

EZ Valve™ Restores Ruptured Water Main to Safe Service

PIPE DETAIL

16-inch (406.4 mm) cast iron water main

SUMMARY

- Aged 16-inch (406.4 mm) cast iron water main ruptured during a cold snap
- Original repair plans failed to appropriately address the damage
- A 16-inch (406.4 mm) EZ Valve™ was selected to repair the line
- A small excavation exposed the damaged pipe
- The line was repaired under pressure
- Installation was completed in below-freezing conditions
- A team of 2 installers installed the valve in 4 hours

There is no convenient time for a water main break, but adverse weather conditions can make a bad situation worse. When a 16-inch (406.4 mm) water main ruptured during a cold snap in Wyoming, Michigan, municipal crews immediately mobilized to isolated the problem and set about repairing the damaged line.

As work progressed, however, the number of complications grew. The primary issues stemmed from a length of aged pipe with old valves. The nearest upstream valve coming off a 36-inch (914.4-mm) transmission main was broken open. Despite their best efforts, after 16 hours of effort, they were unable to repair the line.



Alterations to the EZ Valve™ allowed installation on the irregular dimensions of the old cast iron main.

Concerned about the number of times residents had been subjected to interrupted service, city authorities contacted Advanced Valve Technologies, a Clock Spring

Company, for a solution. Immediately following the early morning call, an expert headed to the site to evaluate conditions and establish the best approach for the repair.

Once the determination was made that an EZ Valve™ could restore the line to safe service, a crew was assembled and dispatched to Michigan, where the city of Wyoming's water crew had been working to prepare the site. A hole had been excavated, and notifications had gone out to the necessary utilities so work could begin right away.

The compact valve profile allowed for a smaller excavation than other valve systems, and because costly restraint operations were not required, only one excavation was needed. Unfortunately, the installation began with a setback. The irregular dimensions of the old cast iron main required alterations to the valve fittings on the EZ Valve™ so it would work properly on the cast iron main. Meanwhile, weather conditions had deteriorated, with gusting wind and temperatures well below freezing.

Despite these challenges, the team was able to install a 16-inch (406.4 mm) insertion valve. The extra on-site work added about 1.5 hours to the process, but the valve installation that followed took only 4 hours. With the valve in place, municipal workers could begin making repairs.

Using this innovative valve allowed pipe integrity to be maintained while the repair was made with the line under pressure. In addition to eliminating the expense and associated risks of carrying out multiple excavations, the valve required less time to install than traditional repairs and allowed rapid restoration of service, resulting in less disruption to residents and business.