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 m³/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

1. **Settler**
   - Volume: 60 m³
   - Area of construction: 29.27 m²
2. **Anaerobic Baffle Reactor**
   - Volume: 80.96 m³
   - Area of construction: 60.69 m²
   - No. of chambers: 5
3. **Anaerobic Filter**
   - Volume: 44.73 m³
   - Area of construction: 33.83 m²
   - No. of chambers: 2
4. **Planted Gravel Filter**
   - Area of implementation: 209.80 m²
   - Plants used: Canna Indica, Cyperus papyrus
   - Built up area: 333.59 m²
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)

**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 once in 5 years.
- Trimming of plants in the Planted Gravel Filter should be done (when overgrown)

**REUSE OPTIONS**

- The treated waste water is being used for gardening

**PERFORMANCE OF DEWATS**

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