

Eight Presidents Later

It wasn't easy and it didn't happen quickly. But city and county officials stuck with it and the Wood River Diversion Project, started in 1968, was finally completed in 2004. One year later, it rescued Grand Island from flooding, and saved it again this past spring.

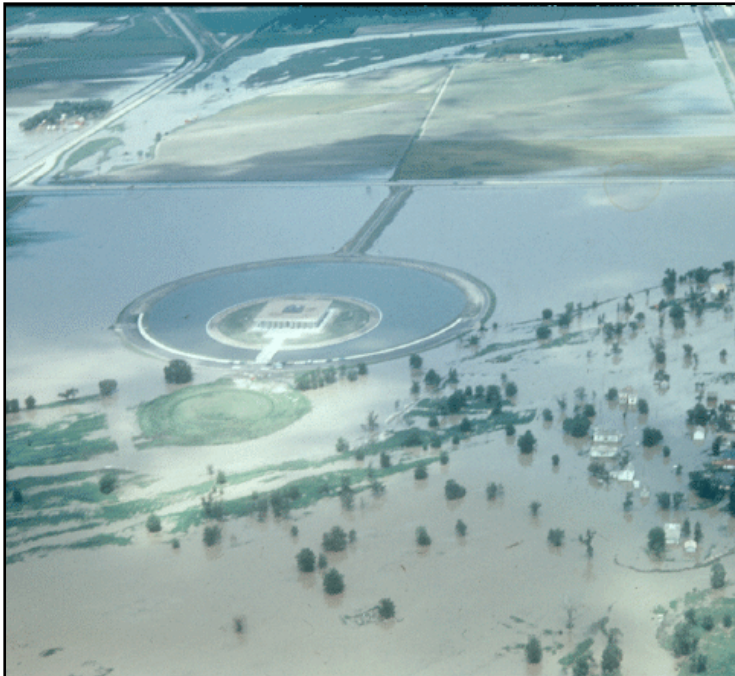
Here's the story.

By Gloria Bucco

This is the chronicle of a coalition of public entities who decided to take matters into their own hands to protect the citizens of their communities. After major flooding in 1967 from the Wood River, Grand Island, Hall County and Merrick County decided something needed to be done. They devised a plan that would work for all community members and secured the funding to get things rolling. It wasn't easy and it didn't happen quickly. In fact, the U.S. had eight different presidents before the project was finished. But it was finished. By 2004, the Wood River Diversion Project was complete. Then, only one year later, the diversion was put to the ultimate test. In a 24-hour period, 7.21 inches of rain fell. Project sponsors held their breath as the water accumulated but later celebrated as the diversion worked exactly as planned, redirecting water from Grand Island and the Stuhr Museum, and sending it along its own personal floodway directly into the Platte. Many residents of Grand Island weren't even aware that they had come so close to being flooded yet again.

10,000 Burlap Bags

Gathering dust in a lonely part of the Stuhr Museum's warehouse are a dozen water pumps and 10,000 burlap bags. And that's exactly where they're going to stay, according to Tom Oshlo, the museum's facility manager. "Stuhr Museum has had multiple issues with high water over the years," Oshlo recalled. But this spring, when the Wood River, west of Grand Island, flooded yet again, Stuhr Museum remained high and dry, as did the city, thanks to a cooperative project called the Wood River Diversion.



Stuhr Museum during 1967 flood.

Major floods in 1967, 1986 and 1993, saw museum staff and volunteers stacking a “tremendous” number of sandbags and pumping huge quantities of water to keep the museum safe from the devastating flood waters. Even so, the museum sustained damages during each flood and, during the 1993 event, its Native American Earth Lodge was demolished.

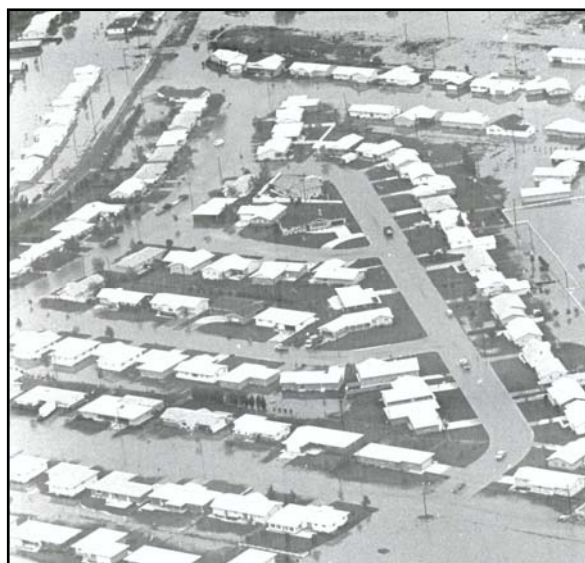
Without the diversion, “during this spring’s floods alone, the museum would have floated away,” Oshlo maintained.

Beginnings

After the 1967 flooding, the supervising boards of Hall, Merrick and Buffalo counties knew they had to do something to protect their residents from future high-water events on the Wood River. “Wood River has about 900,000 acres of drainage,” said Milt Moravek, assistant manager and projects director for the Central Platte Natural Resources District in Grand Island. “It’s the largest watershed in our NRD, and Grand Island had experienced major floods in the past.”

The boards decided to create the Mid-Platte Valley Watershed Advisory Improvement Board, and hired two employees. One was Moravek.

“Our first priority was to clear and snag dead fall from the Wood River and other nearby channels,” Moravek explained. “Then in 1972, when we merged with the natural resources districts, which were founded that same year, talk of flood control for the lower and upper Wood River watershed was initiated. Proposals



A flooded Grand Island neighborhood in 1967.

were submitted to the Natural Resources Conservation Service and were placed on a priority list for large planning efforts. But as sometimes happens with priority lists, the project never got anywhere.”

By 1976, the Central Platte NRD was tired of waiting and decided to contact the U.S. Army Corps of Engineers. The Corps came, took a look and, by 1977, had developed a proposal of its own. The Corps’ idea was to divert water from the Wood River to the Platte at a 45 degree angle. Unfortunately, the plan’s floodway would have cut right through the middle of some of the best farmland in Hall County. Local farmers showed up at a public meeting to drive home this point and the project was dropped for 10 years.

A Local Plan

By the mid-1980s, the counties and the Central Platte NRD decided it was time to tackle the project again. This time they designed a plan themselves ensuring that it did not cut through farmland, or displace homeowners or businesses. In fact, in the end, only one shed had to be moved. Some fields did have to be shortened, but the farmers affected didn’t have a problem with this new approach. The revised plan met with “dramatically reduced opposition from local landowners,” Moravek recalled.



A flooded Hall County farm in 1967.

With a new plan in tow, county officials called on the Corps again. Taking the plan under consideration, the Corps worked on it for almost 10 years.

“We kept pressuring them,” Moravek said, and they eventually came up with a final plan in 1996. What took so long was that

any plan that wants federal and state funding must meet stringent economic, technical and environmental criteria, Moravek explained. The price tag was \$17.7 million to be divided among the federal government, Nebraska state government, the Central Platte NRD, the city of Grand Island, Hall County and Merrick County.

By 2000, as much as 30 percent of Grand Island’s corporate limits were in the Wood River floodplain. “This included 3,500 houses plus businesses,” noted Chad Nabity, Hall County regional planning director. Time was running out.

Building Finally Begins

Construction started in early 2001. Five new bridges had to be built because water was going to be diverted to places where it had never gone before. Then in 2002-2003, the main floodway, a five-mile-long channel, was started. Eventually,



Locust Street Bridge. One of five that was built as part of the diversion project.

1.7 million cubic yards of soil were removed and replaced as five-foot-tall berms on each side of the floodway. The berms were set back 20 feet from the water to allow for seepage and wetlands. A two-mile-long levee was also built on the south side of the diversion which redirects other potential flood waters away from Grand Island.

Describing it as a “very safe project,” Moravek noted that “all of the 100-

year flows are contained below the natural ground line, and the berms exceed the Corps’ three-foot freeboard minimum.”

Nabity added that although some homeowners may still be in the floodplain, their base flood elevation has dropped by as much as 3 feet. Many flood insurance policies were converted from “high” risk to “minimal” risk, and a large number of homeowners were no longer required to carry flood insurance by their lending institutions.

The project was completed in 2004, and actually came in below budget, Moravek said. Final cost was \$15.5 million, \$2.2 million less than the Corps’ original estimate of \$17.7 million. Participant outlays broke down like this:

Federal Contribution:	\$10.075 million
State Contribution:	\$3.255 million
Central Platte NRD:	\$944,312
City of Grand Island:	\$781,562
Hall County:	\$244,125
Merrick County:	\$200,000

Moravek added: “This was the first project the Corps had done in this money range where homes or businesses were not displaced. We pride ourselves on this.”

Project Perks

Along with flood protection, the Wood River project features recreational opportunities and wildlife habitat preservation. The project’s co-sponsors agreed to allow Grand Island to develop a hike-bike trail within the project’s boundaries. The trail runs along the western and southern edges of Stuhr Museum and

crosses the bottom of the diversion channel. It then connects to Hall County Park at South Locust Street and continues on to Highway 34.

“This is what has been completed,” Naby explained. “The plan is to continue the trail all the way to the Platte – another two and a half miles.”



The diversion had minimal environmental impact, Moravek said. “The entire project is maintained as wildlife habitat. We now have 500 acres of new habitat which we don’t mow,” he explained. “There are at least 57 native species of grasses and forbs (broad-leaved herbaceous plants).”

Diversion channel is on right. Bike path can be seen along its left bank.

In addition, a five-acre wetland was preserved near Stuhr Museum which is used as an educational tool. “We host up to 20,000 school children a year,” Oshlo noted. “Last summer we had 350 boy scouts from five states and two countries here earning their merit badges doing things like bird and plant identification. We use the wetlands, along with the rest of our facility, for classes in summer and winter.”

Noting that in the post-Katrina era, structural flood control is increasingly viewed in a negative light, Steve McMaster, a planner-coordinator with the Department of Natural Resources, said the Wood River Diversion project represents a win-win situation.

“What the Wood River Diversion represents is not only effective flood loss mitigation, but it is also a project which has created environmental and recreational benefits,” he said. “It is hard to imagine a better win-win scenario for a flood control project.”

First Test Comes in 2005

The Wood River Diversion Project's first test came when it was only one year old. A total of 7.21 inches of rain fell between 7 a.m. May 11 and 7 a.m. May 12, 2005. Project sponsors held their breath as the water accumulated but later celebrated as the diversion worked exactly as planned, redirecting water away from Grand Island and Stuhr Museum, and sending it along its own personal floodway directly into the Platte.



Wood River Diversion Project's main channel during 2005 flooding.

The Army Corps of Engineers determined the diversion project saved \$23.7 million in damages. Since the project cost \$15.5 million, it saved homeowners and insurance companies over \$8 million after just one flood.

Epilogue

Oshlo was happy to report that he rebuilt Stuhr Museum's Earth Lodge himself and it is now again open to the public. He also mentioned that while excavating the diversion channel on museum land, workers discovered a large iron wheel which turned out to be from an old grist mill that used to be located on the property. Museum workers cleaned it up and now the wheel is on display at the museum as a reminder of the community's history.

"The Stuhr Museum is a jewel of Grand Island," Oshlo added. "Now, the berms on our south boundary let high water that used to drain right through museum property flow through the diversion project. Grand Island has invested a lot of money over the years to support Stuhr Museum. For it to wash down the river would be devastating to everyone. The Wood River Diversion Project was a cooperative effort and it was a wonderful experience for us. They did so much to assist the museum."

Michael Meyer, floodplain administrator for Merrick County, described this spring's heavy rains as "a big test," which the diversion project passed with flying colors. "It has helped with the high water troubles we've had with the Wood River," Meyer explained. "It kept some water from going through Merrick County. This spring there was high water in the Wood River but not nearly like it was before."

Nabity noted that new floodplain maps for Hall County went into effect on Sept. 26, 2008, and changes resulting from the Wood River diversion have been incorporated. "This is a very important thing," he explained. "Our maps had been approved by a letter of map revision. The new floodplain, resulting from the diversion, was drawn on the old maps but they were not widely distributed. We still had people who were buying houses and looking at maps that hadn't been updated calling in a panic because their bank wanted them to buy flood insurance. This won't happen now that we have the new maps."

Nabity estimated that between 3,500 and 4,000 structures were no longer located in a floodplain once the diversion project was completed in 2004.

Community response has been positive, according to both Moravek and Nabity.

"In the last two months, I've had three people in my office telling me the diversion project was a good thing. They said they were against it in the beginning but now they're really glad we did it," Nabity recalled.

"Last night I was at a picnic and five people came up to me and said it was a really good project," Moravek said. "There has been a lot of positive feedback."

McMaster added, "The project has paid for itself already through avoided flood losses. Keep in mind that these savings do not include the more intangible benefits such as recreational opportunities and increased environmental habitat."

Nabity had advice for communities facing flooding challenges and long-term projects. "Stick with it. This project started in 1968. They don't happen quickly but when they're finished your community will benefit. You'll be saving money; you'll have additional areas for wildlife habitat; you'll have space for hike and bike trails; you won't have any flood clean up; but most of all, you'll have peace of mind knowing you are safe from flooding."

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