



Drayton Lift Station Relocation

Full Mitigation Best Practice Story

Pembina County, North Dakota

Drayton, ND - Carol Gardner, a long time resident and city auditor of Drayton, ND, fears the day she'll awaken to find that a street or building in her city has, without warning, fallen into the river which hugs its eastern border.

The riverbank, which winds its way along the city's neighborhoods and the downtown main street, is unstable due to poor soil conditions that actually cause the bank to "slump" towards the river.

The viability of a sanitary lift station that sits near the edge of the sloping riverbank has been of particular concern to city officials. For years now, layers of the riverbank have fallen away, causing it to inch closer and closer to the edge of the lift station.

City officials knew their only option was to find a way to move the lift station before the riverbank collapsed or high river levels eroded the soil to its very edge. If either of those scenarios occurred, the city's sanitary capabilities for a portion of the town could be wiped out.

In 1997, when much of the upper Midwest suffered from record flooding spawned by a brutal, blizzard-packed winter that dropped about 100 inches of snow in the Red River Valley alone, river levels at Drayton were more than one foot above the lift station base.

City crews were able to protect the lift station that year by building a ring of sandbags around the base. A portable pump was put inside the ring to remove seeping water.

"The '97 flood more or less taught us that we have to move away from the river," said Nick Rutherford, a city council member at that time and now part of the public works staff.

"It's the instability of the riverbank that we're concerned about," says Gardner, longtime resident and the city's auditor. "When the river level is up, it puts the bank at a higher risk. But we don't even have to have a flood to have a slump. It just happens. There's no predicting it."

Drayton applied for a grant through the Hazard Mitigation Grant Program (HMGP), and the project was approved in the summer of 2000.

The city found an empty lot, just one block west of the original lift station and close to existing underground sanitary sewer lines. The lot happened to have a high spot right in the center, big enough to site the lift station and to keep it out of surrounding flood-prone areas. Best of all, the property owner was willing to sell the land to the city.

The city also purchased two trailer-mounted diesel generators, which can provide backup power for the master and the south-end lift stations during an electrical outage or other emergency situation, such as a flood.

According to Gardner, the city paid its share of the project with money that is generated from an \$8 monthly fee that the city has been charging each of its 385 water customers since 1998.

"You can't put a cost on peace of mind," she said. "Before the relocation, the south lift station was a major concern," Gardner said. "As each year comes and we're still in a wet cycle with several floods per year as we had this year (2005), it's not a concern to us anymore."

"We can't control Mother Nature, she added. "We can't fix the riverbank. You just have to get out of the way if you can."



Activity/Project Location

Geographical Area: **Single County in a State**

FEMA Region: **Region VIII**

State: **North Dakota**

County: **Pembina County**

City/Community: **Drayton**

Key Activity/Project Information

Sector: **Public**

Hazard Type: **Flooding**

Activity/Project Type: **Flood Control; Relocation; Elevation, Utilities**

Activity/Project Start Date: **06/2000**

Activity/Project End Date: **06/2001**

Funding Source: **Hazard Mitigation Grant Program (HMGP); Local Sources**

Activity/Project Economic Analysis

Cost: **\$289,604.00 (Actual)**

Non FEMA Cost:

Activity/Project Disaster Information

Mitigation Resulted From Federal
Disaster? **Yes**

Federal Disaster #: **1174 , 04/07/1997**

Value Tested By Disaster? **Unknown**

Repetitive Loss Property? **Unknown**

Reference URLs

No URLs were submitted

Main Points

- The viability of a sanitary lift station that sits near the edge of the sloping riverbank has been of particular concern to city officials.
- For years, layers of the riverbank have fallen away, causing it to inch closer and closer to the edge of the lift station.
- Drayton applied for a grant through the Hazard Mitigation Grant Program (HMGP), and the project was approved in the summer of 2000.
- The city found an empty lot, just one block west of the original lift station and close to existing underground sanitary sewer lines.
- The city also purchased two trailer-mounted diesel generators, which can provide backup power for the master and the south-end lift stations during an electrical outage or other emergency situation, such as a flood.