

INDUSTRIAL WASTEWATER

Silver Recovery for Photo-Film Industry

Industry:	Photographic Film & Chemicals
System:	100 gpm Silver Recovery Waste Water Treatment Plant
Location:	Southeast USA
Goals:	Remove Grease < 30ppm, TSS < 30ppm, Silver < 1ppm, COD < 500ppm

Project Overview:

Our state-of-the-art Silver Recovery Waste Water Treatment Plant (WWTP) installed at a leading Photographic Film & Chemicals manufacturing facility utilizes Reaction Tanks Units (RTU), Dissolved Air Flootation (DAF), Conventional Clarifier, Multimedia Filters (MMF), Biological Activated Sludge Reactor (by others) and Sludge Handling/Screw Press. The Silver Recovery WWTP is designed to recover valuable silver waste for offsite purification and treat highly complex & variable wastewater from multiple plant manufacturing areas in a Photo-Film industry.

Critical Issues:

Highly complex contaminants & varied flow
Plant expansion w/ added wastewater load
Fast-track project, concept to completion

Loss of valuable silver resources
Stringent discharge limits
Minimize operator attention

Vision for Solution:

- ◆ Batch equalization & homogenization strategies to handle highly complex contaminants & varied flow, reduce chemical feed, reduce sludge waste, and handle added expansion load
- ◆ DAF & Clarifier in lieu of only Clarifier to remove suspended solids, recover valuable silver, reduce chemical feed, reduce sludge waste, less than one year payback
- ◆ Screw Press in lieu of Filter Press for lower moisture and higher silver recovery value
- ◆ 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:

Treatability Study	Detailed Design/Engineering
System Fabrication	Controls Integration
Field Construction	Commission/Startup

Equipment Description:

Equalization Tanks	Influent Pumps
Chemical Feeds	Reaction Tanks Units
DAF System	Conventional Clarifier
Multimedia Filters	Sludge Handling/Screw Press
Biological System	Piping Racks, Stairs, Platforms
PLC Controls/SCADA	



Special Features:

- ◆ PLC controlled system enables supervisory control & data acquisition from a remote site
- ◆ Process monitoring include flow, level, pressure, pH, COD, etc
- ◆ Prefabricated skids, piping racks & platforms for minimum on-site assembly & installation