

# Gingerbread Castle Road Bridge

## Borough of Hamburg, Sussex County, New Jersey



*Gingerbread Castle*



*Wheatworth Mill*

### **PROJECT DESCRIPTION:**

The Gingerbread Castle Road Bridge over the Wallkill River was a single-lane bridge which had severely deteriorated over the years, prompting the Sussex County Department of Engineering to call for its replacement. The new structure consists of precast concrete deck panels composite with built-up steel girders (Inverset™ bridge system), and Texas-style precast concrete parapets. The existing bridge was a contributing element to the historic buildings surrounding it (primarily the Wheatworth Mill originally constructed in 1808 and the Gingerbread Castle constructed in 1930), and its replacement had to meet the approval of the NJ State Historic Preservation Office.

### **SPECIAL PROJECT FEATURES:**

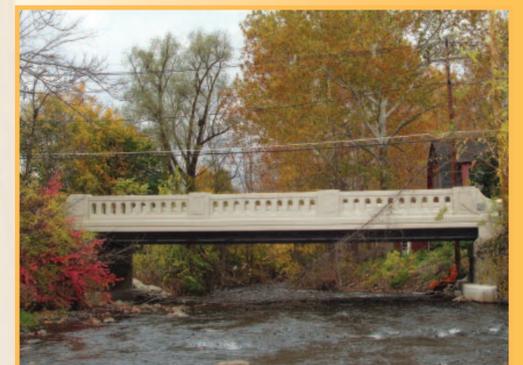
- The original stone abutments needed to be rehabilitated and reused to support the new superstructure in order to avoid disturbance of the stream and to preserve the historic character of the bridge.
- Because of the historic significance of the Gingerbread Castle and Wheatworth Mill, the new bridge had to complement its surroundings in order to receive the approval the State Historic Preservation Office. The new Texas-style concrete parapets were stained to match the aged concrete of the adjacent mill building. Natural stone facing was used on the concrete wingwalls to simulate the original stone abutments and channel walls.
- The new bridge needed to have a very shallow depth of structure in order to provide the same hydraulic opening as the original through-girder structure. This was accomplished using the Inverset™ bridge system, which provided a structure depth of 25 inches for a span length of 66 feet.



*Original Steel Through-Girder Bridge*



*Placement of Inverset Deck Panels*



*New Bridge with Concrete Balustrades*



*New Bridge with the historic Wheatworth Mill to the right*

**PROJECT:** Replacement of Bridge H9-01, Hamburg Borough, NJ

**CLIENT:** Sussex County Department of Engineering

**ENGINEER:** Maser Consulting P.A., Red Bank, NJ