



WASTEWATER IS CHANGING: ARE YOU PROTECTED?

Today's wastewater stream is dramatically different than just a decade ago. Yet, many municipal wastewater treatment plants are functioning under older designs and are not optimized for the new reality.

The surge in usage of "flushable" wipes, a relatively recent phenomenon, has been the most significant factor in altering the waste stream. Although marketed as flushable, these products are a growing cause of major blockages because they don't readily break down. This has also led to an increase in the public perception that all wipes — as well as many other things that were never meant to be flushed — can be discarded in toilets.

As a result, the influx of new material is wreaking havoc on wastewater treatment systems that were only designed to deal with human waste and toilet paper. Toilet efficiency standards enacted more than 30 years ago have exacerbated the issue, as there is much less water entering the municipal sewer system for diluting the higher solids content.

Simultaneously, a shrinking force of wastewater professionals combined with tighter budgets means operators in the field are being asked to do significantly more work with fewer resources.

There are solutions to attack the problem without the substantial expense of a major system or plant overhaul. With an investment in the most advanced and cost-effective grinding technology, combined with a sustained public education campaign, municipalities can effectively adapt their wastewater system.

The Advantage of Conditioning Solids

The equipment installed in a vast majority of municipal wastewater treatment operations is designed to handle "normal" sewage, but there is nothing normal about the waste stream currently going to these plants. In addition to a surge in wipes and other materials going down toilets, there is also the potential for other objects, such as small animals and concrete from degrading infrastructure, to become part of the waste stream.



While utility managers have attempted to mitigate these issues, their solutions are often less than ideal.

For instance, more utilities are screening at pump stations, which were not designed for the task. This adds an extra removal and disposal step, as well as creates the potential for an odor problem. Additionally, some plant operators have installed pumps that incorporate impellers with grinding or chopping capabilities. However, this renders the pumps less effective for their primary purpose, while allowing for abnormal debris to get caught up and cause blockages. These pumps are also expensive to purchase, operate, and maintain.

By contrast, specialized equipment at a pump station that is purpose-built to condition the solids before they are pumped allows the pump to run as efficiently as it was intended. This protects the pumps and moves the waste stream forward to a more ideal environment for treatment.



JWC Environmental, for example, has developed a Wipes Ready® cutting technology that is now an option on its sewage grinders.

Wipes Ready is a suite of technologies designed to capture all wipes in the waste stream and shred them into small pieces that will not reweave into a ragball in sewage systems. Wipes Ready technology generates small pieces that stay in suspension, which sewage pumps can easily handle. The combination of the serrated cutters and knurled spacers cuts wipes in two directions. The result is smaller particles that cannot reweave downstream.

By comparison, conventional two-shafted grinders make long strips out of wipes, which can reweave into ropes that cause problems for sewage pumps.

The business case for investing in grinders with new cutting technology is strong. Deploying grinders at pump stations helps protect pump integrity, leading to longer maintenance cycles and fewer breakdowns, as well as more efficient pumping operations and less labor needed to remove clogs. The most advanced products are also low maintenance, so operators can “set it and forget it” for extensive periods.

Public Education Is Key to Long-term Success

Over the long term, the most effective means to protecting wastewater treatment infrastructure will be a communal effort to clean up the waste stream. At the core is a sustained, locally based public education campaign that revolves around water consumers not using the toilet as a trash can.

The point needs to be made that just because a wipe is marketed as flushable, and makes it down the toilet, does not mean it can be handled in the wastewater process. Consumers need to understand that these products do not break down, so they catch everything — especially fats, oils, and greases — then become the glue that creates other problems. Municipalities also need to make it clear how the costs associated with these problems can impact their water bills and taxes.

Human nature doesn’t change overnight, which is illustrated by the fact that it took years for a national anti-litter campaign to have an impact. However, with a little work and creativity, utilities can help consumers rethink their effect on wastewater treatment.

JWC Environmental, a Sulzer Brand, is a world leader in solids reduction and removal systems for municipal, industrial, and commercial applications. Our solutions include our legendary Muffin Monster® and Channel Monster® sewage grinders, Auger Monster® all-in-one headworks, Monster Wash Press and Monster Separation Systems®, Monster Industrial shredders, and IPEC industrial screens to solve unique wastewater processing situations. We partner with our customers to help them run efficient and compliant wastewater treatment operations as well as solve challenging size-reduction problems in industrial processes. JWC Environmental is headquartered in Santa Ana, California and has a global network of representatives, distributors and regional service centers to meet local customer needs. More information on JWC Environmental is available at www.jwce.com



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