

High Rate Sedimentation

Active Research

[HRS - Floc Blanket](#)

[HRS - Plate Settlers](#)

High Rate Sedimentation

- Can the upflow velocity in the AguaClara sedimentation tank be significantly (factor of 2 to 10) increased without degrading performance?
- Can sloped plates or tubes help to stabilize a floc blanket at high upflow velocities?
- Can flocs be transported to a floc hopper when there are high upflow velocities in the sedimentation tank?
- What geometry is required for this new high rate sedimentation tank?
- How do the plate settlers with a capture velocity of 1 mm/s connect to the plate settlers with a capture velocity of 0.12 mm/s?

Fall 2017

Past high rate sedimentation teams have tested the effectiveness of varied sedimentation basin geometries. The goal of the current team is to test whether these geometries could be simplified and shortened while maintaining an acceptable effluent turbidity. However, the results of this semester raise more questions than they answer. Although the team begins with a clear direction, investigation of the flocculator dominates the majority of research. Future work needs to be done on exactly what is causing floc blanket deterioration. The Fall 2017 team theorizes that the flocculator itself is to blame. By diagnosing this experimental issue, the team will become one step closer toward providing high quality water in a fraction of the time.

Fall 2017

Members

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Documents

	Challenges	Tasks	Symposium	Final Presentation	Final Report
Fall '15				High Rate Sedimentation Final Presentation.pptx.pptx	ReportHighRateSedimentationFall2015.docx

	Challenges	Tasks	Symposium	Final Presentation	Final Report
Fall '16					

	Challenges	Tasks	Symposium	Final Presentation	Final Report
Spring '17					

	Challenges	Tasks	Symposium	Final Presentation	Final Report
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Summer '17					
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	Challenges	Tasks	Symposium	Final Presentation	Final Report
Fall '17					