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Duluth wastewater facility suffers equipment failure

WLSSD called an emergency meeting to address the breakdown of a critical and costly piece of infrastructure.



AJ Axtell, Western Lake Superior Sanitary District director of community relations, talks Wednesday while standing outside of the secondary clarifier unit that recently failed. The extent of the breakdown remains unknown until the 2.1 million-gallon unit can be safely cleaned out and examined.

Steve Kuchera / Duluth News Tribune

By [Peter Passi](#)

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DULUTH — The board of the Western Lake Superior Sanitary District called an emergency meeting this week to authorize up to \$3 million for the repair of a key piece of equipment at a wastewater treatment plant that serves 500 square miles and treats an average of about 40 million gallons of wastewater per day.

A critical failure forced the immediate shutdown of a secondary clarifier, a huge dome-covered machine that separates solids from dirty water. It measures 160 feet in diameter and has a capacity of about 2.1 million gallons.

WLSSD has four secondary clarifiers and can usually get by quite well with just three, except during periods of heavy rain. In that respect, the timing of the breakdown, as winter sets in, was fortunate, said WLSSD Executive Director Marianne Bohren.

But she still considers it imperative to repair the clarifier as quickly as possible.



A cable and lock prevents anyone accidentally turning on the broken secondary clarifier, background, at the Western Lake Superior Sanitary District. Steve Kuchera / Duluth News Tribune

"We are not compromising our permit conditions. We're still operating very effectively. It is not at this particular moment impacting our operation. But we don't have a spare clarifier with one offline. So, we need to move forward quickly," Bohren said.

And the fact that the three remaining secondary clarifiers are of the same design and vintage puts Bohren on edge, as well. The clarifiers were installed in the mid-1970s, when WLSSD first built its wastewater plant, and they were renovated about 20 years ago.

WLSSD recognized its secondary clarifiers were in need of attention and sought \$6.95 million in state bonding support to overhaul them earlier this year, but that request fell flat when the Minnesota Legislature was unable to deliver a bonding bill last session.

"It's time to do another renovation on these four tanks to make sure that they continue to operate effectively," Bohren said, predicting that the cost of WLSSD's legislative ask is likely to grow, based on what they learn of the recent failure.

For now, WLSSD will need to draw on its emergency reserves to cover the repair.

The secondary clarifiers operate with a rotating rake system, powered by a central column. Clarifier No. 2 locked up Oct. 29, and when staff tried to restart it, the center column became twisted, also making an attached service catwalk unsafe.



A walkway leads to the center of the failed secondary clarifier at the Western Lake Superior Sanitary District. Because of structural damage, only one person can enter the structure at a time. Repairs may have to be made from above.
Steve Kuchera / Duluth News Tribune

“That catwalk disconnected. The centerwell itself, we can see that it has a metal tear. So, we had to immediately take the clarifier offline and drain it,” she said.

Bohren explained that the unit will need to be cleaned and inspected to fully determine the extent of the damage it sustained.

Although it’s difficult to know how badly damaged the clarifier is until it can be cleaned and inspected, Bohren predicted it will likely take at least two to three months to return the unit to service.