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DEWATS  
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## DEWATS FOR DWARKA CITY, KATNI, MADHYA PRADESH

### PROJECT BRIEF

Dwarka City, Katni is located 90 kms from Jabalpur, Madhya Pradesh. It has more than 750 flats with a combination of row houses, duplex bungalows and multi-storey apartments.

The project area of Dwarka City is divided into two parts for the treatment of wastewater. The quantum of wastewater generated and treated from Part 1 will be 110 m<sup>3</sup> with 1,250 users and treated from Part 2 will be 215 m<sup>3</sup> with 2,500 users. Construction of the first DEWATS unit (i.e. for 110 m<sup>3</sup>, up to secondary treatment is completed & commissioned).

### PROJECT OUTCOMES

- Efficient management of wastewater which is collected from the Apartment building.
- To meet the regulatory norms of PCB of wastewater treatment and reuse.
- To protect the environment from direct pollution
- To treat and dispose the treated wastewater safely in the environment.

### SYSTEM IN BRIEF

The wastewater from Apartments Building is conveyed to treatment unit through sewer network. Treatment system consists of 3 modules:

- Settler - a sedimentation tank for retaining articles by settling, over a specific time frame
- The Anaerobic Baffle Reactor - ensures anaerobic degradation of suspended and dissolved solids by mixing fresh wastewater with an active sludge blanket
- The Anaerobic Filter - comprises of filter bed for treatment of dissolved organic matter. Wastewater comes in contact with active bacterial mass which grows on filter material.

### SALIENT FEATURES

**Source:** Domestic sources from DWARKA City

**Design Capacity:** 110 m<sup>3</sup>/day

**Peak Flow:** 8 hours

**Influent quality:** BOD - 350mg/l

COD - 700mg/l

**Effluent Quality (after secondary treatment):**

BOD - 29mg/l

COD - 82mg/l

**Efficiency:** BOD - 91.7%

COD - 88.2%

### PROJECT SPECIFICATIONS

**Kind of Project:** DEWATS for domestic wastewater

**Funding Agency:** DWARKA Infraventures Pvt. Ltd.

**Executed by:** DWARKA Group

**Supporting Agency:** CDD Regional Office, Nagpur

**Construction Cost:** Rs.56 lakhs

**Construction Period :** 11 months

**Start of construction:** April 2014

**End of construction:** February 2015

**Current status:** Commissioned & operational

### MODULES ADOPTED

#### Settler

Volume: 105.60 m<sup>3</sup>

Area of Construction: 56.82 m<sup>2</sup>

#### Anaerobic Baffled Reactor + Anaerobic Filter

Volume: 226.05 m<sup>3</sup>

Area of Construction: 154.06 m<sup>2</sup>



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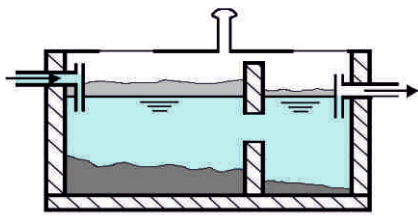
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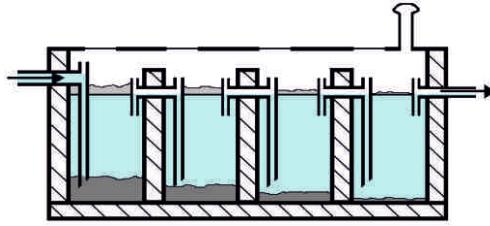
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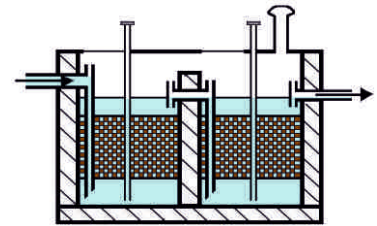
## PROCESS FLOW DIAGRAM



Settler



Anaerobic Baffle Reactor (ABR)



Anaerobic Filter (AF)

## OPERATION AND MAINTENANCE

- The wastewater treatment plant is operated and maintained by the care taker of Dwarka City
- A regular schedule is followed for maintenance, like periodic check treatment modules, removal of sludge in baffle reactor
- The filter media of AF unit will be washed once every 4-5 years.

## REUSE OPTIONS

- Treated wastewater is safely disposed off in a nearby natural stream.

## LEARNINGS

- Well experienced construction team enhances the work quality and minimizes unnecessary expenses.
- Developing knowledge understanding of client regarding technology is very essential for smooth implementation of project.
- Decentralized treatment proved to be the best solution for such type of mega townships by avoiding large conveyance system and electro-mechanical parts.

