

Byculla Zoo's Green Operation for Green Grounds



Overview

Veer mata Jijabai Bhonsale Udyan is a public garden and zoo, situated at Byculla in the heart of Mumbai, India. It spans almost 50 acres of land and is known to be the oldest public garden in Mumbai.

The Municipal Corporation of Greater Mumbai (MCGM) has taken up various improvement initiatives that would increase the demand for water used in cleaning and gardening on these grounds. They employed Goldfinch Engineering Systems Pvt. Ltd. to construct a 400 m² (4,300 ft²) underground sewage treatment plant (STP) to accommodate an increased demand for water through sewage reclamation.

Objective

In an effort to avoid relying on precious drinking water for cleaning and gardening at the zoo, MCGM sought to implement membrane bioreactor (MBR) technology in the STP to treat wastewater for reuse.

Solution

Koch Separation Solutions (KSS) was chosen to supply a PURON[®] MBR system for this project to achieve an effective wastewater treatment operation. The plant has a treatment capacity of 500,000 L (132,000 gal) of domestic sewage every day, consistently producing filtered water with a turbidity level of <1 NTU.

The PURON MBR features KSS' virtually unbreakable, reinforced ultrafiltration hollow fiber membrane with tight pore distribution for optimized performance. The patented single-header design and central aeration within the cartridges eliminate the build-up of hair and fibrous material that lead to clogging, minimizing the impact of biological upsets experienced in conventional separation technologies. The result is a higher-quality effluent and more efficient operation at lower costs.



Achievements

Goldfinch Engineering chose KSS for this project because of the outstanding product differentiators of the PURON® MBR as well as previous successful collaborations on other MBR projects across the region. This installation successfully conserves hundreds of thousands of liters of drinking water per day and achieves high-quality, reusable effluent at lower operating costs.

Takeaways

The implementation of the PURON MBR at the Byculla Zoo is a significant step towards optimizing the sustainability of the upkeep practices involved on these grounds. MCGM is able to keep the grounds clean and plants blooming, creating a space for everyone to enjoy. The project fosters a stronger partnership between KSS and local engineering firms to continue driving these sustainability initiatives across the region.



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