



## BRIDGES - EXPANSION JOINTS



### Beaver River Bridge

The Beaver River Bridge Replacement Project is a reconstructing and widening of a two-mile section of the Pennsylvania Turnpike (I-76). Two new, parallel cast-in-place segmental concrete bridges will replace the original 1950's steel deck truss bridge that has been deemed structurally deficient.

D.S. Brown will be supplying the modular expansion joints that will be installed at both end abutments. No expansion joints will be placed within the main bridge structures themselves. The bridges are designed as continuous, post-tensioned concrete box girders spanning all five segments without intermediate joints.

To support the long-term performance and durability of these bridge structures, the project will incorporate D.S. Brown's Steelflex® Modular Expansion Joint and Steelflex® Strip Seal Expansion Joint Systems. Designed to accommodate thermal movement, heavy traffic loads, and continuous dynamic forces, the Steelflex® Modular system provides a highly engineered, fatigue-resistant solution capable of handling large structural movements while maintaining a watertight seal that will protect the bridge components from corrosion and deterioration. The Steelflex® Strip Seal system offers durable, mechanically locked elastomeric seals that provide superior watertight performance, smooth ride quality, and long-term reliability for bridges experiencing moderate movement. Together, these systems will enhance ride comfort, reduce maintenance needs, and improve the overall longevity and resilience of the Pennsylvania Turnpike infrastructure.

To date, this is the largest contract in Pennsylvania Turnpike Commission history.

#### INSTALLATION

2023-2027

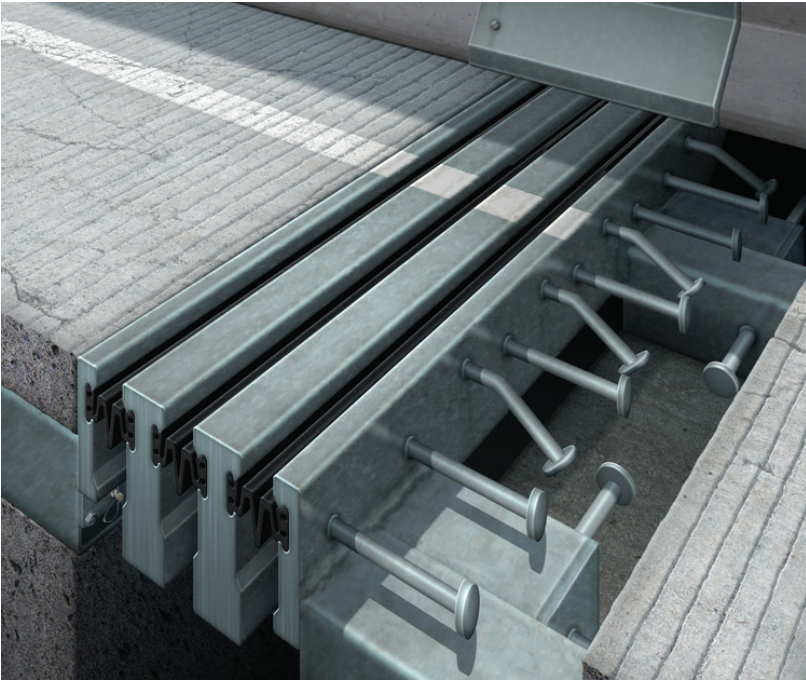
Beaver County, Pennsylvania  
(Pennsylvania Turnpike I-76)



Bridge the World with Leading Infrastructure Solutions

## PRODUCTS USED

Steelflex® D-240 and D-320 Modular, Expansion Joint Systems, and Steelflex® Strip Seal SSPA, Expansion Joint System.



## OWNER

- Pennsylvania Turnpike Commission

## CONSTRUCTION TEAM

- Joseph B Fay Company/S&B USA Construction

## STATS

- 162 LF of Steelflex® D-320 Modular Expansion Joint System (4-cell system)
- 145 LF of Steelflex® D-240 Modular Expansion Joint System (3-cell system)
- 332 LF of Steelflex® Strip Seal SSPA Expansion Joint System
- Nearly 25,000 vehicles cross the Beaver River on this section of bridge daily.
- A total of 176 segments will be cast to construct both parallel bridges.
- Each bridge is 1,645 feet long and 70 feet wide with three lanes of traffic.
- The projected lifespan of the new bridges is one hundred years.



Bridge the World with Leading Infrastructure Solutions

300 East Cherry Street • North Baltimore, OH 45872 | Phone: 419.257.3561 | dsbrown.com