

# SOCIETY FOR INDUSTRIAL ARCHEOLOGY

## NEWSLETTER

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*Commission of Fine Arts photograph by J. Alexander.*

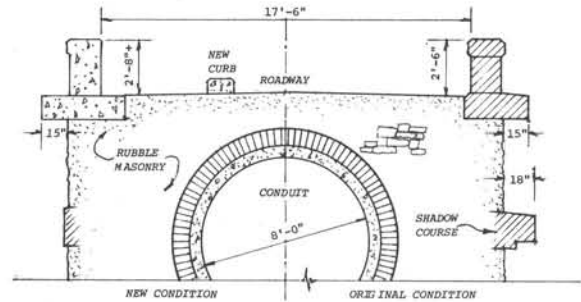
### CABIN JOHN BRIDGE PARAPETS TO BE REWORKED

#### A TOLERABLE COMPROMISE?

The Cabin John Bridge or Aqueduct, one of the most important IA structures by virtue of its containing the longest clear-span stone-masonry arch span in N.A.—2nd longest in the world—has been the subject of considerable controversy during the past year or so, the issue apparently now resolved. Whether or not the solution can be regarded as wholly satisfactory from the historic preservation standpoint is not absolutely clear, however.

The span was built 1858-63 as part of the Washington Aqueduct, designed and constructed by Capt Montgomery C. Meigs to carry Potomac River water c12 miles from Great Falls, Md., providing the City of Washington with its first public water supply. (It still is in full use as originally constructed, the capacity doubled to 200 million gallons/day by a second, parallel aqueduct of 1926.) Flow was entirely by gravity, all stream valleys crossed by stone-masonry culverts and bridges. The greatest of those was that over Cabin John Creek [SIAN 3:3:2], a hollow-spandrel segmental arch of 220-ft span with a rise of 57 ft. The arch ring is of cut Quincy (Mass.) granite, the remainder of local gray and red Seneca sandstone. As are all the Aqueduct's original structures, the Bridge is of a high order of architectural refinement, designed by one of Meigs' assistants, Arthur Rives, a Frenchman classically trained at the Ecole de Ponts & Chausees.

The embellishment was subtle, though, consisting principally of a shadow course above the arch ring, projecting 18 in., and a second, projecting 15 in., formed by the base course of a red Seneca-stone parapet added c1870 when the deck was made into a public road. The shadow lines projected by these courses enormously enhanced the bridge's appearance and general massive effect. Certain ledges of the nearby Seneca quarry, unfortunately, produced a porous stone that in time tended to spall, many of the blocks in the lower shadow course and the parapet being of this material. (There have been problems with this in many of Washington's notable Seneca-



CABIN JOHN BRIDGE - TRANSVERSE SECTION THROUGH CROWN  
PORTION OVER PARKWAY

*Based on Dept. of the Army, Corps of Engineers drawings.*

stone buildings such as the Smithsonian Institution Building and Renwick (originally Corcoran) Gallery.) The gradual spalling had over the years caused some stone to fall away—a mere visual misfortune until the construction c1967 of an Interstate leg passing beneath the bridge—itsself an aesthetic disaster totally destroying the bridge's bucolic setting. The dropping of one particularly hefty chunk of stone onto the road below was enough to send panic through the U.S. Army Corps of Engineers, operator and custodian of the entire Aqueduct, who promptly sliced off flush with the surface most of the lower shadow course on both sides of the bridge. Bad enough. Then, when largish bits of the parapet cap stones began to rain down, the worst sections of the offending parapet were removed entirely and the bridge closed to automobile traffic, sore inconveniencing the local peoples.

The Corps proposed several replacement parapet designs in the couple of years intervening, all of which, however, would have presented an appearance vastly different from the original. After strong protest from various segments of the local, state and national preservation communities, a scheme has been evolved that seems agreeable to all, although a considerable aesthetic compromise. The three original parapet elements—projecting base, intermediate block, and coping—will be replaced with two elements of pre-cast reinforced concrete, dyed to match more or less the Seneca-stone color. The Corps claims dead safety and permanence, and near total visual imitation of the original, at least when seen from below. The unconvinced point out that: 1) the most vivid concrete dyes cannot possibly match the richness of Seneca stone; and 2) no concrete dye yet made by man is chromatically stable, particularly the reds, so that fading would be inevitable. Further, the lower shadow course stones are not to be restored, even in concrete.

Still, the general feeling is that better the concrete solution, feeble as it may be, than nothing, in restoring at least a semblance of the original appearance. Further, it has been noted that nothing in the scheme is irreversible, and that theoretically (if not economically) it would be feasible at some later date to reopen the Seneca quarry and restore absolutely in stone the parapet and shadow course.