

# HAZARD MITIGATION

Keeping Minnesota *Ready*



## MOORHEAD PUMPING STATION

When residents in the western Minnesota communities of Moorhead, Dilworth and Oakport faced spring flooding from the Red River of the North, they also faced the possibility of losing their primary source of clean drinking water.

Every year, the leaves, sticks, and other debris in the river clogged a crucial intake screen, reducing the amount of river water that could be pumped into the treatment facility. The solution involved a new pumping station, a deeper intake screen placed in the center of the river, and bursts of air. This hazard mitigation project, completed in 2013, has provided peace of mind and a steady supply of drinking water to more than 40 thousand people.

“We won’t ever again have to worry about major flood events at that site,” said Moorhead Public Service (MPS) General Manager Bill Schwandt. “This is a very important pumping station. It provides up to 90 percent of the water we treat for drinking.”

Moorhead Public Service is a municipally owned water-and-electric utility. It worked with hazard mitigation staff from the Minnesota Department of Public Safety Division of Homeland Security (HSEM) to secure \$2.7 million in federal funding from the 2010 Pre-Disaster Mitigation program. The money was used to replace the old intake screen system and build the new Red River Pumping Station.



As the pictures demonstrate, the old pumping station was located too close to the river and had to be protected during the 2009 flood. The old intake screen was located next to the bank of the river and easily damaged from debris.

Now, all critical pumping equipment and electrical equipment has been raised to a river-stage elevation of 45.5 feet. This is above the 500-year flood-stage level. In addition to three new, energy-efficient, variable frequency drive pumps, a new zebra mussel-repellant river intake was installed in the Red River to provide the Moorhead Water Treatment Plant with a reliable water supply during flood events.

“This project is a win-win,” said State Hazard Mitigation Officer Jennifer Nelson. “This was a large, complex project and Moorhead Public Service willingly complied with every FEMA requirement. It was a pleasure working with them.”

And there’s one other exciting element to this project. The system is built to give MPS staff the ability to send a burst of air out to the intake screen from the elevated pump floor of the remote treatment facility. This burst of air will remove any debris (including zebra mussels) that could impede water flow into the treatment facility.

It took approximately one year to complete the project. The pumping station began operation in May 2013.