

Keppel Infrastructure

Briefing to Media at the Groundbreaking Ceremony of the Keppel Marina East Desalination Plant

29 Jun 2017



Overview

Project's brief

- A 137,000m³/day (or 30 MiGD) fenceless, dual mode desalination plant, located at Marina East, capable of treating both seawater and reservoir water;
- Raw water is drawn from the sea and Marina Reservoir, Singapore's first reservoir in the heart of the city; and
- The desalination plant shall be built within a 3 ha plot, less than 23m in height and the roof will be made accessible to the public.

Site Location: Marina East



Keppel's Approach

Duality of purpose is the key design concept as the plant is designed to operate in dual mode of treating seawater and reservoir water:

- The plant is first and foremost, a desalination plant that also serves as a park, blending in with the environment, and
- The Dual Flow Chamber which regulates either seawater or reservoir water feed also serves as a playground.

The above duality of purpose in design returns the space to the public and nature.

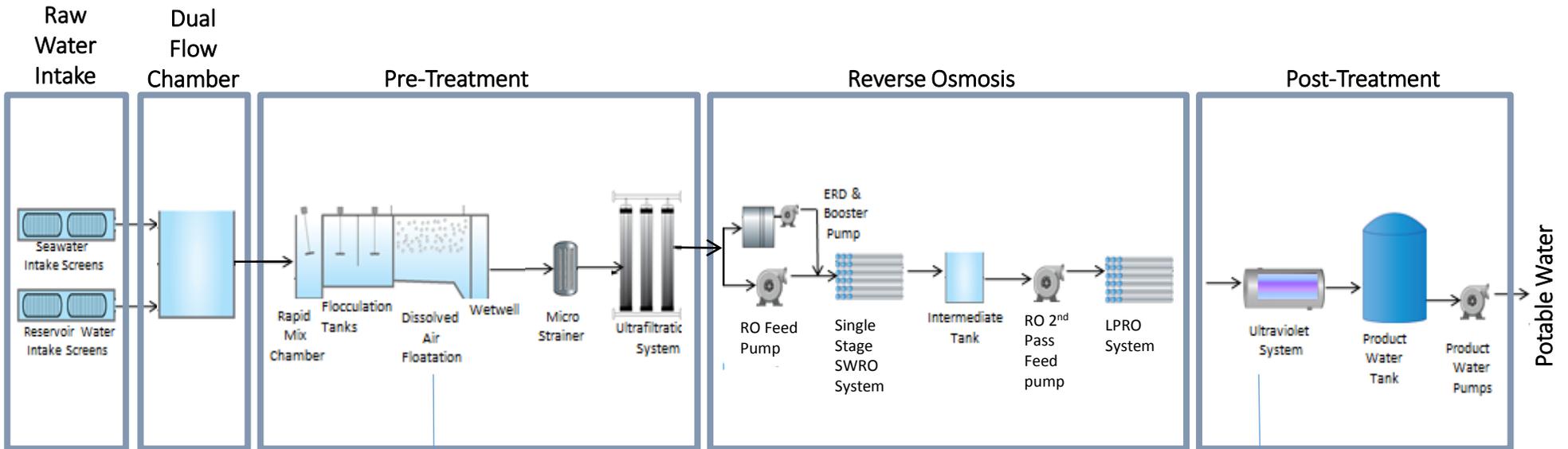
The Keppel Marina East Desalination Plant



The Dual Flow Chamber



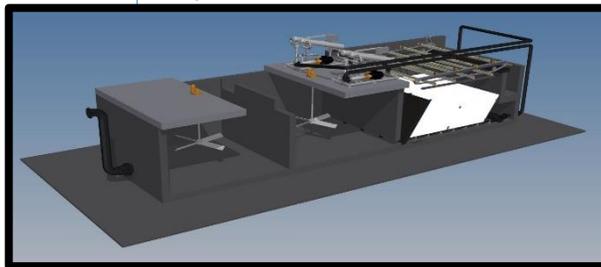
The Engineering Design



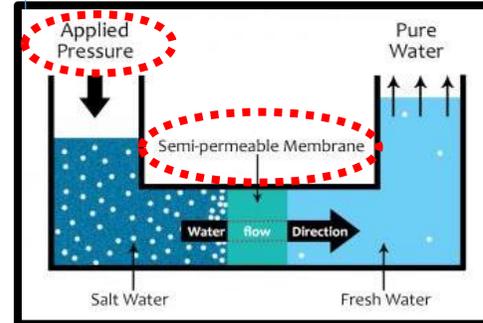
Innovative passive intake system



Compact Dissolved Air Floatation



Energy Efficient Reverse Osmosis System

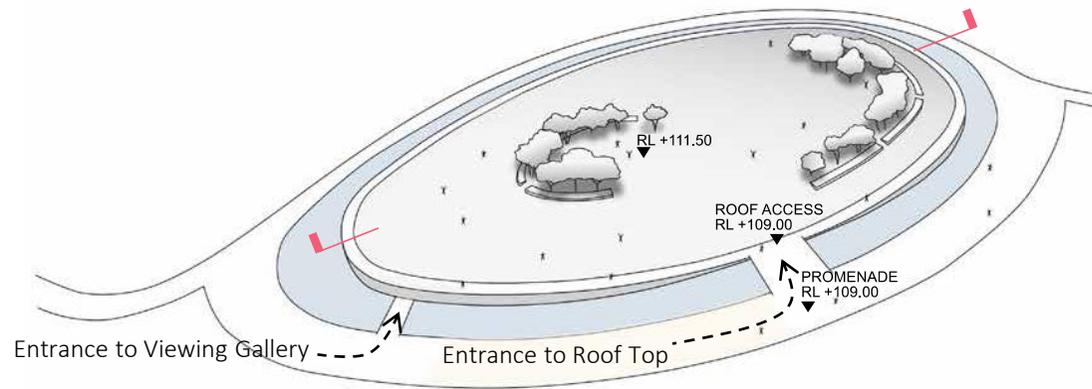
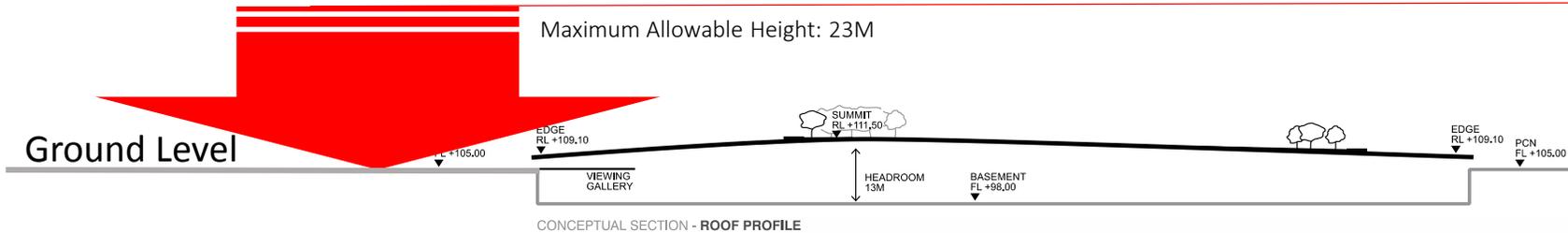


UV as primary disinfection process

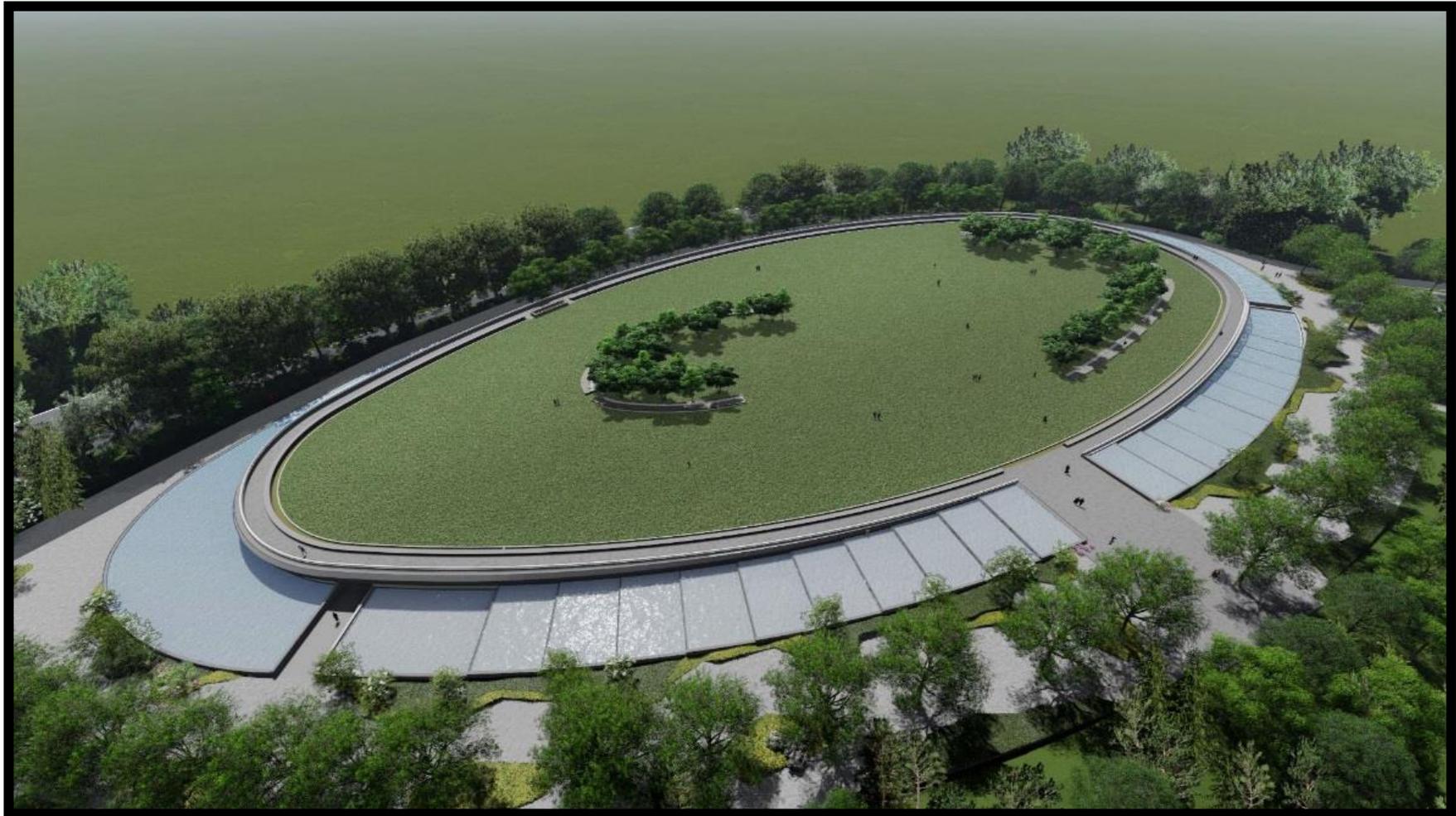


The Architectural Design: Blend into the environment

A design which allows the whole plant to blend into the environment. Its private viewing gallery and roof top are accessible at the ground level.



The Architectural Design



The Architectural Design: Entrance to viewing gallery



The Architectural Design: Entrance to roof top



The Architectural Design: Perspective from roof top



The Architectural Design: Seamless integration with PCN



The Architectural Design: Enhanced water features



The Keppel Marina East Desalination Plant



A truly Iconic Design in Singapore

- First dual-mode desalination plant treating both seawater and reservoir water;
- First desalination plant located in the city;
- First underground desalination plant designed concurrently as a park - fenceless and blends seamlessly with the surrounding environment.



A virtual tour of Keppel Marina East Desalination Plant

Q & A

Thank You