

Lowering the Costs and Risks of Managing Biosolids and Organic Waste

City of Alachua, Florida, taps NuTerra to replace aerobic digestion

By Aaron Zahn, NuTerra

NuTerra installed BCR Environmental's (BCR) CleanB™ system in the City of Alachua's wastewater treatment plant, enabling it to meet its growing processing needs without costly, smelly digestion, produce a Class B residual product suitable for beneficial land application, and reduce overall costs.

CHALLENGING SITUATION

In the process of building a wastewater treatment plant (WWTP) to process 0.6 MGD (millions of gallons per day) ADF (average daily flow) permitted for 3.0 MGD), the City of Alachua called on NuTerra to evaluate



BCR's CleanB system as an alternative to its biosolids process of aerobic digestion prior to dewatering. Digested and dewatered sludge was previously hauled offsite for landfill disposition.

As a result, the city faced these challenges:

- \$35,000 in annual energy costs due to 24/7 operation of 40+ horsepower blower-mixer system
- \$60,000 in annual landfill costs
- Need for odor control
- Pathogen reduction parameters that precluded beneficial reuse for land application

**FACTS AND FINANCIALS
VALIDATE PROPOSAL**

After evaluating the facility's operational data, NuTerra proposed a CleanB solution for the Alachua WWTP to avoid the need for digestion, eliminate odor issues, produce a Class B residual product suitable for

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land application, and reduce overall costs. The city and its engineers completed an in-depth financial analysis that compared the city's existing biosolids process to the CleanB solution and estimated that the CleanB system would deliver over \$1.42 million in savings over a 20-year period.

SOLUTION DELIVERS

NuTerra integrated a CleanB system in the plant, with the new unit positioned between the sludge holding tank and the existing centrifuge. The system used existing yard piping to ensure ten minutes of chemical contact time, and one of the digesters was repurposed as a sludge holding and decant tank.

The new process featured CleanB treatment, dewatering, and hauling Class B biosolids to a NuTerra managed offsite location for land application or composting at a regional facility. The CleanB system provided multiple advantages over Alachua's previous residuals treatment system, including:

- Substantially improved odor control
- Treatment of sludge to Class B standards as defined by CFR 40 Part 503
- 30+ percent reduction in dewatering polymer consumption

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- 28 percent increase in total solids after dewatering
- Significantly reduced energy consumption
- Increased sludge processing capacity, with scalability to handle future needs
- Elimination of landfill tipping fees

ABUNDANT SAVINGS

The in-depth financial analysis estimated that the City's cumulative savings in biosolids management costs would exceed \$2.73 million

LONG-TERM SUCCESS:

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over the next twenty years. This cost savings translates into a net present value (NPV) of \$1.42 million. What's more, it delivers a direct economic benefit of \$386 annually to each ratepayer in today's dollars.

THE MAKINGS OF A TRUSTED PARTNER

NuTerra designs, builds, and assumes full project accountability for long-term, sustainable wastewater treatment/organic waste/biosolids management solutions that deliver municipalities on average savings of 40-plus percent in operating costs and 90-plus percent in energy consumption. Our partnerships meet capital and operating expense constraints, assure regulatory compliance, buoy public sentiment, and enhance environmental stewardship.

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- Only progressive project delivery approach with financial and risk analysis models designed specifically for biosolids and organics operations/management. ◆

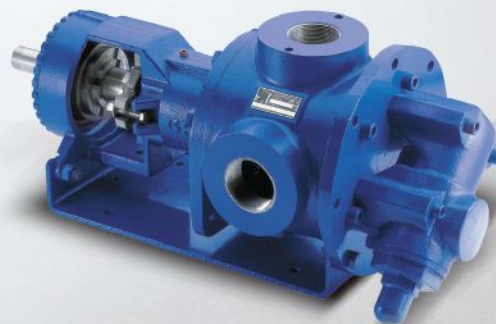


Aaron Zahn is president and CEO of NuTerra. NuTerra designs, builds, and assumes full project accountability for long-term, sustainable wastewater treatment/organic waste/biosolids management solutions that deliver municipalities on average savings of 40-plus percent in operating costs and 90-plus percent in energy consumption. For more information, visit www.nuterra.green or call 904.819.9170.

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