**PROJECT BRIEF**

Aravind Eye Hospital is located on the east coast highway between Pondicherry and Cuddalore, and serves low cost, high quality eye care for economically weak people from across India. The requirement of the hospital was a low cost, easy-to-operate DEWATS for the residential blocks in the campus, to treat domestic wastewater.

**PROJECT OUTCOMES**

- Accommodating and installing a low maintenance wastewater treatment plant in the space available
- Treatment of domestic wastewater to a level which complied with the State Pollution Control Board standards (then)
- Providing water needed for landscaping and beautification of the campus

**SYSTEM IN BRIEF**

Black and grey water streams are separated and treated in the Settler, Anaerobic Baffle Reactor, Anaerobic Filter, Planted Gravel Filter and Polishing Ponds. The treatment takes place by sedimentation, anaerobic degradation, sludge stabilisation and facultative degradation of organic matter followed by pathogen removal by ultra-violet radiation in the polishing pond.

**PROJECT SPECIFICATIONS**

**Funding Agency & Implementing Agency:**
Aravind Eye Hospital

**Supporting Organization:** Centre for Scientific Research, Pondy Auro Services

**Capacity:** 307 KLD

**Area:** 2,292m²

**Capital Cost:** Rs. 91.83 lakhs

**Operation Cost:** Rs. 2.19 lacs p.a.

**Year of commissioning:** 2003

**SALIENT FEATURES**

**Source:** Domestic sources from hospital campus

**Design Capacity:** 307 m³/day

**Users:** 750

**Peak Flow:** 8 hours

**Influent Quality:** BOD: 1,053 mg/l
COD: 320 mg/l

**Effluent Quality:** BOD: 18 mg/l
COD: 7 mg/l

**Efficiency:** 95%

**MODULES ADOPTED**

- **Settler**
  - Volume: 163 m³
  - Area of Construction: 107 m²

- **Anaerobic Filter**
  - Volume: 365 m³
  - Area of Construction: 375 m²
  - Filter material used: Cinder

- **Planted Gravel Filter**
  - Volume: 634 m³
  - Area of Construction: 1,210 m²
  - Filter material used: Pebbles
  - Plants used: *Canna indica*

- **Polishing pond**
  - Volume: 300 m³
  - Area of construction: 600 m²

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GW - Grey Water, BW - Black Water, SE - Settler, BR - Baffle reactor, AF - Anaerobic Filter, PGF - Planted Gravel Filter, PP - Polishing Pond
**OPERATION AND MAINTENANCE**

The wastewater treatment plant is operated and maintained by the O&M team and the trained gardener of the hospital.

**Operation Tasks**
Regular operations includes pump operations, trimming of plants in PGF etc.

Operating charges are only that of electricity costs - include operating 4 motors of 7.5 hp that run 8 hours a day.

**Maintenance tasks**
A regular schedule is followed for maintenance, like periodical check of sewer line systems, removal of sludge in settler, baffle reactor and anaerobic filter.

The filter media of both planted gravel filter and anaerobic filter is washed once in four -five years.

**REUSE OPTIONS**

- Reuse of treated water for landscaping
- Sludge from the modules is transformed to manure through composting

**TREATED WASTEWATER QUALITY**

<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>
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<td>Date of sampling</td>
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<tr>
<td>Settler Chamber</td>
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<tr>
<td>ABR Outlet</td>
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<td>110</td>
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<td>44</td>
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<tr>
<td>PGF Outlet</td>
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