

Reading Guide

CEEG 340–Introduction to Environmental Engineering

Instructor: Deborah Sills

Reading assigned for Friday 10/11: Textbook pp.404 (first paragraph) and 406–409, 410-413

After completing the reading, you should be able to:

1. Describe the process of sedimentation.
2. Define in words the critical particle-settling velocity.
3. Define in words the overflow rate.
4. Describe how the percentage of particles removed (from water), captured by the sedimentation tank, and retained in the sedimentation tank is determined.
5. Describe how a rapid sand filter works, and how it is maintained.

Also from last week's reading (Textbook pp.389–399):

1. Describe an overview of the unit processes that remove contaminants from surface water.
2. Describe coagulation and flocculation in one or two sentences.
3. Name one common coagulant.
4. Describe factors that influence the choice of coagulant.
5. Describe why alkalinity is required when alum is used as a coagulant.
6. Define the term \bar{G} (root mean square velocity gradient).
7. Given, \bar{G} , Q , θ , and temperature, calculate the volume and power requirement for a mechanical rapid-mix tank.