

Fall 2010 Mid-Semester Contributions

For the first half of the semester, I worked on 1) familiarizing myself with the past CDC design, making sure that I understand the mechanics of the apparatus and why it is being used for AguaClara plants. The Chemical Dose Controller is not in the Design Tool because, as of now, its design can't be up or down scaled for a given input plant flow rate. Therefore, I have also been working on a database for the different components (float valves, tubing) that will need to be in the Design Tool once the CDC is part of it.

The second half of the semester was dedicated to the actual construction of a NCDC prototype. The components that make up the apparatus needed to be selected based on the restrictions of the plant. I worked on the following tasks for this part of the semester:

1) Design and outline of a full scaled prototype.

- Reduction of materials.
- Choosing local, available and non-corrosive material.
- Browsing McMaster Carr for available components.

2) Design of lever arm and slider.

- Easy assembly and handling.
- Easy brake mechanism.
- Permanent scale design, stamping scale.
- Design to hold orifice in place inside the dosing tube.

3) Attachment of components to plywood wall.