

AESTHETICS COMMENTARY

by Bradley C. Touchstone



Sometimes the most valued historical assets are created to solve a specific challenge in a clever and innovative way. Such is the case with the Ohio & Erie Canal Aqueduct over Tinkers Creek. It would be unreasonable and dishonest to rebuild the aqueduct as originally constructed. When restoration is not possible, the Advisory Council on Historic Preservation encourages us to create replacements that utilize current methods and materials to capture the essence of the original structure while avoiding mimicry.

The new aqueduct design pays homage to the original structure through the use of form, scale, and texture. At the same time, the replacement is built using the latest construction techniques and materials in a manner that is clearly of its time.

The use of concrete for the superstructure in lieu of the original materials makes perfect sense. Concrete has a unique ability to accommodate requirements for span length, durability, and water tightness. Use of form liners to develop a rusticated pattern on the superstructure face further illustrates the flexibility of this material. The patterns used soften the appearance of the bridge and will allow the bridge to age in an elegant fashion.


The resulting restoration project adheres to the guidance of the Advisory Council on Historic Preservation and subtly and cleverly updates the original structure while maintaining the mystique of this entertaining and informative aqueduct for all who visit.

A Stable Foundation

The pier and abutments feature a deep foundation system consisting of 7-in.-diameter micropiles extending into the clay and silty sands beneath the aqueduct supporting more than 1000 tons of water, concrete, and stone load. The 65-ft-long micropiles featured a concrete filled upper steel casing,

with a lower 50-ft-long grouted bond zone. In addition to their high axial and lateral capacity, micropiles were ideally suited for this project site given the small footprint of the installation equipment, the ability to drill through potential obstructions, and the need to minimize vibrations on the surrounding masonry abutments.

Bringing Back the Water

On September 22, 2011, after a year of construction, the original canal system was restored and the waters of the Ohio & Erie Canal flowed once again over Tinkers Creek as they have done for the past 166 years. Unlike its predecessors, the new, all concrete aqueduct structure will provide Cuyahoga Valley National Park and its visitors with a functional piece of history well into the twenty-first century. 

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For additional photographs or information on this or other projects, visit www.aspirebridge.org and open Current Issue.



Elevation view of the new aqueduct and fully reconstructed masonry pier. Photo: Henry G. Russell Inc.