REPEAT Performance with CREATIVE Design

RUMPKE RECYCLING'S MOST RECENT PARTNERSHIP WITH MACHINEX RESULTS IN SUCCESS.

Cincinnati-based Rumpke Recycling's St. Bernard, Ohio material recovery facility (MRF) was destroyed by fire in 2012. When it came time to rebuild the facility, which processes recyclables collected from residential and commercial generators in the Greater Cincinnati area, Rumpke again turned to Machinex, Plessisville, Quebec.

According to Steve Sargent, Rumpke Director of Recycling, the company's selection of Machinex was twofold. "First, we received a competitive proposal addressing the required items in our request for proposal to provide a turnkey processing system for our new Cincinnati MRF," he says. "Second, we had a successful experience with Machinex in the design, manufacture and installation of projects in Georgetown, Kentucky and Columbus, Ohio."

At nearly 20,000 square feet, Rumpke's Cincinnati MRF is one of the largest single-deck sorting platforms in North America. "We have found that MRF management efficiencies are greatly increased when we have 'line of sight' capabilities with our sorting personnel. It also greatly improves our ability to monitor the quality of our commodities while accomplishing this in a safe work environment—two very important aspects of operating a cost-effective processing system," Sargent says.

The new facility was designed with additional capacity to accommodate growth as recycling increases in the region. It also provides the ability to process additional materials as new recycling markets become available. The new system doubles the facility's processing capacity to a rated 55 tons per hour. The MRF's fiber screening capabilities have been enhanced along with the optical sorting capabilities (the facility houses

six optical sorting units). The efficiencies realized with the new processing system include increased throughput coupled with better finished material quality. To monitor the operations and to provide useful data for plant management, Machinex also provided a SCADA (Supervisory Control and Data Acquisition) system.

While the system is rated at a processing capacity of 55 tons per hour of single-stream residential and commercial recyclables and 20 tons per hour of commercial OCC (old corrugated containers), Rumpke has achieved run rates of more than 60 tons per hour since the MRF began operating in October 2013. The Cincinnati MRF management team, headed by Brad Dunn, Facility Manager, and the Machinex team are currently working through startup to establish a run rate that minimizes processing cost per ton while meeting market quality standards.

In designing the St. Bernard MRF, Sargent says many aspects of the company's Columbus fiber line were duplicated because Rumpke has been "very pleased with the quality of all grades of our processed fiber." Additional fiber screens were incorporated, in addition to an optical scanner, to remove contaminates. Although it added cost to the project, it has been well worth it.

Chris Hawn, North American sales manager at Machinex, who also worked previously with Rumpke on the renovation of its Columbus MRF, says, "At their Columbus facility, a 35-ton-per-hour plant, we were able to meet or exceed all purity and efficiency rates. Our focus on Rumpke's Cincinnati facility capitalized on the best practices identified from the Columbus project to enhance systems with customized equipment and additional optics."

Compared with the company's Columbus MRF, Rumpke's St. Bernard plant also includes an additional optical sorter and quality control station for each commodity on the container line before sending the material to one of fourteen walking-floor bunkers.

While glass is not the highest value commodity that Rumpke's Cincinnati MRF recovers, it accounts for more than 15 percent of the company's total residential collection volume. For Rumpke, it is essential to ensure the material is recovered, cleaned, and then transported to the company's mixed glass processing facility in Dayton, Ohio, to be processed into a raw material for the glass container and fiberglass insulation industries.

To ensure this, the company's Cincinnati MRF includes mixed glass recovery screens, a fines screen/trommel, and air cleanup system. The processed glass is then stored in a silo at the facility. The system was modeled after the one in place at Rumpke's Columbus MRF.

The mixed glass recovered from Cincinnati and Columbus boasts a greatly reduced residue rate. Sargent states, "The Machinex glass system is meeting our recovery and quality expectations."

Machinex supplied two single-ram extrusion balers using prepress and shear technology to add redundancy and to handle the high volume of containers and fiber generated by the system. Larry Ochs, maintenance and facilities manager at Rumpke Recycling, says, "Machinex single-ram balers are really impressive and we are very pleased with our choice. They have a high production capacity and incredible density."

According to Sargent, "Machinex has provided a professional, timely installation that met our project timeline. It was greatly important to us to have a cooperative working relationship with Machinex.

"In order to solve any issues that may arise from a project of this scope, both parties have a vested interest in bringing a state-of-the-art processing system to the residents and businesses of the Greater Cincinnati area," Sargent concludes. ■