

# **Aerated Stabilization Basin 8-Hr. Webinar Outline**

## **Day 1**

### **Overview of Wastewater Treatment – 1 hr**

- Composition of Wastewater
- Classification of Solids
- Treatment Steps – Preliminary, Primary, Biological, Sludge

### **Primary Treatment – 1 hr**

- Solids Capture and Efficiency
- negative Impacts from Primary Secondary

## **Break**

### **ASB Biological Growth Pressures – 1 hr**

- Layers (aerobic, anaerobic, facultative)
- Benthic feedback
- Types (completely aerated, partially aerated, sludge storage options)
- Growth Pressures – Temperature, pH, Organic loading, D. O., Nutrients, Hydraulic loading, Toxics

### **Evaluating ASBs Using the Microscope – 1 hr**

- Floc structure
- Protozoa, Metazoa
- Filaments
- Slime

## **Day 2**

### **Aeration – 1 hr**

- Types of aeration
- Oxygen Demand
- Impacts of Oxygen Deficiency
- Monitoring, D.O. probes

### **Nutrients – 1 hr**

- Types of Nutrients – Nitrogen, Phosphorus
- Nutrient Management – Overfeeding/Underfeeding
- Nitrification/Denitrification

## **Break**

### **Managing ASB solids - .5 hr**

- Wastewater Characteristics
- ASB Design Impact on Solids
- Sludge Removal and Reduction

### **Sludge Quality Problems – 1 hr**

- Poor Floc Formation
- Foaming
- Non-filamentous problems - pin floc, dispersed growth, straggler floc, denitrification, slime bulking
- Filamentous bacteria

### **ASB Troubleshooting - .5 hr**

- Foaming
- High effluent TSS
- High effluent BOD
- High effluent ammonia
- Effluent Toxicity
- Sludge accumulation