

## Sludge Thickening at Small Plants

# Step by Step Instructions

- 1** Turn off the blowers to thicken the sludge in the clarifier. We found the air could be off as long as five hours without any ill effects. Mix the polymer. 10 mls polymer to one gallon of room-temperature (70 degrees) water. The warm water helps the polymer form the long chains. Mixed polymer can be stored until it turns green. Keep from freezing. Mix by inverting and shaking. Let polymer age one hour for best results.
- 2** Place sawhorses above drains and attach bags with screws through 1" X 2" X 10" boards. These hold the bags open as well as support them. Place the mixing drum in a convenient location.
- 3** Screw hoses onto pump and lower into clarifier being careful not to submerge the electrical connection to the extension cord. Measure one-half liter of mixed polymer into a container so that it's ready to add to the sludge.
- 4** Start pumping sludge into the drum. Start adding slowly, one-half liter of mixed polymer to the sludge stream starting when the drum is approximately half full. Flocs the size of popped corn should form with clear water between the flocs.
- 5** Transfer the pump to the mixing drum and start filling the bags. Each bag will hold about 17 gallons.
- 6** Repeat until the desired volume has been removed from the system.
- 7** Pump clear water through the pump to rinse it and clean up your mess.

The volume of polymer will vary with the type and brand of polymer purchased and the sludge being treated. Use what works for your sludge.

There are several ways to handle the bagged sludge. The bags can be refilled as long as there is space, then place them in a covered area for further drying or they can be emptied into a dumpster immediately. The bags can be rinsed and reused or they can be disposed of with the sludge.

Disclaimer. Every plant is different so the procedures may be different for your plant.

# Materials List

- Woven poly grain bags. Available at local feed mill. We purchased ours at Champaign Landmark at Mechanicsburg.
- Sump pump. Available at the local hardware store. We found ours at Lowes.
- Sawhorses. Kits and lumber can be found at Lowes or most local hardware stores.
- 1" X 2" X 10" can be found as scrap from pallets or at the local hardware store.
- 3" drywall/deck screws. Local hardware store.
- 55 gallon poly drums may be found at the local water treatment plant. We cut the top out of ours for easy access. If the water plant doesn't have one, call their chemical supplier.
- 5/8" hose. We used 25' since that is what we had available.
- Extension cord as needed.