

Sewage Treatment Plant (SBR)

Kalpataru Construction Overseas, Mumbai

Challenge

For the Commercial cum residential building at the Camlin compound in Andheri, Mumbai, the builder decided to treat the sewage from the entire building in a common Sewage Water Treatment Plant (STP) and make it fit for reusing as toilet flushing, as landscaping irrigation water and partially as make-up water for building's central air-conditioning cooling towers. As commercial space being a constraint in Mumbai there was less availability of open space and hence it was decided to install the Sewage Treatment Plant in the basement of the premises.

Solution

Considering physical limitations and hydraulic variations in sewage flows, it was decided to adopt "Inter - Air" batch type of Extended Aeration System for treatment of domestic sewage in an underground STP.

Sequential Batch Reactor (SBR) was chosen because of its compact footprint and ability to achieve enhanced nutrient removal. Also the output water needed to be used for a multiple of uses – right from toilet flushing, landscaping and cooling towers.



Project Snapshots

Location	Andheri, Mumbai
Source	Commercial cum Residential complex
Application	Sewage Treatment Plant
Technology	Sequential Batch Reactor (SBR)
Capacity	65 m ³ /day
Commissioned	July 2009



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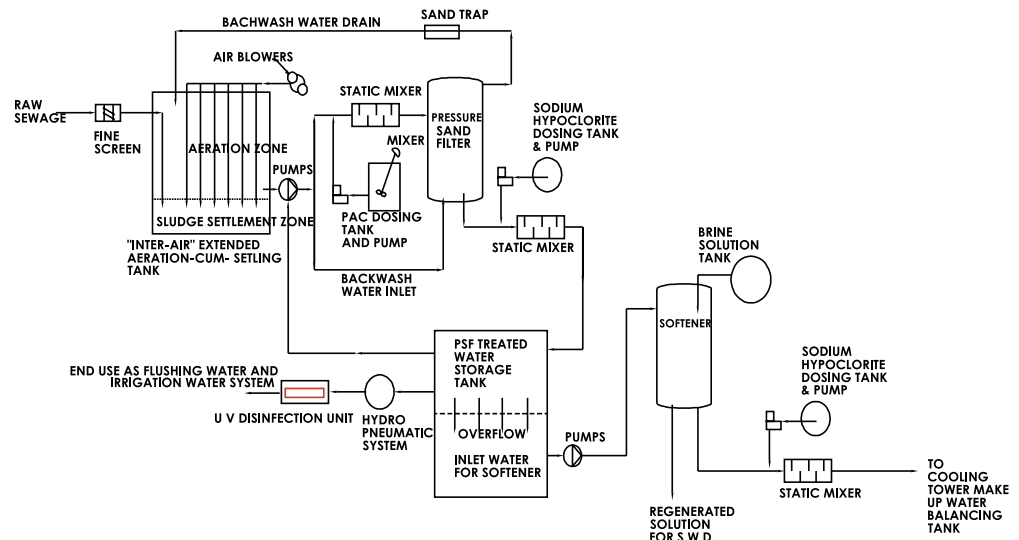
Plant Highlights

A Manual Bar Screen was installed with an Inter-Air Aeration Tank Piping and Valves. As the outlet water needed to be used for multiple uses, a lot of additional fitments were installed in the Sewage Treatment Plant. For Aeration, Air Blowers were provided with Pressure Sand Filter Feed Pumps and Cooling Tower Make-up Water Feed Pumps. For treating the hardness, a softener was installed and a sodium hypochlorite dosing system for the softened water. Pressure Sand Filters were installed with sump pumps with a PAC Dosing System. Additionally a sodium hypochlorite dosing system was installed for the filtered water. To handle corrosion and ensure longevity of the plant, the SS 304 pipes were laid with neoprene rubber gaskets.

Performance Parameter Results

Parameter	Result
BOD	< 5.0 mg/l
COD	< 34.0 mg/l
TSS	< 10.0 mg/l
pH	7.85
Detergent	< 1.0 mg/l
Oil & Grease	< 1.0 mg/l

Schematic Flow Diagram



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