

# Flocculation/Sedimentation Optimization Team

## Detailed Task List

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February 1, 2013

### Pre-Setup

Finish by February 8th

- Clean and do maintenance on apparatus.
  - Flush out chlorine water.
  - Flush out mold with sponges.
  - Refill stock tanks, both clay and coagulant.

### Setup

Finish by February 27th

- Design and add a new large diameter reactor to mix raw water and coagulant.
  - Plan the design for new mixing chamber.
  - Acquire materials for new mixing chamber.
  - Build and attach to apparatus.
- Add imaging capabilities so that floc blanket can be monitored in real time.
  - Contact Lesly Yu of National Instruments to find a camera that can detect the top of the floc blanket.
  - Add backlighting of LEDs with a light diffuser so the camera can function.
  - Work with Matt Hurst to interface the camera with the computer so that Process Controller can process the images and return summary values of concentration and the height of the floc blanket.

## Experiments

Finish by April 26th

- Using the new contact tank, vary the coagulant dose, measure time to build a floc blanket.
  - Compare time results with the control floc blanket build times.
- Introduce floc recycle with appropriate coagulant dose and a poor coagulant dose.
  - This should be done when there is a reliable method for building a floc blanket.