Sedimentation Class Example 3

If the settling velocity of the floc particles is 0.055 *cm*/*s*, determine the area of the sedimentation tank. Assume a factor of safety of 1.3 and the system flowrate can vary from 750 ml/min to 1,250 ml/min.

How does your estimate compare to what you have seen in the lab?

Knowing the overflow rate and the ***minimum*** flowrate, the area required

$$A = \frac{Q}{OFR}(SF) = SF\,\frac{Q\ \ ml/\text{min}}{v_s\ \ cm/s}\ \ \frac{1\,cm^3/\text{m}l}{60\,s/\text{min}}$$

In lab, each tank is 6 in. by 6 in. or 36 in^2, so how many tanks do we need?