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Pilot Plant- Sedimentation Tank

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Pilot Plant

Sedimentation Tank

Overview

Two parallel sedimentation tanks are connected in series with the flocculator at the pilot plant. The sedimentation tanks allow us to further examine the efficiency of the process in the AguaClara design. Sedimentation tank design needs to be optimized to achieve our overriding goal of consistent production of water, under 1 NTU. Testing will include not only the traditional lamella design of sedimentation tanks but also the alternative floc blanket based sedimentation tank designs. These two processes are being tested side by side in parallel sedimentation tanks. One tank combines of lamella and sludge blanket technology and is compared to the other which only uses a sludge blanket to treat water.

There are several concerns with the implementation of floc blankets into the AguaClara treatment plants. Some of these include: the length of time it takes to develop a fully functional floc blanket, the reliability of the floc blanket, and when and how excess sludge in the floc blanket is drained. To read more about these concerns, click [here](#). However, one of the huge benefits to the pilot plant as opposed to a regular research lab is that water source is natural! The incoming water is taken from Fall Creek and therefore contains natural organic particles. This enables influent conditions to be more representative to those in Honduras.

Sedimentation Sludge Blanket Tank [goals](#) and [meeting minutes](#)

Design

Current dimensions of the sedimentation tank, and the calculations used to determine them can be found [here](#).

Methods and Research

Some of the methods that are being used at the pilot plant are compiled [here](#).

Results

Sludge Blankets at Different Upflow Velocities

The results of trying to form a sludge blanket at various upflow velocities in an otherwise empty sedimentation tank are shown [here](#).

The Formation of a Sludge Blanket

Observation of how a sludge blanket is formed and how well the control sedimentation tank operates are shown [here](#).

Construction History

The construction history of the sedimentation tank is available on [this page](#).

Maintenance and Tips

For help on keeping the sed tanks and related components working well, or for some tips on experimenting, look at [maintenance and tips](#).

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