

## Onondaga County, NY Metro WWTP Aeration Upgrade

### Facility Contacts:

Process Director: Randy Ott  
Operations Supervisor: John Seracini  
Maintenance Supervisor: Jim Brady

Engineer: Environmental Engineering Associates, LLP

### Project Summary:

The Syracuse Metro plant was equipped with mechanical aerators. Fine bubble aeration was evaluated for the secondary treatment activated sludge process. Factors leading to the decision to upgrade to fine bubble aeration included power savings, increased operations flexibility, decreased maintenance, and increased performance of the activated sludge process.

The evaluation included an O&M cost analysis for the in-place gas cleaning system. It was determined that in-place gas cleaning would be the most efficient and cost effective way to maintain the fine bubble aeration system. The County previously upgraded to the Sanitaire gas cleaning system at another facility and has realized substantial O&M savings.

### Plant Data:

Average Daily Flow: 84 MGD  
Peak Hour Flow: 120 MGD  
Air Rates: 29,600/52,800 scfm (Average and Peak)  
Basis of Design: BOD and seasonal ammonia reduction

### Sanitaire Fine Bubble Ceramic Disk Aeration Equipment

- ↓ # Eight Aeration Basins, each with six grids of 9" diameter ceramic disks
- ↓ # Total Number of Diffusers: 45,120
- ↓ # In-place Gas Cleaning System with common gas feed stations
- ↓ # Pressure Monitoring station for each air grid
- ↓ # Portable gas cleaning trailer, for use at Metro WWTP and other County facilities