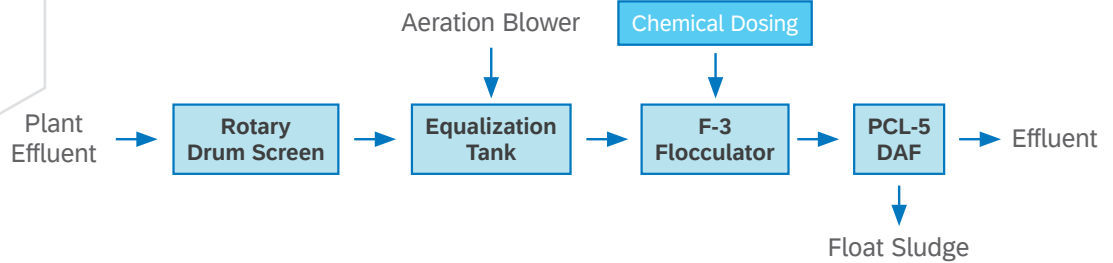


WASTEWATER SOLUTION

Pet Food Production



The plant processes a variety of organic ingredients including chicken, beef, lamb, vegetables, and rice into specially formulated pet food products.

Plant wastewater largely comes from washing raw ingredients and sanitizing process equipment. It carries varying concentrations of oil & grease and has a weekly surge of wastewater with high pH from the use of cleaning chemicals.

FRC was contracted to provide a turn-key wastewater treatment solution including a preliminary screen, EQ tank, chemical dosing equipment, pipe flocculator, DAF unit, sludge holding tank, and all the other ancillary controls, monitors, pumps, and access platforms to make it a complete solution. From purchase date through start-up the project was completed in 12 weeks.

	Design Parameters	Discharge Requirements
Flow	110,000 GPD	
TSS	350 mg/L	300 mg/L
FOG	900 mg/L	150 mg/L
BOG	450 mg/L	300 mg/L

Equipment Supplied

Rotary Drum Screen
20,000 gal EQ Tank
PCL-5 DAF
F-3 Flocculator
Stainless Steel Platform

DAF Sizing Calculations

Hydraulic Surface Loading Rate

$$\begin{aligned}
 &= \frac{\text{Feed Flow} + \text{Recycle Flow in gpm}}{\text{Effective Surface Area in sqft}} \\
 &= \frac{76 + 26 \text{ gpm}}{x \text{ sqft}} = 1 \text{ gpm/sqft} \\
 &= 102 \text{ sqft required}
 \end{aligned}$$

Solids Loading Rate

$$\begin{aligned}
 &= \frac{\text{Weight of TSS in feed in lbs/hr}}{\text{Free Surface Area in sqft}} \\
 &= \frac{35 \text{ lbs/hr}}{x \text{ sqft}} = 2.5 \text{ lbs/sqft/hr} \\
 &= 14 \text{ sqft required}
 \end{aligned}$$

