



## **Fritz Engineering Research Society Civil and Environmental Engineering Seminar**



### **A BRIDGE WORTH SAVING – 20 YEARS LATER AND STILL STANDING**



**Walnut Street Bridge, 1970**



**Walnut Street Bridge, 2000**



**Perry S. Green, PhD, PE**

Bechtel Power Corporation

**Friday, May 4th at 1:00 p.m.**

**Neville Hall, Auditorium 2**

**Lehigh University, Bethlehem, PA**

#### **Project Summary:**

The Walnut Street Bridge located in Hellertown, Northampton County, PA was structurally rehabilitated through the joint efforts of a group of graduate students from Lehigh University and the Hellertown Historical Society. The bridge is part of the National Parks Service Historic American Engineering Record (HAER) Collection, being designated PA-206. The structure is a single-span, single-lane through Pratt truss that previously spanning Saucon Creek in Hellertown. The bridge was removed from service due to structural and functional deficiencies in the early 1970s and simply relocated to a temporary holding place nearby, i.e. along the banks of Saucon Creek, where it “rested” for about 25 years. Built around 1860, the bridge was originally constructed of both wrought and cast iron members fabricated by the Beckel Iron Foundry and Machine Shop formerly located in Bethlehem PA. The bridge was designed by Francis Lowthorp and includes several patented details. The bridge is approximately 15 feet high with a clear span of 55 feet. It is the only through truss built by Beckel still known to exist. In 1994, the Lehigh University group initiated plans to rehabilitate and restore the bridge to span across a nearby mill race adjacent to Saucon Creek. From 1994 to 1998 the project moved from detailed member inspection, documentation, and evaluation to dismantling the truss followed by member repairs or replacements, new abutment and wing wall construction; and finally re-erecting the bridge. Once the Walnut Street Bridge structure was completed, redecking, painting and stone masonry work took place. The bridge was formally reopened to pedestrian traffic in June 2000 and today serves the local community as a foot bridge in a developing historic area in Hellertown.

Refreshments Provided!