel Entrance of "Relocation of Sha Tin Sewage Treatment Works"