

Hydro MicroScreen™ Wastewater Solution

Project Details

A South Carolina packaging producer was facing challenging solids loading conditions in their wastewater treatment lagoon. The mill produces with 80% recycled content and 20% raw content. The lagoon required increasingly frequent dredging to remove accumulated solids. The plant had a drum screen system that was capturing less than a quarter of the amount of materials it was supposed to be removing. On-site measurements revealed that the **drum screen was only removing 22% of the suspended solids** that were sent to it.

The drum screen's failure was allowing all these missed materials to flow through to their treatment lagoon. These excessive suspended solids loads were continually eroding the lagoon's treatment capacity until they had to dredge out the solids as a sludge. Dredging the lagoon was an expensive, time consuming, and difficult task that also required excess land to use as drying beds. The plant was looking for a solution that would **extend the time between expensive dredging operations** and allow them to **reuse screened effluent water**.

Solution

The plant contacted Hydro International to arrange a demonstration of the Hydro MicroScreen™ sedimentation and clarification solution. They wanted to evaluate the technology compared to their old drum screen system at their plant, on the same flows and operating conditions of their drum screen. The system was placed downstream of their bar screen and run in parallel with the drum screen. During testing one third of the bar screen effluent was sent to the Hydro MicroScreen™ with the remaining two thirds of the flow sent to the old drum screen system.

Measured Results

Influent samples of what was sent to both the drum screen and the Hydro MicroScreen™ were collected as well as samples of the effluent exiting both systems. All samples were sent to a lab to analyze the performance. The measured results of the Hydro MicroScreen™ were outstanding as shown in the table below. Hydro MicroScreen™ removes **441% more solids** (Total Suspended Solids) and the output is **3X drier** (Total Solids) than drum screen output. Furthermore, Hydro MicroScreen™ removes an additional 0.74 tons of materials than the drum screen, each day. It is estimated that Hydro MicroScreen™ performance will **reduce the frequency of lagoon dredging** to at least **half as often** and potentially **one third as often**. [Watch a video](#) of the system in action at this plant. Visit our [Pulp, Paper, & Wood Screening Page](#) to see other related projects.

Hydro MicroScreen™ vs. Conventional Drum Screen

| Removal Results | Hydro MicroScreen™ | Drum Screen |
|------------------------------|--------------------|-------------|
| Total Suspended Solids (TSS) | 87% | 22% |
| Solids Discharge | | |
| Compressed Solids (TS) | 43% | 14% |

