

## INDUSTRIAL WASTEWATER

# WWTP for Fiber Optics Manufacturing

Industry:	Microelectronics/Fiber Optics
System:	30 gpm Wastewater Treatment Plant Design
Location:	New York State
Goals:	Removal of TSS, Fluorides-3 ppm, Chlorides-250 ppm & TDS-500 ppm

### Project Overview:

SAMCO's state-of-the-art Wastewater Treatment Plant process design at a Fortune 500 Fiber Optics Manufacturing facility in NY utilizes Fluoride Precipitation, Suspended Solids Coagulation, Filtration, High Recovery Reverse Osmosis, Evaporation & Sludge Handling/Dewatering to treat waste gas scrubber blow down wastewater and meet stringent discharge quality. It is also designed to achieve up to 70% recycle/reuse and up to 95% waste reduction in the Microelectronics/Fiber Optics industry.

### Critical Issues:

Complex contaminants & varied flow	Stringent discharge limits
Plant expansion w/ added water & wastewater load	Reduced O&M costs
Fast-track project, concept to completion	Critical application, high uptime

### Vision for Solution:

- Pollution prevention (P2), waste minimization, recycle/reuse & source segregation strategies to reduce contaminant load on wastewater treatment plant, reduce chemical feed, reduce sludge waste, achieve up to 70% recycle/reuse quality, and handle added expansion load
- RO-Evaporation in lieu Evaporation only maximizes ROI with a one year payback through energy savings and recycle/reuse
- Duplex 50% train design for built-in redundancy and partial operations
- Utilize our standard products & pre-packaged system design for fast-track turnkey project delivery and performance guarantee
- PLC w/ Remote Telemetry for minimum onsite operator attention
- Modular design with expansion capability for future needs

### Project Scope:

Detailed Plant Survey	P2 & Waste Minimization Studies
Treatability Studies	Concept Development
Project Estimation	Process Design/Project Engineering

### Equipment Description:

Equalization Tanks	Influent Pumps
Chemical Feeds	Filtration System
Reverse Osmosis	Membrane Clean-In-Place
Evaporation	Sludge Handling/Filter Press
Recycle Pumps	PLC/Remote Telemetry

### Special Features:

- High Recovery RO system resulted in 70% wastewater recycle/reuse with high TDS & Silica
- Special high pressure RO membranes allow varied feed contaminants & concentrations
- Design incorporates a modular expandability and future add-on capability for changing needs

