

Lab 11: Cortland Wastewater Treatment Plant

pp. C69-76

GOALS:

- Understand why it is important to treat wastewater.
- Know the path and understand the different processes that the water is subject to from influent to effluent.
- Understand the difference between physical and biological processes in the plant.
- Know when and where solids are removed from the wastewater and what happens to it before it leaves the treatment plant for the landfill.

KEY TERMS:

General treatment vocabulary

influent
effluent
leachate
eutrophic/eutrophication
biological oxygen demand (BOD)
physical process
biological process
settleable
suspension
dissolved
anaerobic digestion
solids
nitrogen (N)
phosphorous (P)
carbon dioxide (CO₂)
methane (CH₄)
oxygen (O₂)
disinfection
million gallons per day (MGD)
belt dewatering press
landfill

Process steps with vocabulary

raw sewage
bar screen
pumping
grit removal
primary clarifier – *physical process*:
 -floatables
 -primary sludge
aeration basin – *biological process*:
 -aeration
 -microorganisms
secondary clarifier – *physical process*:
 -activated sludge
 -waste activated sludge
chlorination
dechlorination
aeration
=====
anaerobic digestion
dewatering
sludge removal

I. Plant Tour:

pp. C69-76: Use this handout and the information in your lab manual to take notes during the tour of the wastewater treatment plant. Ask questions if you do not understand what is happening to the water or sludge at any of the stops on the tour.

II. Review:

p. C74: Answer the study questions to make sure that you understand the material. Read through the other materials and maps to review what you saw on the trip.