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Leader of the Mac

Northview grad climbs to top as chief engineer of the Mackinac Bridge

By Ted Roelofs

The Grand Rapids Press

She was a little girl then, perched in the top of the family pickup camper as it motored north toward the Mackinac Bridge.

We would play a game," recalled Kimberly Nowack. "Who can spot the bridge first?"

Her reaction to that sight then is the same as now: "It was a thrill."

At the moment, Nowack is standing 550 feet above the water on the south tower of the Mackinac Bridge, where the dizzying panoramic view on a bright summer morning might be even more of a thrill.

Now 39, she also looks over a structure that has other implications in her life.

The Grand Rapids native and 1981 Northview High School graduate is chief engineer for the bridge, the first woman to hold that job in the span's 45-year history.

That means she's first in line for oversight of all maintenance projects, everything from the \$75 million repainting of the entire structure to inspection of its suspension cables to repair of its guard rails.

BRIDGING THE GAP



PRESS PHOTO/JON M. BROUWER

High achievement: Grand Rapids native Kimberly Nowack stands atop one of the main towers of the Mackinac Bridge. As chief engineer, she oversees all maintenance of the 5-mile-long bridge.

She's also monitoring installation of a \$2.1 million fiber optic security system that takes on new importance in the wake of the events of Sept. 11. When finished next year, dozens of cameras will give bridge officials 24-hour closed-circuit camera coverage of virtually every angle of the bridge.

"We have good security here," she said. "Now it will be more sophisticated. After Sept. 11, everything's open, I guess. The possibilities are endless."

Beyond that, she and other officials are wary of saying more.

"It's a very touchy subject," Nowack said.

The prospect of terrorism is a new wrinkle in her job. The more immediate enemy of the bridge remains time, the relentless attacks by wind, blowing sand, rust, crashing waves, tons of scraping ice and wear and tear from nearly 5 million vehicles a year.

'An upward battle'

Nowack is also up against the remnants of an old stereotype – that a woman simply isn't suited for this work.

"It's been an upward battle," said Gina Ryan, executive director and CEO of the Chicago-based Society of Women Engineers.

Ryan noted that just fewer than 10 percent of the nation's engineers are women, even though 20 percent of those in undergraduate engineering programs are female.

Until recently, Ryan said, women were overlooked for engineering jobs – especially construction work – because the work was thought to demand more muscle than women could offer.

And until the past few years, no woman had ever been chosen head of any major engineering professional organization, Ryan said.

That ended with the election of people such as Martha Sloan, a Michigan Technological University engineering professor chosen first female president in 1993 of the Institute for Electrical and Electronics Engineers.

Sloan recalled her enrollment in 1961 in the undergraduate engineering program at Stanford University. She was the only woman among 1,200 men enrolled.

"People call me stubborn," Sloan said.

Since she began her teaching career at Michigan Tech in 1969, Sloan has seen a gradual increase in female engineering enrollment to about 20 percent today. Where she once looked out over all-male classes, Sloan now typically sees five or 10 women.

But Sloan said many women still shy from fields such as civil engineering, in part because they are likely to compete in a world still largely run by men.

Those who succeed do so for a simple reason.

"You've got to like it or you won't last," Sloan said.

The woman who managed the 2000 reconstruction of the U.S. 131 S-curve for the Department of Transportation agrees.

"I think I have been pretty lucky," said Suzette Peplinski, who has been promoted since then to manager of the MDOT service center in Grand Rapids. "I haven't always had a whole lot of resistance."

Peplinski conceded she was clearly outnumbered on the gender scale as she presided over hundreds of construction workers, about 95 percent of them male.

"Engineering is a mental job and women have the capacity just as much as men do, if not more," Peplinski said.

But Peplinski said the lack of visible role models may deter some from entering the field, even those not intimidated by the math and science it requires.

A gifted student

That wasn't the case for Nowack, who had a knack for those subjects long before she knew she wanted to be an engineer. Her parents, Lucey and Herman Nowack, sensed she might be the first in the family to go beyond high school as she made

her way through the Northview Public Schools.

"I knew right away she was college," recalled her mother, Lucey, 79. "Everything came easy for her. She took up things so easy. She took piano. She played the clarinet. She was always like an A student." Things got more complicated when her father died of a heart attack on a hunting trip when she was 11.

Lucey went to work at the Lear Siegler airplane parts factory, putting away a piece of each check for her daughter's college fund.

When she enrolled in 1981 at Michigan Tech in civil engineering, she was the only one of the three children to attend college.

Nowack graduated with honors from Michigan Tech in 1985 with a degree in civil engineering, then began her career with MDOT. She worked out of Niles and Kalamazoo, where her projects included a bridge over the St. Joseph River and roadwork leading to and beyond the bridge.

In 1989, she came to the MDOT project office in St. Ignace, a job that gave her plenty of opportunity to look out at the structure that is now the center of her life.

Before her hiring in April at the bridge, Nowack worked five years as a supervising engineer at the MDOT regional service center in Newberry, about 50 miles northwest of the bridge.

During that time, she designed highway projects that included resurfacing, culvert and drainage work. She also supervised the complete reconstruction of Int. 75 north of the bridge to U.S. 2, a job that faced both time constraints and constant traffic pressure.

Her boss from back then is certain Nowack has what it takes to manage the tricky projects that will come her way on the bridge.

"She is definitely a leader," said John Batchelder, manager of the Newberry service center.

'Contentious Issues'

Batchelder said Nowack is particularly adept at working with

contractors to ensure they stick to the timeline and do the job right.

"The bridge will be very pleased to have her dealing with the contentious issues that sometimes come up."

Batchelder said Nowack also learned to brush off the occasional sexist remark or suspicious attitudes from local residents about outside experts.

"She's endured some of that stuff," Batchelder said. "She's endured very very well and performed very professionally."

Nowack downplays the challenges that any lingering sexism may offer, saying, "We still see that a little bit. But the higher up the ladder I get, the less of a factor it is."

She spends much of her time at the bridge managing work by outside contractors or in consultation with the New York-based Parsons Transportation Group, an engineering firm that specializes in bridge construction and maintenance.

It is a constant process at this span, which at 5 miles is the longest suspension bridge in the Western Hemisphere. Funds for ongoing maintenance are paid out of the \$10 million in bridge fares generated each year.

The larger objective is simple: Do what it takes to see that this bridge lasts through this century and well into the next. That's a modest goal by the standards of bridge architect D.B. Steinman, who talked about a thousand-year life for his design.

To that end, workers in 1998 and 1999 replaced the massive finger joints at the two main towers. Last year, they replaced the electrical system for the bridge and bridge plaza. In 20 years, they will replace bridge deck.

In fact, just about everything on the bridge can be replaced, except perhaps the massive towers or the critical galvanized steel suspension cables that hold up the structure. Fortunately, the cables remain in excellent condition more than 40 years after they were strung.

Work is also under way to repaint the bridge. Section by

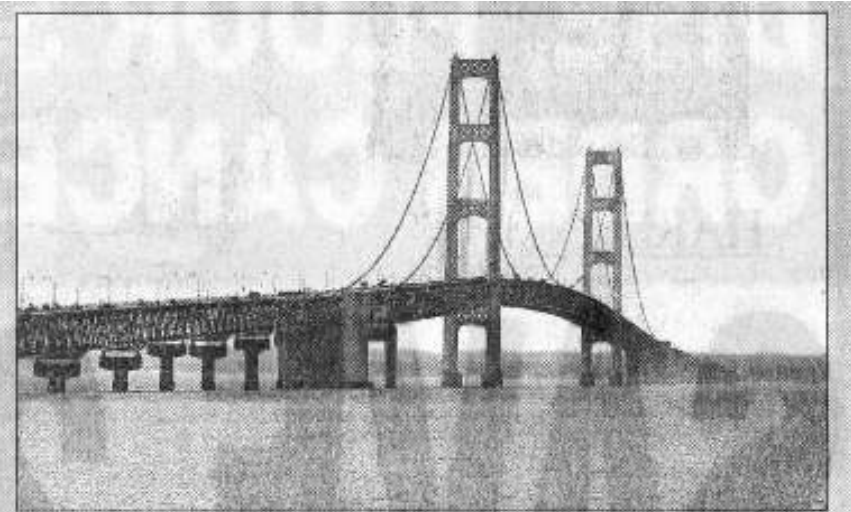
section, the paint is sandblasted to bare metal, then primed and repainted in the traditional foliage green for the deck and ivory for the towers. That won't be finished until 2013.

Each of these jobs carries potential minefields, chief among them how to keep traffic moving over the bridge.

It's a little like fixing a highway while traffic roars by, except, in this case, the road stands suspended a couple of hundred feet above the water.

Nowack feels privileged to play a role in the preservation of a state landmark. It's about as close as an engineer can get to immortality.

"It will be here before you come and a long time after you've gone," she said.



PRESS PHOTO: JON M. BROUWER

THE MACKINAC BRIDGE FILE

LENGTH: At 5 miles, it is the longest suspension bridge in Western Hemisphere, third-longest in the world. The world's longest, is the Akashi Kaikyo Bridge in Japan, which opened in 1998. The Great Belt Bridge in Halskov-Sprogø, Denmark, which also opened in 1998, is second-longest.

ANNUAL TRAFFIC VOLUME: 4.7 million vehicles

HEIGHT OF MAIN TOWERS: 550 feet above water

WEIGHT: 1,024,500 tons

COMPLETED: 1957

COST: \$100 million