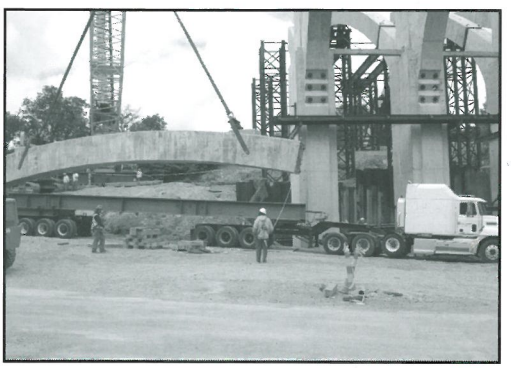
Concrete arches going up on Fulton Road Bridge

As highlighted in the last issue of Ohio Concrete (May 2008, page 9) and previously mentioned in the November 2007 issue, the

concrete arch sections, as cast by Carr Concrete Corp. in Waverly, WV (subsidiary of R.W. Sidley, Inc.) are presently being erected on the cast-in-place pier thrust blocks on the Fulton Road Bridge in Cleveland.

Each arch ring in each span will consist of three (3) arch sections. There are four (4) arch rings in each span. The end sections arch rings are erected with one end supported on the pier thrust blocks and the other end supported on temporary erection towers. A 1'-6" cast-in-place splice section is then cast and cured. The last section to be erected for each arch ring is the center section. This will also be supported on the temporary supports until the closure pour is made and cured. When completed, the arch ring will be post tensioned with strand through the arch ring and through the pier sections. After post tensioning, the temporary supports will be removed and the arch rings will be self-supporting.



The arch rings will ultimately support concrete columns, capped with floorbeams which will, in turn, support the 110' high superstructure and deck.

This project, designed by the Cleveland office of Michael Baker, Jr., is being constructed by Kokosing Construction Co., Inc. of Fredericktown, OH and CTL Engineering, Inc. (based in Columbus) is performing the concrete testing services.

Arch sections going up on huge concrete abutments on Main Street Bridge walkway/bikeway

Progress continues on the truly state-of-the-art bridge structure over the Scioto River in downtown Columbus. This bridge was featured in the November 2007 issue of Ohio Concrete which described this unique bridge and a signature structure to the state's capital city.

As of this printing, the first of the three steel arch sections has been erected on the massive East abutment/pier. The 350 ton section needed to match perfectly with anchor bolts protruding from the East abutment/pier. The other end of the first section is supported on a temporary erection tower. The West side arch has also been erected and now the two sections await the center section, which also has to match perfectly with the ends of the arch sections already erected. The temporary support towers are also designed to support the arch sections which are designed to lean 10 degrees to the North.

The entire bridge is "off-center" with the single leaning arch on the north side of the proposed 40' wide roadway, which will then be balanced with a sweeping outward and upward 18'-7" wide pedestrian walkway/bikeway. The bikeway will be significantly higher than the roadway, which will give pedestrians and bikers a unique view of the roadway below and the skyline of Columbus.

Inclined arch and bike/walkway erection underway at Main Street Bridge in Columbus, OH

The balancing act is accomplished using massive concrete counterweight infills of the steel "tub" roadway girders. When completed, the 400 ft long, 80 ft high leaning arch will support the roadway and bike path through a series of compression struts and hangar cables.

Kokosing Construction Company Inc., of Fredericktown, OH, is the general contractor of this $45 million structure. Designed for the Ohio Department of Transportation by the team of DLZ Ohio, of Columbus, and

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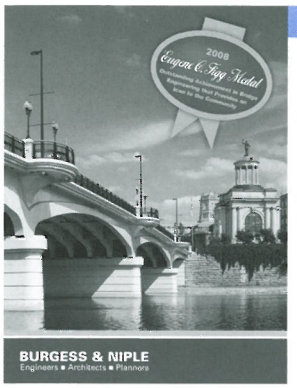
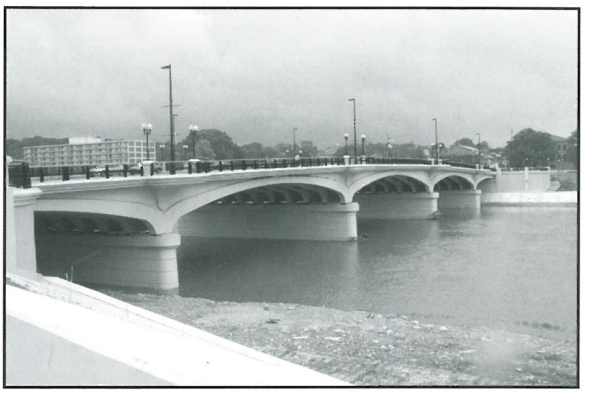


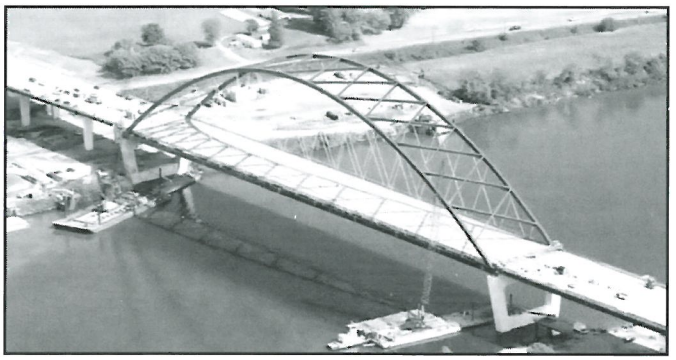
Ohio bridges receive international awards

Two Ohio bridges recently received awards at the 25th International Bridge Conference in Pittsburgh. The awards given at the Conference included: The Arthur G. Hayden Medal for the Tri-Counties Bridge over the Rhine River in Germany; the Gustav Lindenthal Medal for the U.S.Route 50 Bridge over the Ohio River & Blennerhassett Island at Belpre, Ohio; the George S. Richardson Medal for the Sutong Bridge in Jiangsu Province, China; and the Eugene C. Figg, Jr. Medal for the High-Main Street Bridge in Hamilton, Ohio.

Each year, candidate bridge projects from around the world are reviewed in search of notable examples of technical and aesthetic excellence. Ohio/West Virginia is fortunate to have two of the four medal winning bridges this year.



High-Main Street Bridge offers traditional landmark appearance in downtown, Hamilton, OH



Blennerhassett Island Crossing over the Ohio River

The **Blennerhassett Island Crossing** is a new crossing over the Ohio River. The 4009 foot long bridge is the longest bridge ever constructed in West Virginia. The main span over the River is an 879 foot long tied arch structure with concrete deck and substructure. The deck portion of the tied arch main span is supported with stay cables (diagonal cables) from the overhead arch instead of the traditional vertical suspenders. This feature provides more strength, stiffness and redundancy to the superstructure.

Approximately 35,000 CY of concrete was supplied to this project by a joint venture of Arrow Concrete Co. of Parkersburg, W.Va. and Smith Concrete Co. from their plant in Belpre, Ohio. This bridge is owned by West Virginia Department of Transportation, the designer was Michael Baker Jr. of Pittsburgh and the Contractor was Walsh Construction Company of Chicago.

Massive concrete piers will support the new Blennerhassett concrete bridge deck and overhead arch

The **High-Main Street Bridge Replacement** located in downtown Hamilton, Ohio has been featured in past Ohio Concrete articles. It is an all-concrete structure with many aesthetic features including colored and patterned concrete in the sidewalks on the bridge.

This bridge replaced a 1914 vintage four span concrete filled arch over the Great Miami River in the middle of Hamilton. Due to its proximity to the many historical features of downtown Hamilton, including the former Ft Hamilton (circa 1791-1796), the new bridge had to meet certain historic and aesthetic requirements.

The embellishments of the concrete surfaces including form liners, rustications and the use of patterns and colors allowed this bridge to meet all the criteria.

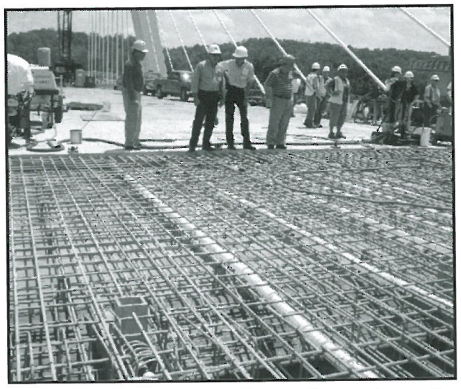
This bridge is owned by the Ohio Department of Transportation, designed by Burgess & Niple, Ltd of Columbus and constructed by Kokosing Construction Company, Inc. of Fredericktown, OH. The concrete was supplied by Moraine Materials Co. of Franklin, OH.

High attention to asthetics was employed on both horizontal and vertical concrete surfaces on High-Main Street Bridge

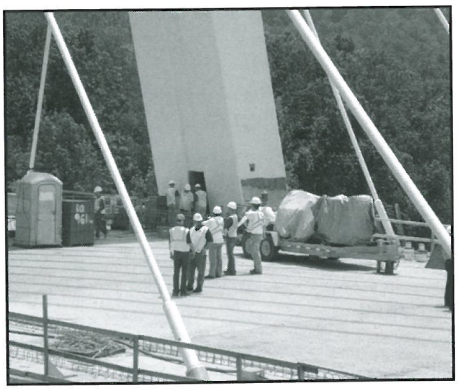
Pomeroy-Mason Open House & Tour a success

The Pomeroy-Mason Open House and Tour was held on May 30th with about 60 people attending.

The event began with coffee and donuts at the Wild Horse Café just upstream of the bridge in Pomeroy,OH. Following the introductions, Cary Betzing, the Project Engineer from ODOT gave a very informative presentation regarding the design and construction of this challenging project. Following Cary's presentation, Ross Snyder of Smith Concrete Co., described the concrete mix design used and the logistics of getting the concrete to the site.



Post-tension sleeves shown throughout the heavy structural reinforcing steel

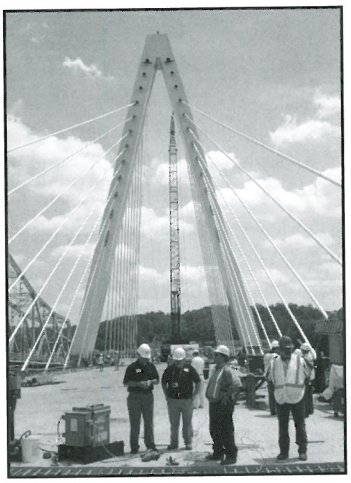


Tour attendees on the deck to witness the scale of the structure first-hand

After the presentations, lunch was served followed by the project tour. The attendees were able to walk out onto the bridge deck and observe the next deck section being readied for a concrete placement. Post tensioning strands were also being pulled into to place to support the next deck section. The cable stayed deck sections are cantilevered out about eight – 26'-6" sections from each tower or about 212'. There are now eight sections to place until they meet in the middle of the River. The crews are placing one section per week.

The attendees also were able to observe the retaining wall on the Pomeroy side of the river. The wall includes several scenes etched into the concrete surface using form liners.

All attendees enjoyed the tour and presentations. The weather also cooperated making it an ideal day for the tour.



Attendees observe construction progress of the deck structure

West Virginia pervious concrete demo held on project site

The Builders Supply Association of West Virginia held its second pervious concrete certification class and demonstration on May 9, 2008, in Milton, W.Va. In all, 10 registrants participated in the certification class and successfully completed the exam. The Ohio Ready Mix Concrete Association provided the educational training and administered the NRMCA (National Ready Mixed Concrete Association) written exam. The demonstration portion followed with the contractor, Hayslett Construction of Hurricane WV., placing the first strip of pervious concrete in one of the new Milton Middle School's two parking lots. Arrow Concrete supplied the pervious concrete material from its Huntington, WV plant.

Both the class and demonstration took place at the site of the new Milton Middle School in Cabell County. The school and the pervious concrete parking lots were designed by ZZM Architects and Engineers of Charleston WV.

When designing the new school, Cabell County Schools specifically requested pervious concrete. Pervious concrete is known for its environmental benefits, allowing stormwater to drain directly into the ground below, recharging the aquifers and reducing stormwater overflows. At the end of its design life, pervious concrete can be recycled and reused as aggregate. Pervious concrete parking lots are an economical solution for stormwater management since they can reduce the need for inlets, storm pipes and detention ponds. By eliminating detention ponds, the land cost can be minimized and the development will have less site disturbance. The light reflective pervious concrete surface will be brighter, safer, and cooler. Dark pavements create heat islands that can raise the ambient temperatures as much as 10 degrees. Cool pavements save energy by lowering the heat island effect. Pervious concrete parking lots are healthier for the ecosystem as they prevent the first flush pollutants from reaching local watersheds.

Hayslett Construction crew train on various pervious concrete placement steps