



## BIOSOLIDS MASTER PLAN AND CENTRIFUGE DEWATERING IMPROVEMENTS

### West Central Conservancy District

The West Central Conservancy District owns and operates a 5 MGD WWTP serving the area of Avon, Indiana. The District was facing significant capacity limitations and age concerns with its existing biosolids facility, where digested biosolids were dewatered using a belt filter press (BFP), stabilized with an RDP lime pasteurization Class A process, and discharged to a solar drying system.

The solar drying system could not keep up with sludge production and was abandoned by the District, along with their RDP process, and a temporary conveyor was used for loading biosolids into roll-off containers for landfill disposal. An evaluation of the belt filter press estimated that it would reach capacity (operating 5 days/week) when average daily flows approach 3.9 MGD. With existing flows above 3 MGD, the District was anxious for a long-term solution.

Wessler completed a Biosolids Facilities Master Plan (Master Plan) for the District in October 2008. The Master Plan evaluated eight (8) options for biosolids handling and disposal up to a 12 MGD ultimate capacity. The most cost-effective solution was based on centrifuge dewatering with landfill disposal.

Wessler followed up with the design of the Centrifuge Dewatering Improvements, which provides the District with a fully redundant biosolids processing system that includes two identical centrifuges, a fully-automated auger conveyor system capable of loading up to three roll-off containers, and two sets of sludge feed systems and polymer supply units. Being fully-automated and integrated, the entire system is capable of starting and stopping with the push of just three buttons.

Due to limited space on the existing WWTP site, the improvements needed to be incorporated within the footprint of the existing biosolids facility. The existing RDP process room was modified for one

container and an adjacent building addition constructed for housing the two additional containers. The specifications required the contractor to provide a temporary dewatering system during construction to meet the same requirements of the existing system to avoid the District paying increased disposal costs. The contractor was



able to retain and sell the existing belt filter press and RDP system, which reduced the bid and saved the District money.

At the current 5 MGD capacity, disposal savings are anticipated to exceed \$2,600,000 over the next 20 years due to decreased disposal costs and reduced labor oversight. Since implementation of the project, the District has reduced dewatering labor from 5 days a week of continuous oversight to 2 days of partial oversight.

For help with your next project or information regarding biosolids handling solutions, please contact Gary Ruston at GaryR@wesslerengineering.com or visit us on-line.



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