

Milli-Sedimentation, Fall 2016

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Semester Schedule

Task Map

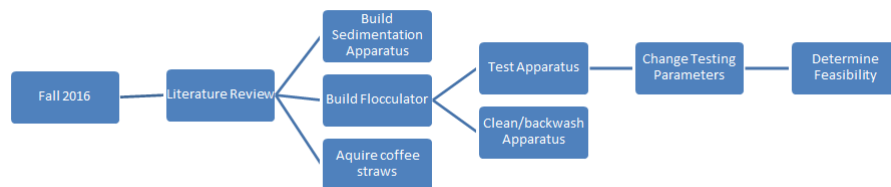


Figure 1: Task Map

Task List

1. Literature Review (9/16) Tianyi Wang- Complete a short literature review on sedimentation with an emphasis on plate settlers and look for any resources that have used straws for sedimentation.
2. Acquire Coffee Straws (10/10) Janak Shah- Determine what kind of straws are needed for the apparatus. Preferably clear straws to observe floc movement.
3. Build Sedimentation Apparatus (10/10) Janak Shah- Construct from a PVC pipe (1in) and fill the pipe with coffee straws. Test horizontal flow on the lab bench to test viability. If the horizontal flow is not viable, place the apparatus at an angle. Use Mathcad to determine the length of the pipe adequate for floc settling.
4. Build Flocculator (10/10) Jillian Whiting- Use Mathcad to design a flocculator and build it in the lab. Ensure proper floc size.
5. Testing apparatus (10/31) Tianyi Wang- Run tests using influent turbidity designs close to StaRS. Possibly use red dye to determine how flocs move through sedimentation tank and how they settle.

6. Cleaning apparatus (10/31) Jillian Whiting- Will be done after each individual test of apparatus. Use a backwash system similar to StaRS. Test high velocity bursts with apparatus and possibly observe how flocs mobilize out of the apparatus using red dye.
7. Change parameters (12/2) Jillian Whiting- Possibly change angle of the apparatus or the size of straws. Possibly build a larger scale version.
8. Feasibility Decision (12/5) Janak Shah- Determine the feasibility of implementing this design in an AguaClara plant.

Report Proofreader: Janak Shah