

## Completion of Filter Building Water Service Line Replacement

**Section 384.103 Finding**

To: Bill Stowe, CEO and General Manager

Project: Completion of Filter Building Water Service Line Replacement

Potable water is delivered to the Filter Building at the Fleur Drive Treatment Plant through two water service lines, one entering the east end of the building and another entering the west end of the building. These two service lines provide water supply to critical water treatment processes located within the Filter Building including lime slaking, alum feed, soda ash feed, and lime slurry feed, in addition to providing domestic water for the building. The two service lines are interconnected inside the building but the system is not designed to deliver, nor is it capable of delivering, all of the necessary water supply through only one of the connections.

On Friday, January 8, 2016 a leak was discovered in the 6-inch water service which enters the west end of the building. The service line break was located under the ring levee which protects the Fleur Drive Treatment Plant from flooding. The break was near the center of the levee, approximately 20-feet below the surface of the levee at that point. The broken service line was easily isolated but, unfortunately, the second service line was not able to provide the water required to feed all of the process in the building. Specifically, water pressure in the lime slurry feed facility dropped to an unacceptable level. Temporary water service had to be provided to this facility from a fire hydrant using a fire hose which was exposed to single digit temperatures. Additionally, isolating the broken service line left the critical facilities within the filter building with only one source of water supply.

This was not the first time this service line, which was constructed in the 1950's, had experienced a break. Repairing yet another break was not the appropriate course of action. The Filter Building West Service Line needed to be replaced.

Engineering staff worked with Iowa Trenchless to select grouted casing as the most appropriate method for replacement of the service line.

On January 26, 2016 certification was provided that emergency replacement of the Filter Building Water Service Line was necessary. Estimated expenses were \$93,340.20 and included excavation of the required boring and receiving pits, installation of 165-feet of 16-inch diameter casing, providing the casing spacers, installation of the pipe in the casing, filling the annular space between the casing and the new service line, and filling the existing service line which will be abandoned in place. This certification was delivered to the Board at the January 2016 Board Meeting.

The total expense for these emergency repairs was \$94,780.20.

I certify that all work associated with the emergency repairs was completed by February 12, 2016.

Dated: February 17, 2016

