



# SOCIETY FOR INDUSTRIAL ARCHEOLOGY

## NEWSLETTER

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### DELAWARE AQUEDUCT DECK FAILS UNDER GROSS OVERLOAD

Roebling's suspension aqueduct built in 1848 to carry the Delaware & Hudson Canal over the Delaware between Lackawaxen, Pa. and Minisink Ford, N.Y. handily carried 490 tons of water in the timber trunk of each of its four spans, or about 3.5 tons per lineal foot of span, to the cessation of canal service in 1898. When converted to a highway bridge shortly thereafter, the walls of the trunk, acting as beams, continued in their original function of distributing the load over long sections of the structure

permitting the accommodation of considerable concentrated loads. That feature of the structure was lost, unfortunately, when a fire in 1932 destroyed part of the trunk. The deck was rebuilt in timber as a simple system of transverse floorbeams hung from the suspender rods, longitudinal stringers bearing on them, and transverse planking for the wearing surface. This became the structure's weak link, with capacity vastly below that of the suspension system. But it was adequate for the moderate local traffic crossing the earliest standing suspension bridge in the Western Hemisphere, a private toll span owned and operated by Albert Kraft [SIA] [SIAN July 73:1]. The six-ton restriction—posted by the two state highway authorities, not Kraft—routinely was ignored, both by the drivers of the trucks that used the bridge regularly, and the toll takers, all well aware that the limit was far more conservative than necessary. Up to a point, that is.

On 23 June a flatbed truck loaded with used railroad ties went through the deck just beyond the N.Y. abutment, falling 30 feet and landing on its back in a vestigial canal bed on the bank, a survival of the D&H's original alignment prior to the aqueduct crossing. Neither driver nor helper was seriously hurt. Nor was the bridge's original fabric. Cables and suspenders weren't fazed and the only real casualty, aside from the truck, was about half the deck system of the first span, which Kraft proposes to have replaced by October, when the legal aspects of the episode are unravelled. To this end he has permitted the errant truck to be hauled out and away but not the guilty ties, which remain *in situ* as hostages in evidence of someone's misjudgment. Meanwhile, John A. Roebling observes it all with total lack of surprise; perhaps mild amusement.



The damaged aqueduct—looking toward Penna. from the N.Y. abutment. On left are the cable strands, attached to the links of the anchor chains (bottom) and covering at the first tower saddle, just beyond which they are bundled into the characteristic cylindrical form as seen on the right.

### VANDALISM AT SCHOHARIE CREEK

And as though the accidental damage to our industrial archeology weren't sufficiently tragic, what is to be said of the creatures who deliberately destroy? The Erie Canal's Schoharie Creek Aqueduct remains were outraged for the second time in four months [SIAN May 77:4] when over the Fourth of July vandals prized 16 of the coping stones from the towpath wall and dumped them into the creek below. Funds for the aqueduct's restoration have been refused by the state legislature for years. Whether this incident coupled with the recent arch collapse finally will stir the gang in Albany to apply aid here, where so badly needed, is unknown.

### THE AUGUSTA CANAL

On 1 March 1976, Ernie Holz, southeastern representative for the (federal) Advisory Council on Historic Preservation, chaired a hearing in Augusta, Ga. on the proposed extension of the John C. Calhoun Expressway which would bridge the historic Augusta Canal. The canal and adjacent textile mills (mentioned by Pres. Carter in his *Why Not the Best?* as an area of unusual historic interest) date from the 1840s, though most of the extant factories date from the 1870s when the canal was enlarged. Although no structures are scheduled to be razed in the present plan, the expressway would tie into a street that is the center of an area

eligible for the National Register.

The initial damage to the canal will be from the highway's visual impact and the intrusion of traffic noise and air pollution. The real threat from this project will be the changing land-use patterns that invariably follow highway construction. It is not at all unlikely that once the highway is in operation, the historical aspects of the area could be viewed as expendable and the old buildings destroyed to make way for gas stations and fast-food operations.

Although the hearing was well attended, only a few voices were raised in opposition to the expressway extension. For the most part, excluding representatives of the Dept. of Transportation and a few businessmen, the speakers had confused opinions. Some thought the expressway might be routed another way; some wondered about an expressway that does not link up with another expressway; there was not a solid consensus that facilitating traffic to the downtown area would revitalize Augusta's central business district; the city engineer even spoke against the Canal itself for all the trouble there is in its maintenance. But even for the lip service paid to Historic Augusta by the local citizens, the expressway is synonymous with progress in their minds and they appear to want it.

On the brighter side are two developments: first, the Augusta Canal and adjacent mills are the subject of a HAER survey this summer. Second, there is a plan to make a state park out of much of