CASE STUDY

Poultry Kill & Processing

FRC
A Sulzer Brand

EQUIPMENT SUPPLIED

2x PCL-90 DAF
2x F-12 Flocculator
2x Recovered Product Tanks
PCL-180 DAF
F-14 Flocculator

FACILITY

Fieldale Farms
Murrayville, Georgia

DISCHARGE PARAMETERS

Flow : 2.3 MGD
TSS : 1500 - 2500 mg/L
FOG : 2500 mg/L
COD : 6800 mg/L
BOD : 4200 mg/L

DISCHARGE REQS

TSS : 30 mg/L
FOG : 10 mg/L
BOD : 30 mg/L
TP : 0.2 mg/L

The poultry plant processes 400,000 birds per day, generating 2.3 million gallons of wastewater laden with proteins, feathers, offal, and bone. Preliminary screens remove the coarse solids while the rest of the emulsified oils, fats, and proteins are sent to a DAF system for recovery. Two DAF units separate solids from the water and send them to recovered product cookers where they are concentrated into an oily product which is sold to a renderer. DAF effluent is biologically treated in a 1 million gallon aeration basin.

A third DAF unit is used to separate biomass and remove TP from the biological treatment system. Effluent from this DAF meets the requirements for discharge to a local waterway.

DAF SIZING CALCULATIONS

Hydraulic Surface Loading Rate

$$= \frac{\text{Feed Flow + Recycle Flow in gpm}}{\text{Effective Surface Area in sqft}}$$

$$= \frac{1600 + 240 \text{ gpm}}{\text{x sqft}} = 1 \text{ gpm/sqft}$$

= 1840 sqft required

Solids Loading Rate

$$= \frac{\text{Weight of TSS in Feed in lbs/hr}}{\text{Free Surface Area in sqft}}$$

$$= \frac{2000 \text{ lbs/hr}}{\text{x sqft}} = 15 \text{ lbs/sqft/hr}$$

= 133 sqft free area required

FRC Systems | toll free: **800.331.2277** | phone: **770.534.3681** | email: **jwce@jwce.com** | web: **www.frcsystems.com**

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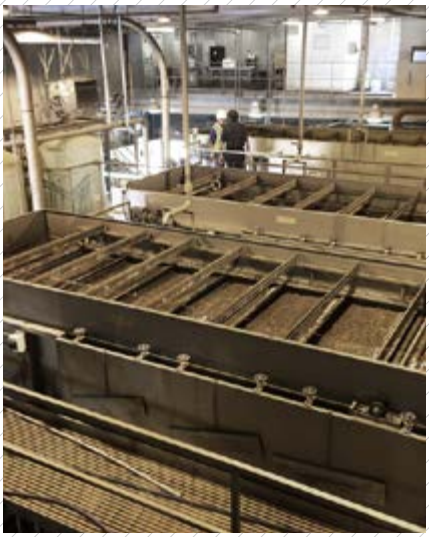
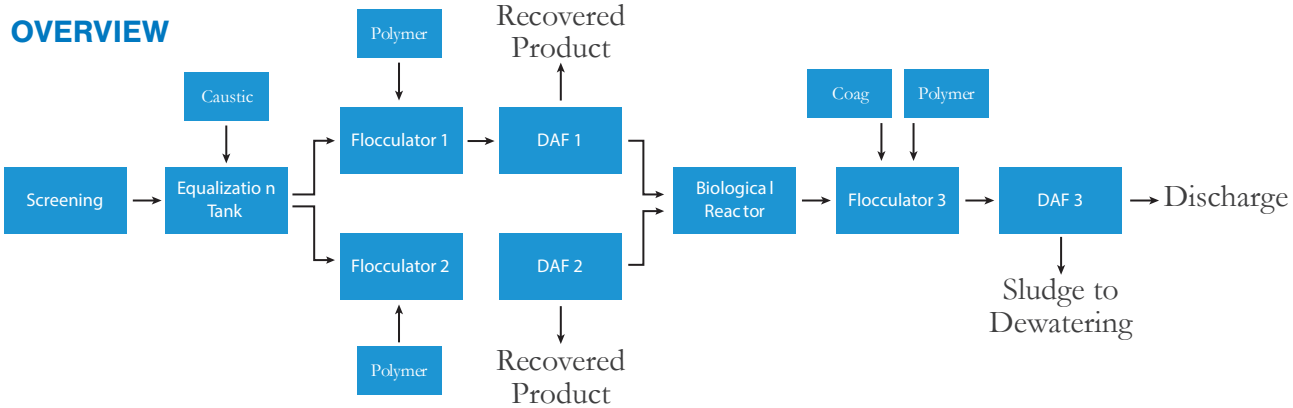


PROCESS OVERVIEW



OTHER SIMILAR PROJECTS

Company	Location	Flow Rate	Company	Location	Flow Rate
Tyson	Roberds, KY	2000 gpm	ConAgra	Gainesville, GA	1000 gpm
Tyson	Nashville, AR	1300 gpm	JBS-Pilgrim's	Athens, GA	1300 gpm
Tyson	Springdale, AR	1000 gpm	Olymel	Clair, NB	1000 gpm
Keystone Foods	Camilla, GA	1650 gpm	Bachoco	Sinaloa, MX	1000 gpm
Perdue Farms	Perry, GA	2000 gpm	Amick Farms	Batesburg, SC	1650 gpm

Since its founding in 1973, JWC Environmental has become a world leader in solids reduction and removal for the wastewater industry with its Muffin Monster grinders and Monster Separation Systems for screening, compaction and washing. JWC also solves challenging size reduction and processing problems in commercial and industrial applications through its Monster Industrial division. JWC Environmental is headquartered in Santa Ana, California, and has a global network of representatives, distributors and regional service centers to provide customer support. For more information, visit JWC Environmental at www.jwce.com.

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