


 सुविधा

# Suvidha Complex with Hybrid DEWATS™

for N-Ward, Ghatkopar, Mumbai, India

## PROJECT BRIEF

Hindustan Unilever Limited (HUL) setup a Suvidha center in a slum located at N-Ward, Ghatkopar, Mumbai. Suvidha is a first-of-its-kind urban community hygiene and sanitation facility that was established to help supplement the efforts of the government and to ensure that clean toilets, affordable drinking water, and state-of-the-art laundry services are available to urban low-income households in Mumbai.

The facility has been designed to treat 25 KLD of blackwater and 5 KLD of greywater per day i.e. wastewater generated from ~1,800 users per day. The wastewater generated is collected and treated through a decentralised wastewater treatment system (DEWATS™). The treated wastewater will be reused for toilet flushing and the surplus will be discharged into the nearby sewer line.

## PROJECT OUTCOMES

1. Minimal area required for the system
2. Meets discharge standards set by State Pollution Control Board (SPCB), Maharashtra
3. Considering the limited availability of skilled workforce to supervise and operate the system, the system has been automated to ease operations

## MODULES ADOPTED

### Primary and secondary treatment – Underground modules

<b>Settler</b> <b>Volume:</b> 23.1 m <sup>3</sup> <b>Area:</b> 16 m <sup>2</sup>	<b>Anaerobic Baffled Reactor</b> <b>Volume:</b> 27.4 m <sup>3</sup> <b>Area:</b> 18 m <sup>2</sup> <b>No. of chambers:</b> 3	<b>Anaerobic Filter</b> <b>Volume:</b> 25.8 m <sup>3</sup> <b>Area:</b> 22 m <sup>2</sup> <b>No. of chambers:</b> 2	<b>Equalization Tank</b> <b>Volume:</b> 26 m <sup>3</sup> <b>Area:</b> 20 m <sup>2</sup> <b>Flowrate:</b> 2.5 m <sup>3</sup> /hour
<b>Aeration tank</b> <b>Volume:</b> 5 m <sup>3</sup> <b>Area:</b> 2.5 m <sup>2</sup>	<b>Settling tank</b> <b>Volume:</b> 5 m <sup>3</sup> <b>Area:</b> 2.5 m <sup>2</sup> <b>Dosing:</b> Alum	<b>Filter feed tank</b> <b>Volume:</b> 3 m <sup>3</sup> <b>Area:</b> 2 m <sup>2</sup>	<b>Sand and Carbon filters</b> <b>Diameter:</b> 0.6 meters <b>Flowrate:</b> 2.5 m <sup>2</sup> <b>Dosing:</b> Sodium Hypo

## SALIENT FEATURES

**Source:** Washing machine, public toilet, urinals, washbasin

**Design Capacity:** 30 m<sup>3</sup>/d

**No. of users:** 1,800

**Peak Flow:** 10 hours

**Influent quality:**

**BOD:** 950 mg/l

**COD:** 1900 mg/l

**Effluent Quality:** After tertiary treatment

**BOD:** 10 mg/l

**COD:** 50 mg/l

**Efficiency:** 98.9%

## PROJECT SPECIFICATIONS

**Funding Agency:** Hindustan Unilever

**Implementing Agency:** CDD India

**Construction Cost:** Rs. 40 lakhs

**Construction Period:** 6 months

**Start of Operation:** October 2021

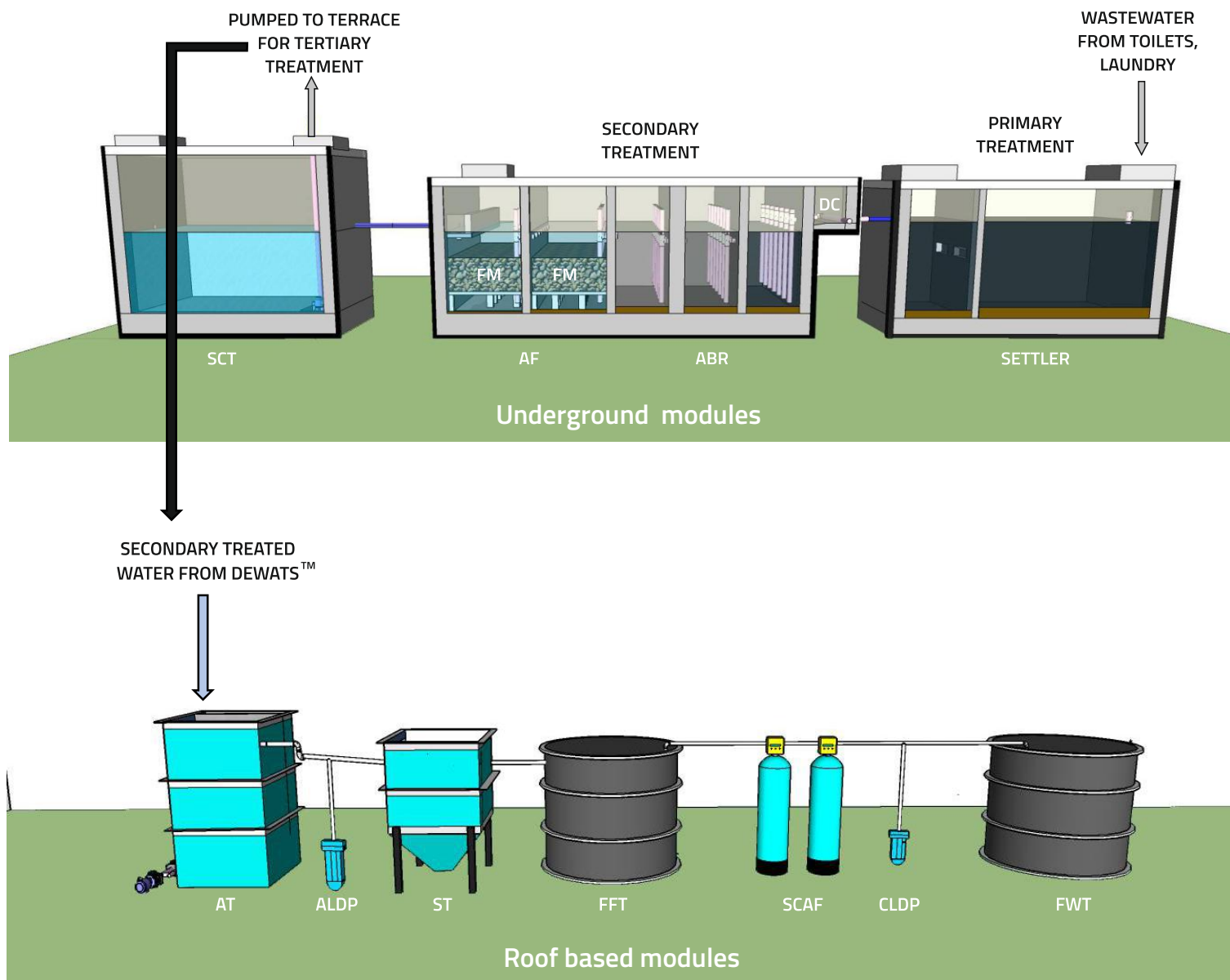
**Current Status:** Commissioned & operational

**Built up area:** 76 m<sup>2</sup> underground + 10 m<sup>2</sup> rooftop

**Area per beneficiary:** 0.0477 m<sup>2</sup>

**CapEx per beneficiary:** Rs. 2,222

**OpEx per beneficiary:** Rs. 22



LEGEND - UNDERGROUND MODULES	
ABR	Anaerobic Baffle Reactor
AF	Anaerobic Filter
DC	Distribution Chamber
DEWATS™	Decentralized Wastewater Treatment System
FM	Filter Media
SCT	Secondary Collection Tank

LEGEND - ROOF BASED MODULES	
ALDP	Alum Dosing Pump
AT	Aeration Tank
CLDP	Chlorine Dosing Pump
FFT	Filter Feed Tank
FWT	Flush Water Tank
SCAF	Sand & Activated Carbon Filter
ST	Settling Tank
TTP	Tertiary Treatment Plant