

hmr6

Spring 2009 Mid-Semester Contributions

I am a member of the [Design team](#). I have spent the semester becoming familiar with the design files, and updating the sedimentation tank inlet manifold program. In this program, I redefined the width of the inlet manifold to be a function of the width of a sedimentation tank, the width of the sludge drain, and the thickness of the slope plate. I went through all of the other files to update the functions that used half of the width of the sedimentation tank when in actuality the width of the inlet slope was needed. I also edited the function that calculated the maximum possible length of a sedimentation tank, and then added a check that the calculated length of the sedimentation tank does not exceed the maximum length. I have also started updating the variable naming guide to reflect the new and edited variables in the inlet manifold program. I added the hopper program to the Gracias design file, and I added a function within this program to determine the offset distance from the inlet channel that the top of the hopper needs to be. I also moved input variables into the input variables page instead of them being at the top of the program for which they are used. I have updated the [Cuatro Comunidades](#) page to now have the correct dimensions that have been used in the plant. Overall, I have spent a lot of time debugging and checking to make sure that changed variable names were changed in all programs so that everything was correct and consistent.

Summer 2009 Mid-Semester Contributions

So far this summer, I have spent most of my time training nine new design team members. I have also developed protocols for testing various plant sizes and committing files to the AguaClara Design Tool. I have been working on debugging the Design Tool so that plants of different combinations of sed bays and sed tanks and flow rates will draw correctly from the Design Tool. I also worked on changing the design of the inlet chimney from a hollow rectangle to a solid concrete column with a circular hole for the water to pass through. I am also trying to develop a way to reduce the time it takes for the design tool to send back a drawing and I am working on a way to have a disclaimer printed on the autocad plant drawing that is mailed back to the user from the design tool.

Summer 2009 Final-Semester Contributions

Since the middle of the semester, I have spent the last few weeks working on a design that would allow for the inlet and exit weir pipes to no longer be what controls the height of the water in the plant. I have been working on how to best create code for weirs in the inlet and exit channels that would act as dams and would control the water height by setting the height of the weir. I have been working to make this design practical and scalable for very small to very large plants. I have also been coding the new dimensions of the inlet and exit channels depending on the geometry of the weir, and I have added new functions to the fluids functions page that calculate a minimum channel width given a flow rate, channel length and target head loss.

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