

Tamar AguaClara Work

My main contribution this semester has been through the leadership of the Design Team. To be more accurate, our team functioned well without having someone in charge. I think Sarah and Leslie specifically kept on top of our work and made sure to continuously be working this semester. I made sure to keep tabs on what everyone was doing. You can see the above links for all the files I have contributed to and have created.

I worked on the tank regulator dimensions for the Marcala Plant in the beginning of the semester. Once we transitioned into working on the master program, I worked on the flocculator function with Leslie. Specifically, I worked on the tasks of figuring out how to implement the baffle spacings in the flocculator. I am currently working on how to provide this information to the AutoCAD team. I also met with Rachael to discuss team allocation and deadlines. I think I helped to keep the team as a whole on track.

Towards the second half of the semester, I continued optimizing the flocculation code. Additionally, I set up a spreadsheet of different flow rates and different parameters of which to test the Master program for reasonable values for the sedimentation and flocculation tanks.

By taking on more of a role for wrapping up the semester as this is my Master's project, I intended to run the automated design code for 5 different flow rates and process the autocad files for comparison. Since there were many problems especially at the end of the semester with various references I spent time cleaning out the functions and created 'Beta' functions for each file. These 'beta' files had all the parameters needed in the function directly in the file instead of calling them from many references. Realizing that this was unnecessary, I ended up using Monroe's WWWMasterProgram to run the numbers for two new potential sites.

Overall, I helped with the consolidation of all the programs. Leslie wrote more of the flocculation code but we both helped brainstormed ways to implement it, with the help of the AutoCAD team and with Monroe. There was a problem with the way the Gtheta was being calculated, and after this was fixed we could run the code. Additionally, through creating the spreadsheet to determine what was wrong, we figured out that placing the baffles into the two channels needed fine tuning. It was decided that at this point we would only code for the case with two channels, although we had aspirations to enhance the code to allow for more channels. At this point teams should focus on more research on further flocculation and expanding the capabilities of the master program. Furthermore, I think it is important to begin to compile a materials list of lamella, elbows, and pipe sizes needed for the construction of the plant.

Other work I contributed to was the internal design process which I coordinated, you can see details of who worked on what code [here](#).

As far as the final algorithm and final report for the unit processes team, I only reviewed what Leslie completed in regards to the flocculator. I wrote the abstract, basis of design and the internal design sections. I went through all the WIKI pages and updated links and continued to follow through with minutes for our team. (Note: Many other meetings were not recorded with we worked alone!) I also went through where all the variables were listed to ensure they all matched up.

The final presentation was a group effort, but I took the lead on bringing the team all together. It was frustrating because some of the code on the hydraulic team was not working immediately and delayed our further perfecting our final presentation. I think overall I continued my role as a UP team leader by more managing my teammates, but truth be told, they were excellent to work with and did not need much guidance from myself!

I will continue to work with Monroe as much as I can through the summer and hope to plan an awareness event in NYC before taking off to spend the year in Honduras!