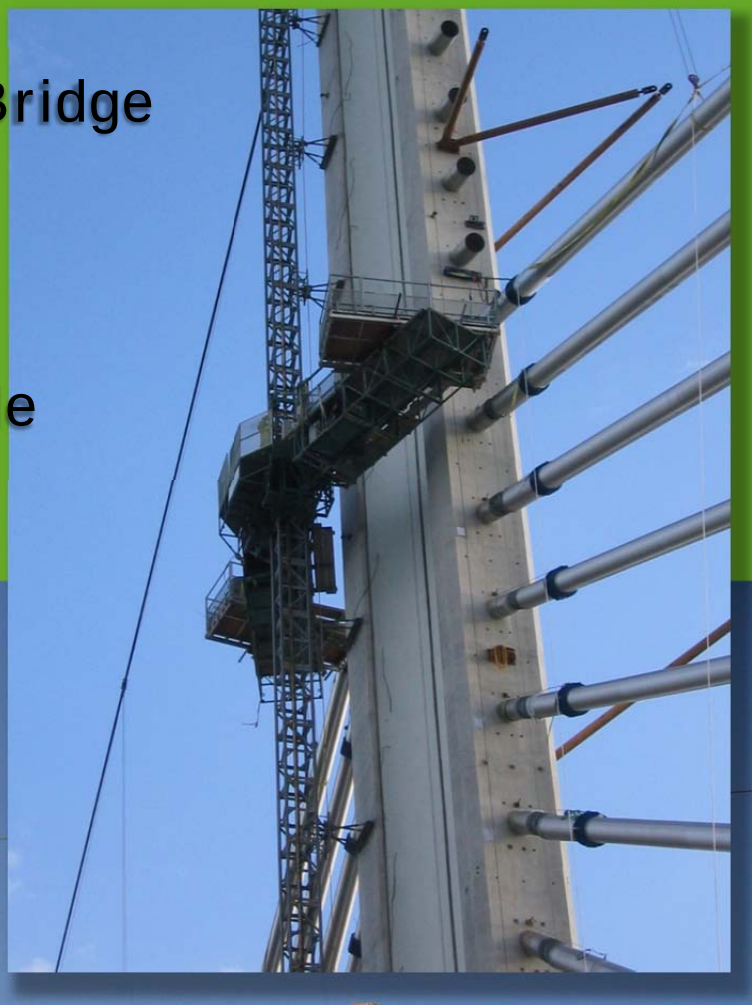
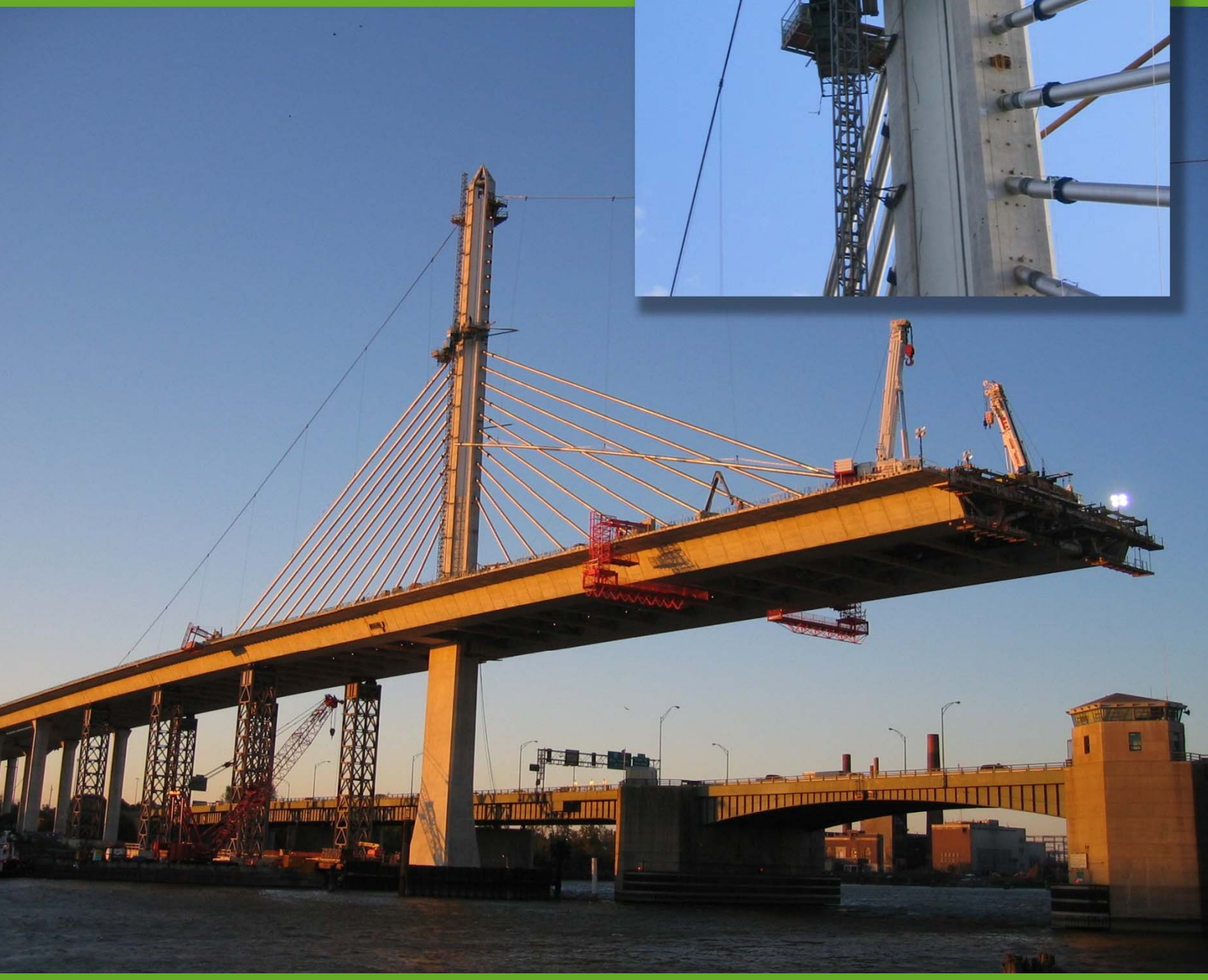
Maumee River Crossing Bridge
Toledo, Ohio, USA
2001-2007

F-Series Hydro Mobile



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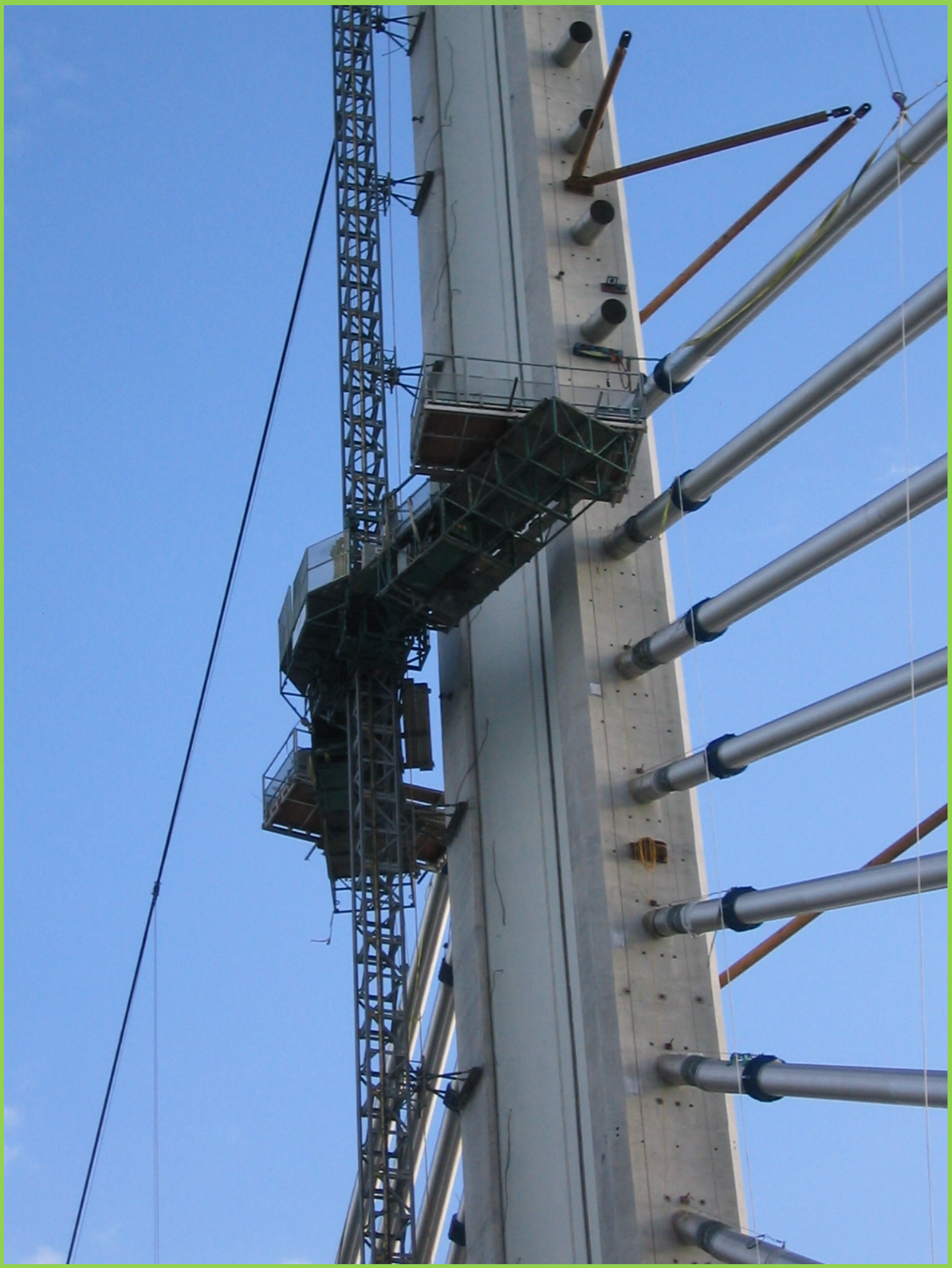


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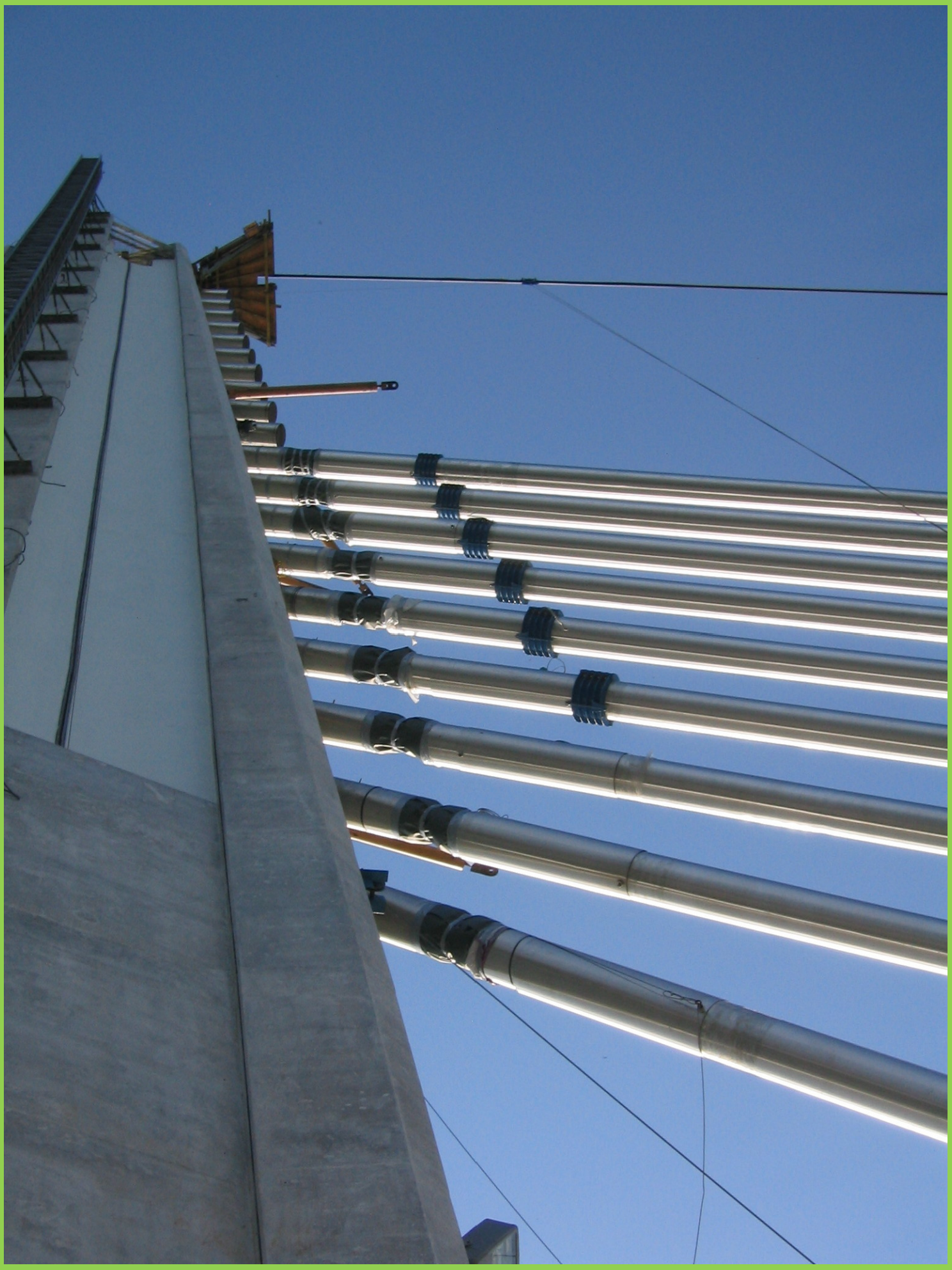


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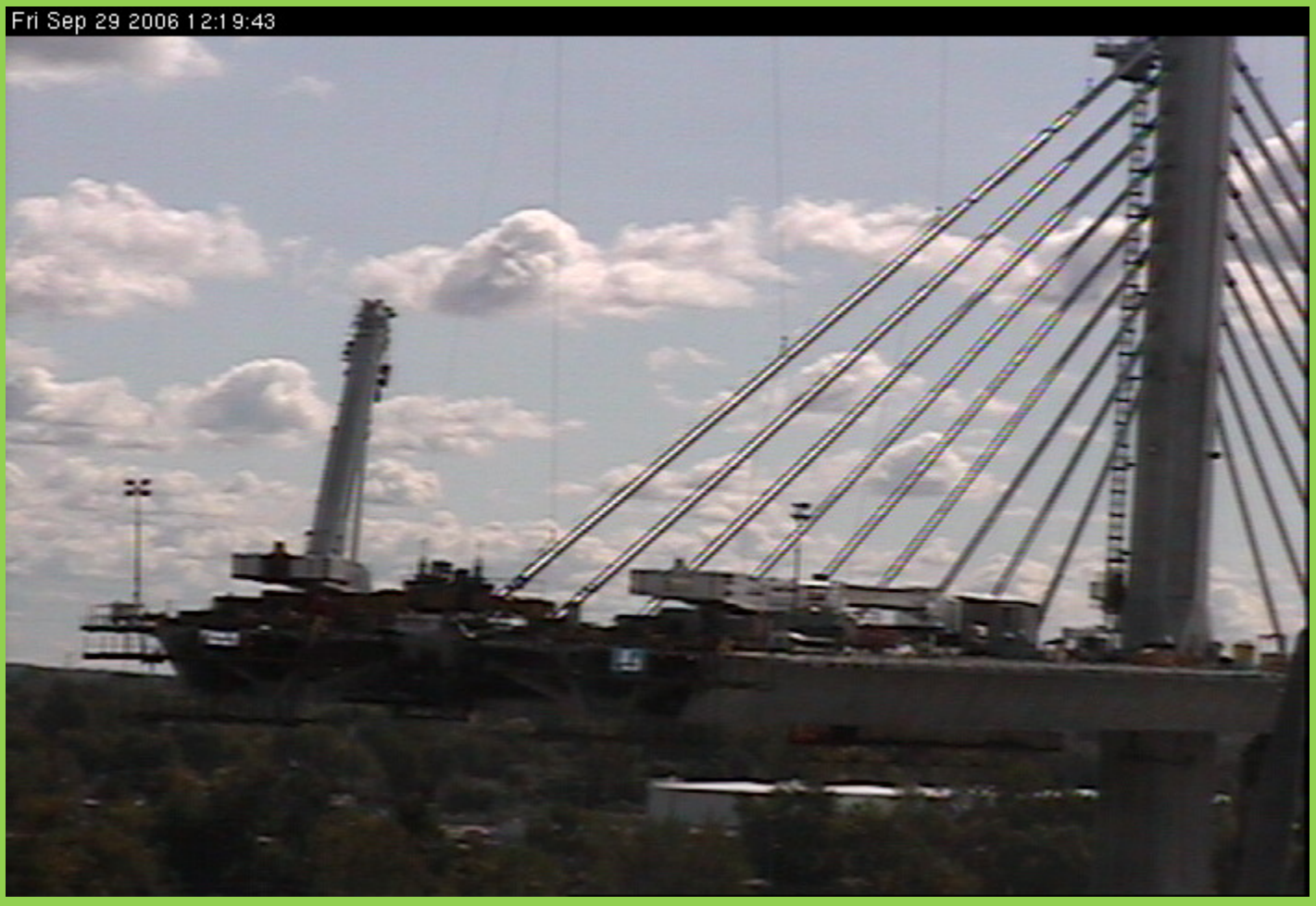
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Article published June 17, 2007

ODOT's largest construction project ever produces Toledo's 'signature bridge'

The Veterans' Glass City Skyway will replace the Craig Memorial Bridge, foreground, as the span that carries I-280 traffic over the Maumee River.

(THE BLADE/JEREMY WADSWORTH)

Zoom | Photo Reprints

By DAVID PATCH
BLADE STAFF WRITER

The crew members of the freighter Algowest couldn't have timed their ship's arrival any better had they planned it.

On a May morning six years ago, state and local leaders cheered the start of a new landmark on Toledo's skyline — a bridge that would arch high above the Maumee River ending nearly a half-century of river-related traffic delays on I-280.

The bells rang on the Craig Memorial Bridge, its gates came down, and freeway traffic ground to a halt as the 730-foot laker emerged from gathering gloom that heralded a spring thunderstorm, sailed past the ground-breaking ceremony, and tooted through the open drawbridge on its way upstream.

A week from now, the promise of that morning will be fulfilled when the Veterans' Glass City Skyway opens to traffic. Toledo's "signature bridge," the biggest single construction project in Ohio Department of Transportation history, will be sealed and delivered.

No longer will I-280 traffic be subject to drawbridge delays — an average of seven minutes per bridge opening, but for freighters like the Algowest, sometimes 15 minutes or more. Nor are freighters likely to be as vulnerable to delays from the Craig, which wasn't designed for the heavy pounding it gets from interstate truck traffic and has been prone to breakdown during its 40-year existence.

"It's a new beginning," said Steve Nathanson, chairman of the Veterans' Glass City Skyway Task Force, a citizens' group that at first promoted the bridge's construction and then coordinated public meetings and other activities that influenced the project's design. "This is a signal of northwest Ohio's renaissance."

"It's a wonderful feeling" to see the bridge reaching completion, Mr. Nathanson said.

Toledo Mayor Carty Finkbeiner last week called the structure "a monument to patience, not giving up, and political conspiring" — the latter item referring to some election-year arm-twisting in 1998 — as well as Blade editorializing, that yielded gubernatorial candidates' promises that the project would be funded without requiring tolls.

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READ: **Crane collapse kills 3** (Feb. 17, 2004)

Mr. Finkbeiner has particular reason to hope for nice weather Saturday when the bridge is dedicated. During the groundbreaking ceremony six years ago, he took the microphone just as the clouds burst open and sent most participants scurrying for shelter.

"No matter the weather, the sun's going to be shining on Toledo, Ohio" when the bridge opens, the mayor said.

The cable-stayed Skyway bridge, built by Fru-Con Construction Corp. of Ballwin, Mo., under a $220 million state contract, holds numerous "firsts," including the world's thickest stay cables, the first use of stainless steel sheathing on those cables, and the first pylon with internally lit, inlaid glass panels.

"There is no bridge just like that one anywhere else," said Tony Reams, executive director of the Toledo Metropolitan Area Council of Governments. "For this part of the country, it's going to have the same landmark qualities as the Golden Gate [Bridge] has in San Francisco."

"The bridge is going to be a spectacular result for the city of Toledo. It's going to be Toledo's postcard," said Richard Martinko, a former district deputy director and then assistant director of ODOT who had primary responsibility for the bridge. "I'm very proud of the people who worked on this project."

Including approach viaducts, it stretches about 8,800 feet from its East Toledo end near Seaman Street to its North Toledo touchdown at Greenbelt Parkway, including a 1,225-foot main span that rises 120 feet above the Maumee's shipping channel.
Its structure was built entirely with reinforced concrete. The main pylon was poured in stages from 32 feet below the riverbed up to just shy of 400 feet above the Maumee's average waterline, atop which its pinnacle was assembled from three precast pieces to reach the tower's final height of 403¼ feet above the river.

To the visiting motorist, the bridge's highlight will be the pylon's variable-color lighting system. Behind its 176 inlaid, frosted-glass panels are 13,824 light-emitting diodes that together can create 16.7 million color combinations.

The colors will be programmed to move and change in patterns evocative of the seasons, holidays, or special events. No words or defined shapes will appear, state officials say, and except for a special show on the night after the bridge's dedication on Saturday, motion will be slow to avoid creating a distraction hazard for I-280 motorists.

Stainless steel was chosen for the stay sheaths because of its shininess, and at night the sheaths will be lit from below with white light from fixtures in the bridge's deck that will not shift or pulse.

At its peak, the construction project employed nearly 400 people. As many as 300 worked at the casting yard a mile away on Front Street, where 3,008 deck segments and 42 "delta frames" that reinforce the structure and anchor the stay cables on the main span over the river were manufactured over more than 2½ years.

The bridge itself was the workplace for an array of engineers, tradesmen, and laborers, who put the precast pieces together, built the main pylon, installed lights and wiring, and attended to myriad other details that make the structure complete.
But five of the workers who someday might have told future generations how they worked on the skyline-dominating structure will never get that chance. While the bridge portends to be a symbol of Toledo's civic pride for generations, to many who worked on it, their relatives, or those who just lived in Toledo during its construction, it will be a reminder of the workers who died — four of them on a single day.

Deadly accidents
Toledo's skies were brilliantly clear and winds were light on a frigid President's Day, 2004 — Feb. 16 — when one of two huge, yellow gantry truss cranes used to assemble the Skyway's spans from precast concrete segments peeled away from its moorings and crashed 60 feet to the ground, killing three ironworkers and mortally injuring a fourth.

Mike Phillips, 42; Mike Moreau, 30; Robert Lipinski, Jr., 44, and Arden Clark II, 47, all died of injuries they

suffered when the falling crane either struck them or knocked them to the ground. Four other men — two ironworkers and two operating engineers — were injured, some of them permanently.

U.S. Rep. Marcy Kaptur (D., Toledo), who during the groundbreaking ceremony had expressed hope that the I-280 bridge might be built without a single fatality or crippling injury, said last week that the accident hit her particularly hard because she had been at the construction site a month before it to congratulate workers for the project's safety record, which had been almost spotless up to that point.

"We worked so hard to do this with no deaths," Miss Kaptur said.

"Safety was a critical element in our plans," ODOT's Mr. Martinko agreed. "We were obviously very disappointed with the accident."

The fifth fatality occurred just two months ago, on April 19, when a work platform attached to the bridge's side detached and fell 82 feet to the ground, killing Andrew Burris, a 36-year-old carpenter who was working on the platform. That accident remains under investigation.

Along with its human toll, the crane collapse laid to waste the project's safety record, which previously had been touted as a paragon for heavy construction, and its completion schedule.

The accident was blamed on shortcuts taken in anchoring the crane's rear legs during the procedure of extending it for repositioning from above a completed span to the next one to be assembled. OSHA fined Fru-Con $280,000 for workplace-safety violations associated with the collapse, and the contractor paid out at least $11.25 million in settlements with the dead workers' families.

Project delays
After the crane collapse, work on other parts of the project — including segment casting, main-pylon construction, and ramp-span assembly using a truss crane of a different design — continued after short delays, but assembly of mainline spans was halted for eight months.

Then, in an embarrassment to both Fru-Con and ODOT, a positioning leg fell from the other of the two big, yellow trusses as it was being maneuvered into place to resume building the mainline on Oct. 23, 2004.

That accident, blamed on a miswired control switch, injured no one. But it put the mainline's construction on ice for eight more months while the contractor revised its construction plan yet again and procured additional equipment to keep the project's completion as close to schedule as possible.

Traffic disruptions
Finishing the bridge would require closing I-280 between Greenbelt Parkway and Summit Street for more than 13 months while the North Toledo approach viaduct was built over the freeway's existing lanes. Original construction plans called for work to be done above active I-280 traffic, but that concept was abandoned after the crane accidents.

Once the last viaduct span was assembled in November, I-280 reopened.
After the new bridge opens, the freeway's trench through North Toledo is to be redeveloped as a park, as is the vacated Front Street interchange area in East Toledo. The Craig bridge will remain for use by local traffic and will become part of State Rt. 65.

Signs of progress
While construction of I-280 widening projects associated with the new bridge was under way in North Toledo, officials gathered on an East Toledo wharf to break ground on May 18, 2001. The contract to Fru-Con for the bridge itself would not be awarded until the following March. Within three months, Fru-Con had begun drilling foundation shafts for the bridge's piers, was building a cofferdam in the Maumee River for the 403¼-foot main pylon, and had ordered the two gantry-truss cranes with which it planned to build the main spans from an Italian manufacturer.

Except for the start of the Front Street exit ramp in East Toledo and an ever-growing forest of piers, significant

project progress did not become apparent to the general public until July, 2003, when assembly of the East Toledo approach viaduct began.

By that time, the overall project was 45 percent complete and reported to be 405 days ahead of schedule, so much so that Fru-Con and ODOT announced an agreement to complete construction by Labor Day, 2005, instead of the previous Oct. 26, 2006, deadline.

The crane collapse and ensuing crane-leg incident set the project so far back, however, that even the original completion date couldn't be met.

While embarrassing, a concrete-quality problem that arose shortly after the crane collapse and required Fru-Con to remove and replace 184 cubic yards of the pylon had no lasting effect on the project's schedule. ODOT also discovered during construction that the plastic coating on many stay-cable strands was cracked, which compromised their longevity but not their strength. Replacements were ordered and are being installed.

To resume building the mainline bridge spans, Fru-Con modified the surviving truss for continued use without the self-contained repositioning system that had been in use when the collapse occurred.

The contractor obtained two other trusses: a gantry similar to the others on the site and an "underslung" truss that supported spans from below during assembly. But both took longer to ready for operation than had been expected, and even Fru-Con's decision to build several North Toledo spans using
old-fashioned scaffolds standing on I-280's closed lanes could not get the bridge finished in 2006.

To encourage Fru-Con to at least get the old freeway open again in time for the Thanksgiving holiday and the winter that followed, ODOT agreed to delay assessing a $20,000-per-day late-completion penalty for the project until March 2, 2007.

The state had been docking Fru-Con $10,000 per day since May 28, 2006, for the continued closing of I-280 — a penalty that exceeded $1.7 million by the time the freeway reopened. During the seven months since then, construction crews have put on the structure's finishing touches, including installation of the final two precast bridge segments on Dec. 20 and a Feb. 16 "closure pour" that, on the fatal crane collapse's third anniversary, joined the main span over the Maumee's shipping channel with the North Toledo approach viaduct.

Fines associated with the new bridge's late opening passed the $2 million mark last week, though Fru-Con nonetheless is due to be paid more than its original $220 million contract.

Andrea Voogd, an ODOT spokesman in Bowling Green, said state-approved changes to the project have added 7 percent, or about $17 million, to the contractor's bill. A price escalation of that magnitude, she said, "is well within expectations."

Dedication ceremony
A dedication ceremony is scheduled for 10:30 a.m. Saturday, followed at noon by a four-mile road race and walk with a circular route originating at the Summit YMCA and crossing the bridge. A motorized parade by veterans' groups will cross the bridge's northbound lanes starting at about 12:30 p.m. The schedule for a special light show using the Skyway pylon's LED lighting system remains to be announced.

The Veterans' Glass City Skyway will open to I-280 traffic sometime next Sunday. At press time, ODOT had no specific time for the opening nor was the state agency planning to accommodate any motorists who might desire to line up nearby to become the first to cross the river span after its opening.

More work planned
The bridge's opening will not be accompanied, however, by an immediate end to construction in the area. Initially, just two of its three lanes in either direction will open. The rest will open later this year, once the transition between the North Toledo approach and existing I-280 is completed and all defective stay-cable strands have been replaced.

Conversion of surplus I-280 right-of-way into a city park and roadway reconfiguration around the Craig bridge,

meanwhile, is scheduled for completion in 2010.

The park will include a workers' monument that will be a memorial to those who died and a tribute to the hundreds of others who had hands in the bridge's construction. Many will move on to other construction projects in the Toledo area, but for some, their time in Toledo is over.

"I'm going to miss this bridge," said Wade Bonzon, a field engineer with Figg Bridge Engineering who soon will move to Denver to work at a Figg project-management office. "It's been an amazing, lifetime experience. It's been five years of learning things out here."

"It's a shame that we lost five good men's lives," Mayor Finkbeiner said. "But now, the families are probably also uplifted that the project those men worked on is finally being completed."

Contact David Patch at:
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or 419-724-6094.

L'Assomption; August 8, 2007

ELEVATING EFFICIENCY

The mast climber market is expanding continuously as the construction industry requires more and more productivity. Pioneer in this market, Hydro Mobile leads the field among manufacturers in North America and its platforms are in operation on various types of construction: high-rise buildings, residential constructions, commercial and industrial buildings, dams, and even bridges like the Maumee River Bridge in Toledo.

The first North American mast climber was created by Hydro Mobile in the mid 80s to provide the masonry industry with a safer and more productive alternative to traditional scaffolds. Twenty years later, Hydro Mobile has made its way not only in the masonry world, but also in other areas of the construction industry, by diversifying the offer and developing a complete offer of mast climbing work platforms.

The Canadian manufacturer now commercializes three lines of products: the M-series, supporting up to 20,000 lb, most commonly used for masonry and other facade works; the P-series, designed for smaller jobs or restrained areas that require a high loading capacity (up to 10,000 lb), and the flexible F-series that offers the highest speed to capacity ratio on the market, lifting 9,000 lb for a 50' long setup, at 39 feet per minute.

"We decided to diversify our offer and designed a range of mast climbers suitable for any construction or restoration project. We know that the whole construction industry now feels the pressure from an increase in competition, stricter time constraints, and workforce shortage. It is getting harder for contractors and subcontractors of any size to be profitable; and this context is driving growth in the mast climber market, as these access equipments considerably improve productivity, safety and working conditions", says Vincent Dequoy, President of Hydro Mobile.

In fact, many modern construction projects have proven that finishing a contract on time and within budget can be achieved only by using mast climbing work platforms. One good example is the challenging construction of a highly innovative bridge in Ohio, made possible by the use of Hydro Mobile's F-Series platforms.

HYDRO MOBILE

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For immediate release...

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1-888-484-9376

The Department of Transportation of Ohio needed a safe, flexible and versatile solution to build the 435 feet pylon of the Veteran's Glass City Skyway, an 8,800 feet cable-stayed bridge over the Maumee River. Hydro Mobile's Engineering Department, which had already come up with mast climbing platform setups for bridge renovation, sat down with Fru-Con, the contractor for this project, to engineer a solution including two F-Series swivel bridges and a special sliding bridge that provides access to the sides of the pylon.

This setup, "hugging" the impressive pylon, has made it easy to accomplish a variety of tasks, 400 feet high above the water; anchoring the bridge's cables, installing the 200 feet glass panels that will cover the four sides of the pylon and setting up the 350 LEDs (light emitting diodes) that will shine through them.

This is a great example of how our Engineering department may help contractors find the best solution with Hydro Mobile's P-Series, F-Series or M-Series platforms.

Hydro Mobile is a privately owned corporation. The company is mainly involved in the design, manufacturing and distribution of mast climbing work platforms for the construction industry. Hydro Mobile platforms are distributed throughout North America and Europe through a wide network of distributors that are recognized as key players in construction equipment sales and rental. With over 5000 platforms on the market, Hydro Mobile is unquestionably the leader of the industry.

For additional information and high resolution pictures, contact:

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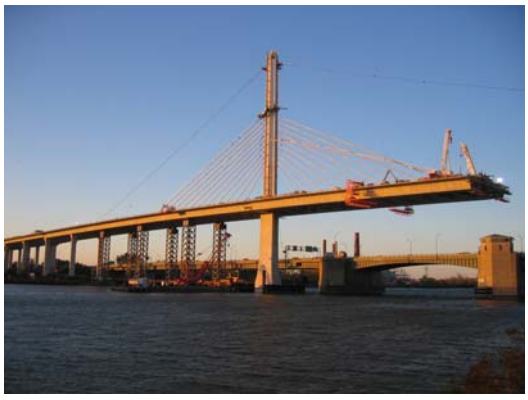
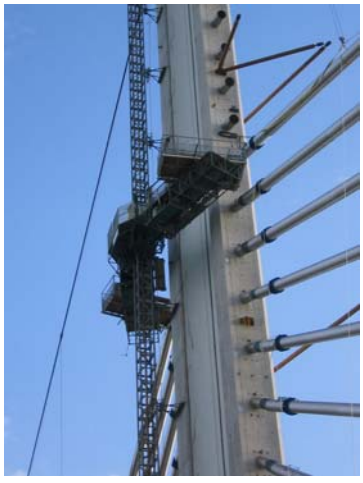
Pictures of the construction site:





Project specifications:

- Location: Maumee river, Toledo (Ohio)
- Developer: Largest single project ever undertaken by the Ohio Department of Transportation
- Contractor: Fru-con / Bilfinger Berger
- Characteristics: 8,800 feet cable-stayed bridge, 185,000 cubic yards of concrete
- Construction cost: 220 million dollars
- Start date: spring 2001
- End date: may 2007

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F-Series specifications:

	F-100	F-200	F-300
Climbing speed	38’ per min.	19’ per min.	38’ per min.
Load capacity *Single mast* *Twin mast*	3,350 lb 5,000 lb	9,000 lb 15,500 lb	
Maximum height	500’		
Maximum free standing height	45’		
Single mast min/max length	10’ / 50’		
Twin mast min/Max length	35’ / 115’		
Platform weight	6,050 lb	6,700 lb	8,400 lb
Transport dimensions	127’ (W) x 62’ (L) x 133’ (H)		
Engine type	Honda 24 HP gasoline engine		

L'Assomption, April 24, 2008

Hydro Mobile: Satisfying any specialized contractor's access needs

Hydro Mobile, the leading North American manufacturer of mast-climbing work platforms, has developed a complete product range to match the specific access needs of any trade involved in a construction, demolition or restoration project.

The company has a history of being dedicated to providing support and technical expertise and when challenged by a special project, Hydro Mobile's innovative R&D department always comes up with the right solution.

Fru-Con Construction Corporation, contracted by the Department of Transportation of Ohio, needed a flexible and versatile solution to perform a variety of tasks on the 435-feet pylon of the Veteran's Glass City Skyway, an 8,800-foot long cable-stayed bridge. Hydro Mobile's engineers sat down with Fru-Con and designed a solution that involved two high-speed, high-capacity mast climbers equipped with 360-degree swivel bridges that provided a safe and easy access to all sides of the pylon.

This setup, which was "hugging" the impressive structure, provided a safe and easy solution to accomplish a variety of tasks, from anchoring and stressing the bridge's cables to installing 350 LEDs and four 200-foot high glass panels on all sides of the pylon.

This is one of many great examples of how Hydro Mobile's products and engineers may help contractors find the best, fastest and cheapest access solution on any jobsite.

Hydro Mobile is a privately owned corporation. The company is mainly involved in the design, manufacturing and distribution of mast climbing work platforms for the construction industry. Hydro Mobile platforms are distributed throughout North America and Europe through a wide network of distributors that are recognized as key players in construction equipment sales and rental. With over 6,000 platforms on the market, Hydro Mobile is unquestionably the leader of the industry.

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