

Municipal WWTP, Spain

A Case Study

Case Study: Municipal WWTP

Client: Municipality in Spain

Start Up: 2008

Capacity: 1,100 m³/d



Overview

The oxidation ditch configuration based wastewater treatment plant in Spain required a quick upgrade in order to comply with new inflow and quality requirements.

Requirements

The existing plant was operating with two parallel Oxidation Ditch modules with a flow rate of 600 m³/d each, and exhibited very poor nitrification capacity. The plant was to be expanded (at the final stage) to treat a total of 2,400 m³/d t and to achieve the EU Total Nitrogen limit of 15 mg/l.

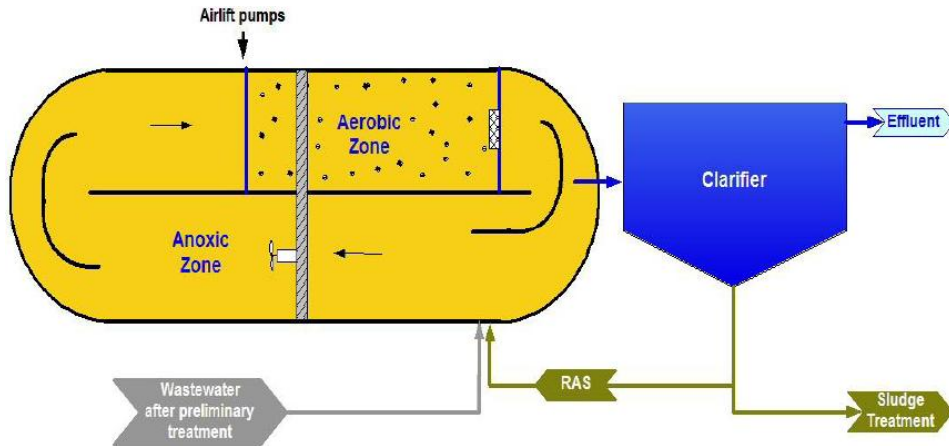
Challenge

The retrofitting project was to be accomplished with minimal downtime and capital cost, and with no expansion of the existing module facilities and foot print. Hydraulics of an Oxidation Ditch present a specific challenge for implementation of **AGAR**[®], due to high liquid velocities in the channels.

Solution

Only one of two existing modules was upgraded for comparison. The module system had changed to an **MLE IFAS** (Integrated Fixed-film Activated Sludge) configuration. A separation of the original aerobic zone from the anoxic zone was achieved by adding vertical partitions and introducing Aqwise biomass carriers into it. The hydraulics of the plant were also changed, by introducing airlift pumps for internal recirculation between the aerobic zone and the anoxic zone.

Design



Results

The plant capacity was almost doubled with no significant construction addition. The plant complies with required TN quality, while the conventional and parallel module does not.

