



# DEWATS FOR FLIPKART WAREHOUSE, KOMPALLY, HYDERBAD

# **PROJECT BRIEF**

Flipkart's warehouse, located in Kompally area of Hyderabad city, serves as a storage and consignment unit for the firm. Around 3,000 people work in this warehouse in shifts.

# **PROJECT OUTCOMES**

- Efficient management of wastewater generated at the warehouse, leading to an improved sanitation situation
- Setup of a regulatory wastewater unit, which is mandatory for all firms as per the norms set by Telangana Pollution Control Board (TPCB)

# SYSTEM IN BRIEF

The wastewater streams are conveyed from the toilets and pantry of the warehouse to the DEWATS for treatment. The DEWATS consists of 4 modules:

- 1. **Settler** is a sedimentation tank for retaining articles by settling over a specific time frame
- 2. **Anaerobic Baffle Reactor** with Filters ensures anaerobic degradation of suspended and dissolved solids by mixing fresh wastewater with an active sludge blanket
- 3. **The Planted Gravel Filter** is used as a tertiary treatment unit and sand filter as an advanced treatment unit
- 4. The treated water from the PGF is further polished using the pressure sand carbon filters and reused

## SALIENT FEATURES

Source: Toilets, Pantry and Wash Area Design capacity: 60 m<sup>3</sup>/d No of users: 3,000 Peak flow: 6 hrs Influent quality: BOD: 300mg/l COD: 600mg/l

## **PROJECT SPECIFICATIONS**

Kind of Project: Small Medium Enterprise (SME) Implementing Agency: SRI INFRA Construction Period: 5 months Start of Operation: 2016 Status: Operational

# **MODULES ADOPTED**

**Settler** Volume: 60 m<sup>3</sup> Area of construction: 29.27 m<sup>2</sup>

**Anaerobic Baffle Reactor** Volume: 80.96 m<sup>3</sup> Area of construction: 60.69 m<sup>2</sup> No. of chambers: 5

**Anaerobic Filter** Volume: 44.73 m<sup>3</sup> Area of construction: 33.83 m<sup>2</sup> No. of chambers: 2

**Planted Gravel Filter** Area of implementation: 209.80 m<sup>2</sup> Plants used: Canna Indica, Cyperus papyrus Built up area: 333.59 m<sup>2</sup>



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# PROCESS FLOW DIAGRAM



## **OPERATION AND MAINTENANCE**

The wastewater treatment plant is operated and maintained by one operator.

### **Regular Maintenance:**

 Wastewater flow checking in all units and clearing the blockages in all chambers (registers)

## **REUSE OPTIONS**

The treated waste water is being used for gardening

## PERFORMANCE OF DEWATS

### **Periodical Maintenance:**

- Removal of sludge in settler and baffle reactor chambers once in 2-3 years.
- Replacement of filter media in the filter chambers should be done in once in 5 years.
- Trimming of plants in the Planted Gravel Filter should be done (when overgrown)

Sample points	COD mg/l	BOD mg/l	TSS mg/l
Date of sampling: 07/03/2016			
ABR (out)	236	80	1,667
PGF Outlet	227.5	20	1,500
Final Outlet	168	10	1,333