

Floc Sed Optimization

Floc Sed Optimization Team

Our research focuses on evaluating the current system and reducing unnecessary water waste, chemical use, and construction costs associated with the flocculator and sedimentation tank. This optimization process would essentially reduce the size of the system and ultimately reduce the cost of building and maintaining an AguaClara designed water treatment plant. Experimentation for this group will be guided by a cost analysis of these two major features and parameters such as flocculator length, recycle flow rate ratio, sedimentation upflow velocity and capture velocity will be reevaluated. In addition, the effects of introducing a floc recycle process will be analyzed so as to determine if the reuse of developed flocs will benefit the efficiency of the system.

Current & Future Research

Our team is currently working on determining the optimal coagulant dose for PACl to reliably produce a floc blanket. We are adding a mixing reactor in place of the rapid mix chamber to sufficiently mix water and coagulant using a hydraulic jet on the raw water inlet. Imaging capabilities will be added to monitor floc blanket status in real time and to return summary values to the computer. Once a method for a reliable floc blanket system is developed, floc recycle will be added to observe improvements in the results.

Team Members

Mary John
Felice Chan
Eriko Inagaki
Team Documents

	Challenges	Tasks	Teach-In	Presentation
Spring '13	? Unknown Attachment	? Unknown Attachment	? Unknown Attachment	? Unknown Atta
Fall '12	? Unknown Attachment	? Unknown Attachment	? Unknown Attachment	? Unknown Atta
Summer '12	FSO_ChallengesSummer2012.pdf		? Unknown Attachment	? Unknown Atta
Spring '12	? Unknown Attachment	? Unknown Attachment	? Unknown Attachment	? Unknown Atta

Past Research

None.