

**Sub: Sewage Treatment Plant at RCF Trombay unit to Treat Sewage of Mumbai City.**

**OBJECTIVE:** To ensure un-interrupted supply of process water to RCF,Trombay complex by Treating Sewage Water from Mumbai City.

**CAPACITY: - 5MGD (23 MLD)**

**(R.O SECTION): 3.5 MGD (18MLD)**

**SCHEME:** RCF has developed a Novel scheme to generate Process water by treating Municipal Sewage water of Mumbai City in this process the leading Fertilizer Company of Govt of India has taken a Giant step of treating Sewage water of Mumbai City making it free from pollution and using it in the process to manufacture Fertilizers and Chemicals. In this process RCF, Trombay has not only become self-reliant in water but the 18 MLD of water which was drawn from BMC is made available as drinking water to Mumbaikars.

**BENEFIT:**

1. Saving of 3.5 MGD water for the use of citizens of Mumbai (where water is in short supply).
2. Reduction in cost of disposal of 5 MGD sewage to sea as pollutant by BMC.
3. Assured supply of process water to plants in RCF,Trombay complex.
4. Reduction in blow down from process plants due to better quality of water.

The water requirement of RCF plant was met by Municipal Corporation Water Distribution Network available in the area, which supplies high quality drinking water. Since this water is better used by ever growing population of the area, the enlightened and foresighted management of RCF in cooperation with civic authorities decided to implement a sewage treatment project, wherein, they could procure sewage from Municipal Corporation Network and treat the same to their required standards. The management of RCF saw above four major benefits in the implementation of this project. The above benefits are commendable from the view point of RCF meeting its social obligations.

In RCF Trombay unit, Sewage treatment plant was set up in the year 2000. This plant promotes zero waste, recycling & reuse of materials. The plant has a treatment capacity of 5 MGD. The raw

sewage from Municipal Corporation is used as a raw material. About 3.5 MGD of good quality water is produced by treating this 5 MGD sewage.

The plant is designed in two streams each capable of handling 475 m<sup>3</sup>/hr of design flow. The whole process is divided in two stages. In Stage I, suspended solids, biodegradable organic matter, Ammonical & Total Kjeldhal nitrogen and oil & grease is removed. In stage II, balance suspended and dissolved inorganic salts are removed.

Primary, secondary and tertiary treatment followed by Reverse Osmosis for removal of total dissolved solids (TDS) is given in Sewage Treatment Plant.

About 80-90% of water requirement of factory is met by in house Sewage Treatment Plant. Water reclaimed over last 3 years' span is tabulated as under:

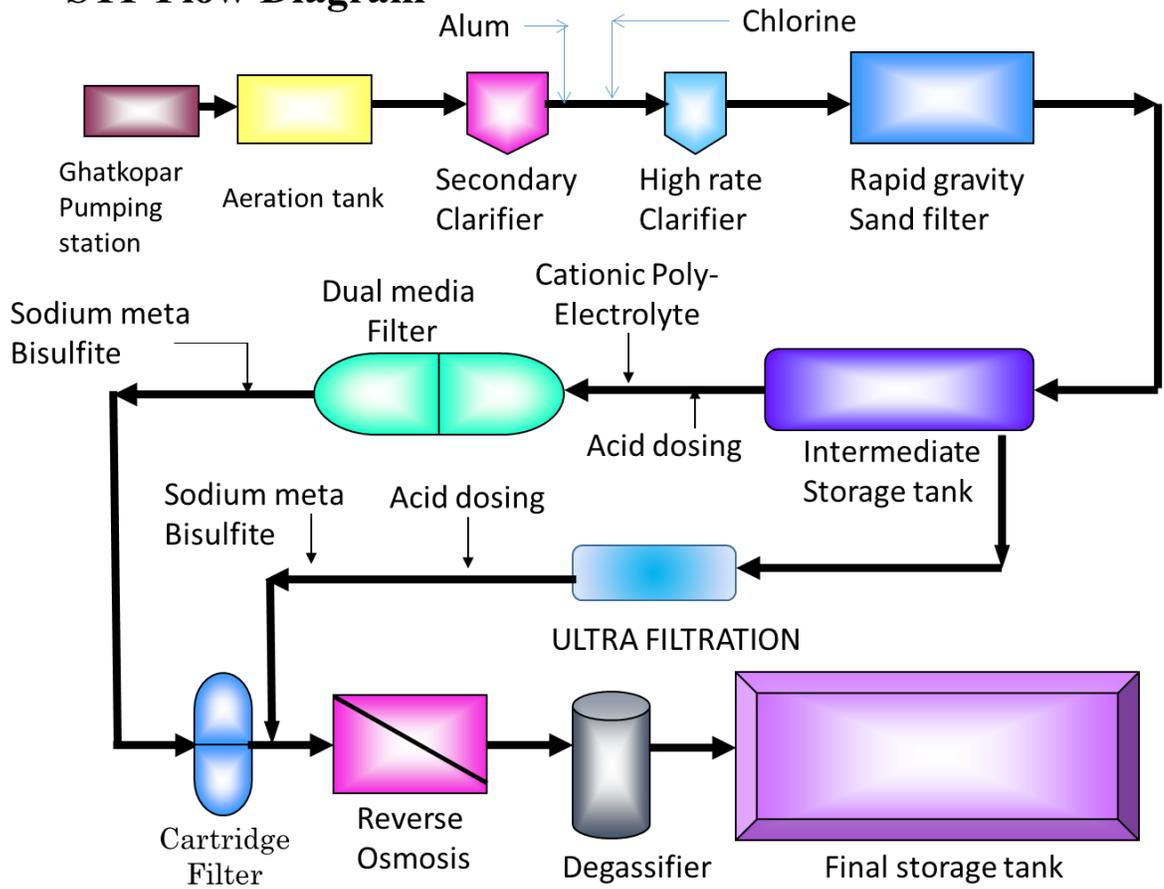
Year	Raw Sewage Treated(m3)	STP water produced(m3)
2016-17	54,94,820	49,79,430
2017-18	57,14,250	54,36,430
2018-19	60,83,660	55,75,120

The treated water produced in Sewage treatment plant is having better quality from the point of view of conductivity and used for BFW water, cooling water makeup process water for various dilution and Fertilizer manufacturing process and for other all industrial applications

Apart from installation of sewage treatment plant to reduce fresh water consumption of the unit, following steps are adopted to conserve the fresh water:

- Installed one new RO skid in existing sewage treatment plant to further recover water from reject stream.
- Reject from RO Process is further treated for recovery the remaining small portion is used for cleaning, washing and for gardening purpose in the factory.
- Efforts are taken to conserve each and every drop of water. Natural pond is developed in factory premises for rain water harvesting.
- All the domestic sewage generated in factory is sent to the existing sewage treatment plant for treatment. Thus reducing the sewage treatment load of Municipal cooperation.

# STP Flow Diagram



## FINAL STORAGE TANK



- RCF Trombay Unit is setting up second stream of Sewage Treatment Plant (STP) adjacent to the existing STP with a capacity to treat 22.75 Million Litres per Day (MLD) of Municipal Sewage to produce about 15 MLD of treated water. The project is expected to be commissioned by Dec 2019.

### *Inauguration of New Sewage Treatment Plant*

