

# Construction Digest

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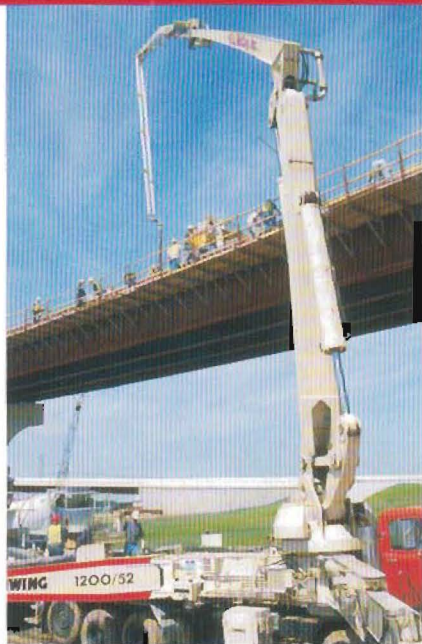
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## Flying Over Indianapolis



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# Flying Over Indianapolis



## Weddle Bros. Construction Co. builds two flyover ramps for interchange

■ Story and photos by Tom Hale

After many months of hard work, construction of the new Interstate 465/I-74 interchange on the southeast side of Indianapolis is now complete. The project, which began in February 2001 and was substantially completed by the end of June, featured more than 3 miles of roadwork and two unique, flyover ramps rising approximately 60 feet in the air.

"The flyovers are very unique in Indiana," says Scott Sieboldt, vice president/division manager for Weddle Bros. Construction Co. Inc.'s Highway Division.

The two new flyover bridges connect I-74 east to I-465 south, and I-465 south to I-74 east. In addition, the project included replacement of a twin bridge structure passing I-74 over I-465; rehabilitation and widening of the Fisher Road bridge over I-74; and roadways to connect the structures.

According to Jerry Pullen, project engineer for the Indiana Department of Transportation's (INDOT) Greenfield District, the I-465/I-74 project – designed by United Consulting Engineers, Indianapolis –

was completed at a cost of \$46.5 million. A joint venture of Weddle Bros. Construction Co. Inc., Bloomington, Ind., and Berns Construction Co., Indianapolis, performed the work, with Weddle Bros. undertaking bridge and concrete median barrier work and Berns doing the concrete paving and roadwork.

"The total contract was performed superbly," says Pullen. "The consultant's design worked very well as far as the bridges are concerned – the engineer's layout, grades, etc. worked well; Weddle put the bridges together the way they were supposed to; and everything fit nicely."

Weddle Bros., one of the largest general contracting firms in Indiana, orchestrated construction of the bridges. It was a massive effort. During a May 10 jobsite visit by Construction Digest, an experienced Weddle crew – using a GOMACO finishing machine and GOMACO work bridges – placed more than 780 yards of concrete in a single day during the final phase of bridge construction.

"It's always fun seeing the guys gel as a team," says Weddle Bros. Project Manager Tom Benham. A 39-year Weddle employee, Benham was joined on the I-465/I-74 job by Scott Jones – the contractor's lead superintendent, and Randy Allen, Bob Bowlen, Steve Crow, Steve Hathaway, and Jim Petersen – area superintendents.

The final phase involved placement of concrete for Structure 1, a nine-span, 1,140-foot-4-inch flyover ramp from eastbound I-74 to southbound I-465. Structure 1 was poured in three segments, and was built with 7,412 lineal feet of H-pile, 539 cubic yards of footing concrete, 964 cubic yards of substructure concrete, 910 tons (four lines) of structural steel, and approximately 1,274 cubic yards of superstructure concrete.

During 2001, Weddle completed the piers and endbents for Structure 1, and completed Structures 2, 3 and 4.

Structure 2, an 11-span flyover connecting southbound I-465 to eastbound I-74, was completed in late 2001. The



Left: Weddle Bros. Construction Co. crew places 780 yards of concrete in a single day during the final phase of bridge construction.

Middle: Schwing 52-meter pump delivers concrete to the top of flyover ramp.

Right: The new I-465/I-74 interchange on the southeast side of Indianapolis features two flyover ramps rising approximately 60 feet in the air.

one poured back in 30 calendar days. Structure 2 construction included 4,827 lineal feet of shell piling, 421 cubic yards of footer concrete, 728 cubic yards of substructure concrete, eight bulb-T beams – each weighing 67 tons, and 992 cubic yards of superstructure concrete.

Prairie Group, Indianapolis, was a major concrete supplier on the project. Other key subcontractors/suppliers for Wed-

dle Bros. were Harmon Steel – structural steel, metal deck and rebar; Sims & Pedigo – surface seal and masonry coating; Vincennes Steel – Structure 1 structural steel; PDM Bridge – Structure 2 structural steel; CSR Hydro Conduit – Structure 3 bulb tees; Bloomfield Painting; Sims & Pedigo – surface seal and masonry coating; and R.L. McCoy Inc. – concrete pumping.

For the flyover ramps, McCoy used three Schwing concrete pumps – 39-, 42- and 52-meter pumps.

“The I-465/I-74 project was challenging because of the jobsite conditions and the pace at which the contractor wanted to pour,” says Gary Brown, operations manager for R.L. McCoy Inc. “Weddle wanted to try to run between 80 and 100 yards an hour, which is a good feat on a normal job.”

Brown adds, “Putting a bridge deck on a project like this is like laying carpeting in a house – if you don’t do a good job, it shows for life. A lot of thought went into the bridge construction, and Weddle did a wonderful job in making sure that

everybody knew their role and understood what needed to be done.”

Brown and Gary Matney, general manager for Prairie Group’s Indianapolis Division, were particularly impressed with the planning, preparation and organization provided by Weddle Superintendent Scott Jones. “Scott Jones does more planning for these jobs than anyone I’ve ever seen,” Matney says. “He plans the pump moves, truck routes in and out, and the washout areas.”

In addition to bridge work, Weddle Bros. was also responsible for the installation of 81,709 square feet of MSE (Mechanically Stabilized Earthwall) and 15,978 lineal feet of median barrier wall. Slipforming crews averaged approximately 800 lineal feet a day.

Weddle Bros., which specializes in highway/bridge projects, construction management, design-build, build-to-suit, health care, and historic renovations, enjoys high-profile projects like the I-465/I-74 project. “We like the larger work,” says Sieboldt, an 18-year construction veteran. “Over the past six or seven years, the joint-venture combination of Weddle and Berns has put together a very successful team that has worked on large interstate projects.” □



Placing concrete for a nine-span, 1,140-foot-4-inch flyover ramp from eastbound I-74 to southbound I-465.

longest of the two flyovers at 1,665 feet 9 inches, this bridge was also poured in three segments with the final concrete pour taking place on October 30. Weddle began work on Structure 2 in mid-February 2001, and opened ramp traffic on November 16 – 14 days ahead of schedule.

According to Weddle, Structure 2 was built with 10,778 lineal feet of H-piling, 866 cubic yards of footing concrete, 1,330 cubic yards of substructure concrete, 1,689 tons (four lines) of structural steel, and 1,892 cubic yards of superstructure concrete.

Hammerhead piers on Structures 1 and 2 featured a fractured fin design. “The fractured fin design and pier shape were consistent throughout the project, allowing an economical re-use of our form system,” Sieboldt says.

Structure 3, replacement of a twin structure bridge taking eastbound and westbound I-74 over I-465, was critical to the opening of I-465 mainline traffic. In phase 2 (eastbound), the existing structure was demolished and the new