



**Smith & Loveless Inc.**  
**Above All Others.™**

## Eliminate Your Pump Clogging Caused By Flushables

The main culprit causing regular pump clogs in the year-round resort community of Big Bear City, Ca. is one that is seen way too often at collection systems across the nation: consumer flushables.

“Nine times out of ten when we pulled a pump it would be clogged with rags, just clogged full of them,” said Andy Keller, Sewer Department Foreman, who estimated that the most problematic of the seven underground pump stations he operates was clogging as many as three to four times a week.

Located in the Southern California Mountains at 6,500 feet elevation, Big Bear City features a year-round resort that is a popular destination for fishing and boating in the summer, and skiing and snowboarding in the winter. Its collection system has more than 12,000 connections and employs eight certified wastewater operators.



This underground lift station by S&L has been in operation for 40 years

Contributing to the clogging problem at the resort was a wildly fluctuating population, which was known to quadruple on many weekends. Pump clogs would often come one right after another, and because many were on the weekends this meant overtime hours paid to service workers.

To make matters worse, these clogs prevented Keller's department from proactively maintaining other parts of the collection system, including 116 miles of piping, two vacuum trucks and two CCTV vans.

“We were trying to find some sort of solution to help us with that issue,” Keller said. “So that we weren't pulling pumps as often... to try and cut down on the maintenance and the overtime.”

It's a story that is seen way too often at collection systems across the nation: pre-moistened wipes and other consumer goods marketed as flushable creating pump clogs and sewage backups in wastewater collection systems.

The flushable market is on the rise, led by marketing efforts to position these products as more

convenient, more effective cleaning tools than their dry paper counterparts. It is no surprise that pump clog problems seem to be increasing at the same time.

"We're not the only one having this issue," Keller said. "Some of these things should be going in the trash and not down the drain."

After consultation with a representative from manufacturer Smith & Loveless, the city purchased **X-PELLER®** Impellers for three problematic stations. The patented mono-port design of the impeller helps to counterbalance hydraulic forces and create a balanced, single flow path that passes 3-in. solids and problem flushables. Installation required only a simple change in the rotating assemblies.



Big Bear City's Sewer Department might have a scenic backdrop, but dealing with constant clogs is

With more than a year in operation, pump clogs have been eliminated.

"We've not pulled a pump [since]," Keller said. "We're definitely impressed."

The **X-PELLER®** is designed for both 4-in. (flows from 75 to 500 gpm) and 6-in. pumps (200 to 1,000 gpm) and can operate at 900, 1,200 or 1,800 rpm. Every **X-PELLER®** is custom-trimmed to the applications particular conditions. It can even be used with other vertical pump brands if the rotating assembly is replaced.

Key to the **X-PELLER®**'s ability to pass 3-in. solids and problem flushables is its mono-port design, which helps to counterbalance hydraulic forces and create a balanced, single flow path. With multi-vane pump impellers, fibrous materials often buildup in the pump and create imbalances. Naturally, proper balancing is fundamental for reliable pumping, preventing vibration and preserving the integrity of bearing life.

The elimination of clogging problems has offered many benefits to the city of Big Bear. Operation costs are down overall. Maintenance workers are freed up to work on other equipment, and they are safer day-in day-out with no more trips to the confined space of an underground station.

"We've just been really happy with the Smith & Loveless product," Keller said. "They've been great to us since the mid 70s and I highly recommend the **X-PELLER®**."