WASTE WATER

DAF Chemical Reduction Case Study Hamilton, Canada

*Hydro*FLOW® treatment enabled up to 50% reduction in Ferric Chloride while maintaining discharge compliance, improving efficiency and reducing operating costs at a food processing WWTP.

Client details have been anonymised at their request.

50%	91.8%	85.86%	$47.5K
Ferric Reduction Achieved	cBOD Reduction	Turbidity Reduction	Annual Chemical Savings

⇄ BEFORE & AFTER

BEFORE

- ✕ Ferric dosing fixed at 200 ppm
- ✕ High chemical cost and carbon impact
- ✕ System near operational limits

AFTER

- ✓ Ferric reduced to 100 ppm
- ✓ Maintained discharge compliance
- ✓ Lower cost and improved efficiency

OVERVIEW

Maple Leaf Foods operates a major ready-to-eat production facility in Hamilton, Canada. The site operates a dual DAF wastewater treatment system to remove solids and meet municipal discharge limits. High Ferric Chloride dosing was required to maintain compliance, increasing operational cost and environmental impact.

⚠ CHALLENGE

The WWTP relied on high Ferric Chloride dosing to meet discharge limits, creating cost, efficiency and environmental challenges.

- Ferric Chloride dosing at 200 ppm required
- High chemical cost and carbon footprint
- Risk of fines if limits exceeded
- Limited scope for further optimisation

SOLUTION

2x *Hydro*FLOW® Custom units (12″ and 14″) were installed on DAF feed lines to enable staged Ferric reduction while maintaining system performance.

UNIT INSTALLED	INSTALLATION POINT
2x *Hydro*FLOW® Custom (12″ & 14″)	Input lines to DAF #1 and DAF #2

INSTALL DATE	TRIAL DURATION
October 2023	90 days

INSTALLATION

Unit on DAF vertical pipe

INSTALLATION

Unit on DAF inlet line

SYSTEM

DAF system area

RESULTS

50% Ferric Reduction

Ferric Chloride reduced from 200 ppm to 100 ppm while maintaining performance.

91.8% cBOD Reduction

Maximum cBOD reduction achieved during staged Ferric reduction trial.

85.86% Turbidity Reduction

Turbidity reduction maintained within discharge requirements.

Compliance Maintained

All discharge parameters remained within municipal limits at reduced dosing.

$47.5K Annual Savings

Reduced chemical usage lowered annual operating costs significantly.

CO2 Reduction

8,949 kg CO2-eq reduction achieved annually from lower chemical use.

KEY TAKEAWAY

Summary

At Maple Leaf Foods' Hamilton facility, Hydropath technology reduced Ferric Chloride dosing by up to 50% while maintaining discharge compliance.The system achieved strong cBOD and turbidity reductions, reduced chemical consumption and delivered significant cost and environmental benefits.

50%	91.8%	$47.5K
FERRIC REDUCTION	CBOD REDUCTION	ANNUAL SAVINGS

ADDITIONAL PHOTO EVIDENCE

BEFORE

DAF #1 condition before treatment

BEFORE

High solids load in DAF system

SYSTEM

Ferric dosing tank and mixing area

SIGNAL

Signal measurement on DAF pipe

RELATED CASE STUDY

Orlando Wastewater Treatment Case Study

Orlando, FL

The City of Orlando installed HydroFLOW® units at their wastewater treatment facility to address struvite scale buildup. The system successfully removed existing scale and reduced polymer usage by 20%, earning an official endorsement letter from the city.

Struvite Removed

Effective removal and prevention of struvite scale in pipes and equipm

20% Polymer Cut

Reduced polymer chemical usage by one-fifth at the treatment plant

City Endorsed

Received official endorsement letter from the City of Orlando

HYDROPATH

Ready to eliminate chemical dosing?

Get a free consultation for your facility.

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