

Stacked Rapid Sand Filtration Team

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1 Design Low Flow Stacked Rapid Sand Filter

This part will be the main focus of the summer. We will look over the designs suggested by the 5 L/s filter design team in the CEE 4540 class, and consider implementing some of their designs when developing our 3 L/s filter. Here are some specific parts that we will need to modify:

- Inlet & Outlet systems
- Manifold system
- Backwash & Siphon systems
- Filter shape, size, material, open vs. closed, etc.

2 Experiments

We will need to complete several experiments in which will impact our decisions. Specifically, we will test:

- Flow distribution through varying numbers of sand layers on the pilot scale system.
- Different size grains of sand on the bench scale system

3 Fabrication

Using the results of our experiments, we will select the best design option and build a low flow stacked rapid sand filter, which we will then test and modify to produce a final prototype.