



Above: Aerial view of the collapsed bridge.

Below: Scour at I-90 West Pier.

Schoharie Creek Bridge Collapse

Amsterdam, NY

The catastrophic collapse of the Interstate 90 crossing of Schoharie Creek near Amsterdam, NY on April 5, 1987 was one of the most severe bridge failures in the United States. Two spans of the bridge fell into the flood waters after a pier, which supported the spans, was undermined by scour. Before motorists could be warned, five vehicles plunged into the creek and 10 people were killed. The National Transportation Safety Board concluded that the bridge footings were vulnerable to scour because of inadequate riprap around the base of the piers and a relatively shallow foundation. The I-90 collapse focused national attention on the vulnerability of bridges to failure from scour, which introduced revisions to design, maintenance, and inspection guidelines.

Mueser Rutledge Consulting Engineers (MRCE), in conjunction with Wiss, Janney, Elstner Associates, Inc., investigated the collapse of the Schoharie Creek Thruway Bridge for the New York State Thruway Authority. The firm directed the demolition contractor during removal of the bridge foundations and inspected foundation conditions, ultimately determining that the cause of the bridge failure was scour of foundation soils supporting a pier footing. MRCE located access roadways and laid down space for demolition and new bridge construction contractors. The firm conducted a diver survey during high water conditions, obtained permits, and designed a cofferdam for dewatering the creek bed for the failure investigation and construction of the new bridge foundations. MRCE managed subcontracts for hydrologic investigations and borings, as well as coordinated information for Federal and State agencies and other consultants.

MRCE was active on the project for several years during the determination of the cause of failure and provided recommendations to avoid future failures. Additionally, the results of the firm's study played a considerable role in the redesign of federal standards for scour backfill criteria.