

## CASE STUDY: City of Vero Beach, Florida



### THE CITY OF VERO BEACH UTILIZES BCR'S EXPERTISE TO REDUCE WASTEWATER TREATMENT FACILITY'S ODOR CONCERN

In March of 2018, the City of Vero Beach installed a CleanB® system to help the facility reduce odor due to the close proximity to homes and receiving multiple odor complaints. Other factors that lead the City to install a CleanB® system was to reduce costs, improve regulatory compliance and simplify operations.

Prior to CleanB®, the City used conventional aerobic digestion processing. Prior to the digestion process, the City thickened their secondary sludge with rotary drum thickeners to 2-2.5% total solids. After several weeks of solids retention time (SRT) in the digester, the material was sent to a centrifuge for dewatering. The total solids achieved from the centrifuge after digestion averaged 16% total solids, and often, the facility had to add sodium hydroxide to increase the pH so the material would dewater easier.



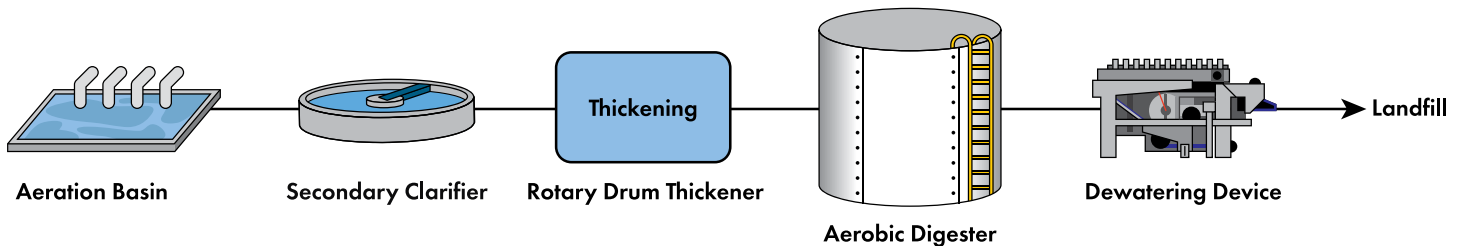
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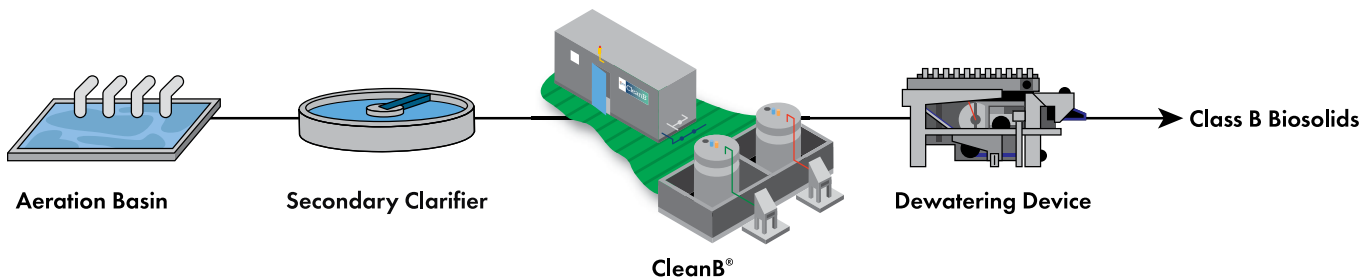
After CleanB® installation, the thickener and digester processes were bypassed, and waste activated sludge was sent directly from the secondary clarifier to the CleanB® system for processing. A \$78,000 annual aerobic digester energy expense (150 hp blower) was also taken off-line with CleanB® processing. After CleanB® treatment, the City achieves, on average, 21% total solids with centrifuge dewatering. The 30+ percent increase in cake solids equates to 37 less truck loads leaving the facility per year, and roughly \$35,000 in transportation and disposal (T&D) savings. In addition to energy and T&D savings, there is also a significant polymer cost reduction due to taking the thickener off-line and less dewatering polymer consumption with CleanB® treatment. The City currently saves roughly \$16,000 per year in polymer consumption. Not including repair and maintenance associated with the rotary drum thickeners and digester, the total annual savings after considering CleanB® chemicals, energy and repair and maintenance is \$91,250.

In addition to savings, the facility also experiences the following benefits; 1) facility personnel spend less time attending to the CleanB® process due to its simple operation and much more consistent dewatering operation, 2) significant odor reduction at the facility and disposition site(s) – zero odor complaints after installation, and 3) improved regulatory compliance by producing a consistent Class B end-product.

### CITY OF VERO BEACH: PROCESS FLOW DIAGRAM (BEFORE)



### CITY OF VERO BEACH: PROCESS FLOW DIAGRAM (AFTER)





### About the CleanB® Solution

CleanB® is a simple Class B process with national EPA PSRP equivalency. The system is highly scalable, has a small footprint, and may be mobilized or permanently installed onsite. Every CleanB® system is outfitted with a control system and monitoring devices to record process parameters and ensure efficient operation.

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### WHAT MAKES BCR A TRUSTED PARTNER?

BCR Environmental Corporation is an environmental solutions company transforming the way municipalities treat and manage biosolids and organic wastes. BCR has several industry-revolutionizing technologies that convert organic waste streams into safe, valuable, and marketable end products. BCR is growing rapidly because we offer solutions that lower costs and reduce risk. BCR has a significant U.S. market position as a technology innovator and leader in the municipal biosolids sector.

Our Whole Solutions eliminate odor, improve regulatory compliance, simplify biosolids and organics management, and convert waste streams into renewable resources.

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