



PROBLEM: Rags passing through worn out “self-cleaning” bar screen

SOLUTION: Monster Separation System Bandscreen Monster

Monster Solutions

Monster Separation System[®] Tackles Tough Headworks Problems

Oconto, WI - After five years in operation an old automated filter screen at the Oconto Wastewater Treatment Plant was wearing out, several of its lifting teeth had broken off and, worse, it was letting rags pass, leading to problems downstream.

Managers at the Wisconsin facility faced another problem too – foul odors. The heaping piles of fecal matter, rags and sticks the screen pulled from the channel were creating an unhealthy and obnoxious odor in the headworks building – the same place where operators had their office.

With his “bar/filter” screen becoming toothless and useless, Plant Operator Steve Woodworth took action and started designing a new headworks system for the 3.2 million gallons per day (500m³/h) facility, with plans for better screenings performance and, for his own sake, better odor control. After a rigorous analysis of screens, Steve selected the Monster Separation System from JWC Environmental[®].

“We wanted to eliminate the mess of the old bar screen,” said Steve. “It was really bad – piles of fecal material, rags and sticks all sitting in the discharge trough, really gross. The compactor would get so overwhelmed at times, it wasn’t dewatering, it was just pushing stuff along.”

The unique Monster Separation System combines a high-flow fine screen, in this case a Bandscreen Monster[®], and a heavy-duty washer-compactor called Screenings Washer Monster[®]. Together

the system captures and cleans unwanted wastewater solids, producing a dry, compact cake with no visible fecal matter; moreover, the reduction in odor was tremendous and a great relief for Steve and his crew.

“We were introduced to the Screenings Washer Monster (SWM) at a trade show and we saw the cleanliness of the system,” said Steve. “We had a two week on-site demonstration and, after I brought the Commissioners out to take a look, we were approved to purchase one.”

Prior to installing the SWM the Oconto operators were removing a 50 gallon (190 liter) drum of



The Monster Separation System keeps the facility’s treatment processes safe and trouble free.



screenings twice a day, but now empty the drum about once a month, according to Steve. The key to reducing the discharge by over 90% is the SWM's process: wash, grind, wash, compact and dewater.

The integrated Macho Monster 40000 grinder helps break up clumps for more effective washing and homogenizes the material so it is easier to dewater and compact. Nearly all of the fecal matter is liquefied and back into the plant flow where it belongs.

Oconto's new Bandscreen Monster is an innovative traveling fine screen with a unique inside-out flow pattern. Wastewater enters the screen and then flows through the left or right sides of the screen through the moving panels. The panels, with 1/4" (6mm) perforated openings, lift solids and unwanted material out of the flow and to deck level where a series of deluge spray nozzles flush the material into the Screenings Washer Monster. Since solids only touch the inside of the screenings band there is no chance of carryover or bypass.

"This is definitely an improvement and a real great system, we don't see that mess anymore," said Steve. "Before, we had to watch the bar screen and compactor constantly, now we don't need to worry about it on a daily basis. I'd almost say we can forget about it."

Another benefit for the Oconto plant operators is an improvement in downstream processes, since the Bandscreen Monster removes many of the troublesome solids at the headworks. For example, the flow sampler would frequently clog with rags prior to the installation of JWC's fine screen, but now the plugging problem has disappeared.

Oconto's wastewater treatment staff helps keep the local environment clean and healthy, while the JWC Monster Separation System helps keep the facility's treatment process safe and trouble-free.

"The key to reducing the discharge by over 90% is the SWM's grinding process..."

"...now the plugging problem has disappeared."



The Bandscreen Monster's inside-out flow pattern keeps the surrounding areas clean while lifting captured solids to the Screenings Washer Monster.



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