Consortium for DEWATS Dissemination Society

DEWATS FOR IDEPL GARMENT FACTORY, HINDUPUR

PROJECT BRIEF

IDEPL Garment Factory-Hindupur India, was initiated in 2014, with 3,000 employees. The aim of the project is to ensure the well-being of employees and addressing their statutory requirements.

PURPOSE

- Safe disposal of wastewater generated from toilet units from the factory
- To provide a sustainable solution to the problem of water scarcity

SYSTEM IN BRIEF

The wastewater streams are conveyed from the kitchen and toilets present in two workshop blocks. The streams are connected to DEWATS. The DEWATS modules consists of:

1. **Settler:** a sedimentation tank for retaining articles by settling over a specific time frame.
2. **Anaerobic Baffle Reactor:** ensures anaerobic degradation of suspended and dissolved solids by mixing fresh wastewater with an active sludge blanket.
3. **Anaerobic Filter:** ensures fixed digestion of the suspended solids.
4. **Vortex:** helps in the digestion of organic components through aeration
5. **Sand Carbon Filters:** helps in polishing the treated water.

The treated wastewater is collected in the collection tank and partially used for irrigation. The remaining amount is discharged safely into the Nallah (drain)

The water from the collection tank is passed through activated carbon and pressure sand filters for tertiary treatment.

SALIENT FEATURES

Source : Toilets, Bathrooms, Laundry and Kitchen
Design capacity : 100 m^3/d
No of users : 3,000
Peak flow: 8 hours
Influent quality : BOD 298 mg/l ;
COD 165 mg/l
Effluent Quality: BOD: 10 mg/L;
COD: <50 mg/L

PROJECT SPECIFICATIONS

Kind of Project: CBS-DEWATS with Simplified Sewer System
Funding Agency: IDPL
Implementing Agency: Project Management Unit
Estimated Cost: Rs. 80 lakhs
Commissioned: March 2015

MODULES ADOPTED

Settler
Volume: 120 m^3
Area of construction : 50 m^2
Baffle reactor
Volume : 152.28 m^3
Area of construction : 131 m^2
Anaerobic Filter
Volume: 48.90 m^3
Area of construction: 70 m^2
Vortex
Diameter: 600 mm
Area of construction: 6 m^2
Number: 2
Collection tank:
Volume: 132 m^3
No. of tanks: 2
Filtration
Activated carbon and Pressure Sand filter- 1 no. each

Built-up Area : 310 m^2

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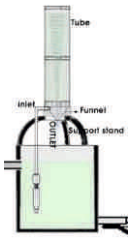
PROCESS FLOW DIAGRAM

Settler

Anaerobic Baffle Reactor (ABR)

Anaerobic Filter (AF)



Vortex

Sand Carbon Filter

OPERATION AND MAINTENANCE

The wastewater treatment plant and the conveyance system is operated and maintained by a trained gardener.
A regular schedule is followed for maintenance and involves removal of sludge from the biogas digestor once a year and from the Anaerobic Baffle Reactor once every three years. The filter media in the Planted Gravel Filter is washed once in five years. The collection tank is cleaned once a year.

Periodical maintenance includes:

(a) Removal of sludge from the Settler and Anaerobic Baffle Reactor
(b) Replacement of filter media in the in filter chambers and Planted Gravel Filter once in 5-6 years
(c) Maintenance of Vortex pump
(d) Periodical cleaning of Sand and Carbon Filters.

REUSE OPTIONS

Treated water is reused for gardening, agriculture and flushing purposes.

PERFORMANCE OF DEWATS

Sample points	**COD, mg/L**	**BOD, mg/L**	**TSS, mg/L**
Date of sampling: 26-05-2016			
Settler Inlet	298	165	130
Vortex Inlet	74.7	16.8	6
Final Effluent	53.9	10	2