

# LEVEES

Continued from Page 1

Hoelscher, who has long worked with Metro East communities on flood issues, became involved early in a campaign to convince the area to work with the federal government on a long-term fix.

Like bends in the Mississippi, the efforts took many twists and turns, culminating in late April when the Metro East Levee System, which consists of five levee districts in Madison, St. Clair and Monroe counties, received a final letter of federal certification, acknowledging the levees now meet 100-year flood levels. That means, levees are able to withstand the type of catastrophic flood likely to occur at least once in a hundred years.

Work has already begun on gaining 500-year certification, which will require further strengthening of the levees and a lot more money spent. That money is said to be available.

Hoelscher has stayed active on the campaign, balancing both his role as an engineer and as a board member of the Leadership Council of Southwestern Illinois, an economic development advocacy group of which he is currently the board president.

Officials were jubilant when the 100-year goal was met — and for good reason.

Initially, it was a bureaucratic war between federal and local governments. On one side was the Federal Emergency Management Agency, which was acting to forestall future disasters like the one that resulted when Hurricane Katrina struck the Gulf Shore in 2005, causing levees in the New Orleans area to fail.

The government recognized that

other levees along the Mississippi were at risk. Their stability needed to be addressed, in part because of The Great Flood of '93, a disaster in the Midwest.

“(The government) realized it had a massive liability with other highly populated areas that had levees that had the same potential risk,” Hoelscher said. “Our levees had survived the '93 flood, but I think all of us would acknowledge that each year a levee gets older, it gets weakened a little.”

After the initial 2007 notification, local leaders began a series of meetings, some public and many behind the scenes, to convince the Metro East region to support repairs along a 65-mile stretch of levee that protects an estimated 288,000 people, 4,000 businesses, 56,000 jobs, 111,000 units of industrial and farmland property, and \$13.3 billion in assets. The campaign was conducted under the umbrella of the Levee Issues Alliance and was made up of members of Leadership Council of Southwestern Illinois, the county board chairmen in Madison, St. Clair and Monroe counties, and other local, state and civic leaders.

“Politically and geographically, the region agreed pretty quickly because the issue was so serious,” Hoelscher said.

It was not a popular idea, but local leaders realized the only way to raise their share of the money to fix the levees was through taxation.

Congressmen representing the area were quick to get into the fray. So were state leaders, among them the late Sen. Bill Haine, of Alton, who in 2009 pushed

enabling legislation through the General Assembly. That led to the formation of the three-county Southwestern Illinois Flood Prevention District Council and a quarter-cent sales tax to help pay for the necessary improvements to the levee system.

Even with that, local leaders felt they were racing the funding clock.

“The Corps of Engineers had estimated the work couldn't be done until 2044 if local leaders waited only on federal funds. We beat that by 22 years obviously,” Hoelscher said.

Despite an early lawsuit against FEMA, local leaders realized they had to work with the agency and the U.S. Army Corps of Engineers to get repairs done more quickly.

One of the most important decisions came around 2010 in the hiring of Les Sterman — an old hand at prodding public officials — as the first director of the flood council. Sterman was preparing to retire after 26 years of heading East-West Gateway Council of Governments, a planning and transportation agency. He stepped up to the flood council job.

“He had to battle — hard — especially the Army Corps of Engineers to get projects lined out and going,” Hoelscher said.

Sterman retired again in 2014 and was replaced by Chuck Ewert, who is overseeing levee projects to completion.

Hoelscher said it wasn't difficult to get projects completed once it got the Corps on board. But supporters also had to spend three or four years getting FEMA the proper documentation to

make sure that agency would accept it.

“We knew from the time they started construction in 2011 that it would take several years to complete. We needed lots of approvals, lots of property, easements. You could only do some projects at certain times (because of flooding season), and they wanted some projects to be done in certain order.”

Only seven of the past 15 years were devoted to actual construction, “so that was pretty darned efficient,” he said.

Asked who should get credit for the cumulative success, Hoelscher was quick to note there were many — including other engineers.

He said Leadership Council's then-Executive director Ronda Saugget played a major role in community outreach, setting up and helping explain the significance of repairing the levee system during 60 or more meetings.

A lot of “sticky details” were worked out by talking to federal officials. In the end, the government granted waivers that helped speed some of the work.

“It got better as time went on,” Hoelscher said of the cooperation. “That's the lesson of all this.”

Leadership Council remains active on the topic, pledging to see it through to the end, particularly to be sure that federal funding continues to be received, communications stay open and to make sure that federal regulation is not too burdensome. Now in the offing is a new set of proposed federal rules the council is monitoring, called FEMA Risk Rating 2.0.

# MILLIONS

Continued from Page 1

Even as the council was waiting on 100-year accreditation, it moved forward on 500-year flood standards, which means more of the same work that has been going on since 2010 — generally shoring up levees along a 65-mile stretch from Alton to Columbia, Ill.

“We've done two projects and have eight more to go,” he said of the 500-year phase. “They're going to cost an additional \$75 million (in construction). Hopefully, if those go well, we could have them done in three years.”

The difference-maker will be Mother Nature, which seldom stands for second-guessing.

“We'll see. When we did the 100-year, we didn't have any flood events while we were doing the design. We got into our construction, and we had three major flood events.”

Work along the levee can't be done if flooding covers the dig site, he said.

As a result, the construction of the 100-year levee goal took more time.

It was just one more series of delays in a normally long process. From the time FEMA made its first threat about the levees in 2007, it took a total 15 years to, first, create the Flood Protection Council, then do the studies, then the design, then the construction, then, finally, four more years waiting on FEMA's approval, which came in April this year.

In the runup to accreditation of the levees, some 11 construction projects were completed, costing \$75 million.

Every one of the five levee systems in the group was improved to some degree, not just along the river but also along several tributaries.

The work included relief wells, seven pump stations, underseepage projects, one deep cutoff wall and multiple shallow cutoff walls. Shallow cutoff walls are built down to bedrock.

A deep cutoff wall will go 100-140 feet.

“It was 2,000 feet long, and that project cost \$14.9 million dollars,” Ewert said. The shallow cutoff wall was installed near the Clark Bridge in Alton. The deep cutoff wall was built where the Wood River enters the Mississippi River at East Alton.

“We did not raise any of the levees one inch. Everything we did was to stabilize the levees, which were built in the 1940s and '50s at the right height,” he said.

What did change over the decades were engineering standards and measurement of risk. That's what led the U.S. Corps of Engineers to conclude that local levees were compromised.

“Everything we're doing is to control seepage,” Ewert said. Any water allowed to get under the levee worsens the erosion. Seepage is reined by earthen berms along the land side of the levee and clay caps on the river side, among other measures.

“You're either preventing it or you're collecting it and putting it back into the river,” he said.

During the 100-year phase, the costliest project was in the Prairie du Pont Levee System in St. Clair and Monroe counties where a series of clay caps, seepage berms and relief wells were installed. That project was \$15.4 million.

The 100-year projects were completed in February 2018. Progress beyond that point was stymied in July 2019, when the area had the second-highest flood event on record. It was a 100-year event and lasted 126 days.

Ewert, who arrived to the job in 2014, was quick to praise the work of his predecessor, Les Sterman, who had come aboard in 2010 as a result of the state's passage of

the Illinois Flood Prevention Act.

“Les did a great job of setting up the foundation and in getting us in the right direction,” he said.

The act gave the three counties of Madison, St. Clair and Monroe — only those three — the ability to form a flood protection district; allowed them to form a joint flood protection council; the right to issue bonds to finance improvements; and allowed the council to be in existence as long as there was an outstanding debt on the bonds.

State Sen. Bill Haine, of Alton, sponsored the bill and got it passed in a six-month period.

The title of chief supervisor of construction and the works was provided for in the legislation, Ewert said.

The efforts were backed by a variety of people, including the chairmen of the three county boards, who at the time were Alan Dunstan, Mark Kern and Delbert Wittenauer.

“The chairmen saw the need to tackle this problem,” Ewert said. The federal threat would have meant the likelihood of mandatory flood insurance for businesses, estimated as \$50 million annually. Business would have been required to build above the base flood elevation. The property values would have decreased because all homes and businesses would have been located in an area deemed a floodplain. Residents and businesses would have been discouraged from locating in such an area.

The first bonds were issued by the council in 2010 for the 100-year projects. The council, knowing that more work would have to be done for the 500-year phase, issued more bonds in 2015.

“Right now, we have enough funds, based on current estimates, to do the authorized, 500-year level,” Ewert said.

In the 100-year phase, \$75 million was spent on construction, and \$119 million overall if you include the engineering studies, design, easements, property acquisition, and professional services like accounting and legal.

“That was less than half of what the original estimate was in the beginning,” Ewert said. “When I came on board in 2014, Les wasn't sure we had enough money to do the 100-year.” As it turned out efficient work left \$22 million as seed money for the next phase.

Ewert thinks that the 500-year stage will cost another \$75 million in construction and around \$130 million overall.

The work will involve more stabilization and seepage berms, relief wells, a couple of new pump stations and modifications of others. There will be no additional deep cutoff walls.

Just like the earlier phase, the 500-year improvements will be conducted along the entire 65-mile zone.

Two small, 500-year projects have been done so far by Keller Construction, of Glen Carbon. Both were in the area of the Metro East Sanitary District. One was \$950,000 in underseepage improvements and riverside berms, and the other was relief wells, conveyance systems and sluiceways for the Cahokia Pump Station, for \$4.7 million.

The projects should all be done in the next three years, depending on flood events.

Currently the council is waiting on the Corps' approval of a \$12 million relief well project for MESD. The council should award that in job in August, then have more projects to tee up in about 18 months, he said.

Flooding is not expected to be severe this year because of the lack of snow and rainfall to the north, he said.