

IFAS Wastewater treatment plant upgrades using Biofilm Technology

The Challenge

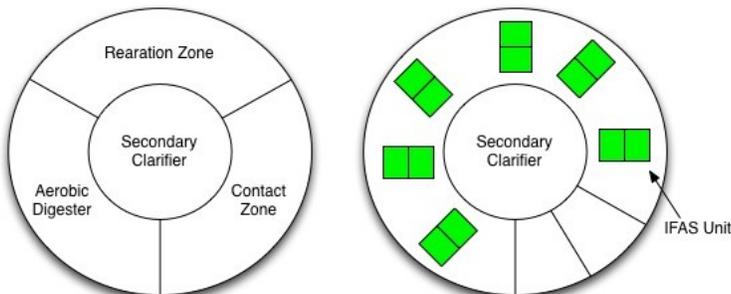
When faced with new ammonia discharge regulations, plant operators often have two choices, downrate their plant to give the contact time required for nitrification, or expand the basin capacity. Population growth often makes the first option impossible, so an increase in capacity was needed. An alternative to these options is to modify their system existing to a plug flow treatment system and incorporate IFAS technology.

IFAS Wastewater Treatment Plants

Integrated Fixed-Film Activated Sludge (IFAS) wastewater treatment systems combine both Activated Sludge and Biofilm technologies to give an advanced level of treatment at a reduced cost over conventional wastewater treatment technologies. Plant operators have been able to save millions of dollars in construction costs by modifying and augmenting their existing basin with IFAS technology.

Plant Upgrade

Fixed biofilm media most commonly selected for an IFAS, as it would integrate well with existing aeration diffusers, and can be added into the existing basins with no additional tank construction. Modification to the basin can include removal of the walls between the contact, reparation, and digestion zone with a reconfiguration to a four zone plug flow design. This maximizes the contact time of influent wastewater in the treatment plant, allowing a capacity increase by up to 30%, while still providing nitrification.



Contact Stabilization (left) and Plug Flow (right)

Advantages of IFAS Upgrade

- Up to a 30% increase in plant capacity
- Can be implemented in existing treatment basin
- Can use existing aeration system
- Reduced cost over new treatment basin construction
- Provides nutrient removal to meet new effluent discharge regulations



Treatment Plant being upgraded with Biofilm Technology

For further information or project evaluation contact Bishop Water Technologies