



# Friends of the Old Croton Aqueduct

*Newsletter*

**No. 19, Winter 2004/05**

## The Old Croton Aqueduct: A Model for Lisbon?

*Daphne Edwards\**

The Old Croton Aqueduct may be the model for an effort to save an eighteenth century aqueduct in Lisbon, Portugal.

The Aqueduto das Aguas Livres (Aqueduct of Free Water) begins at a series of springs some 12 km (7 miles) north of central Lisbon - not surprisingly, these are the same springs tapped by the Romans during their Iberian occupation. The main branch of the aqueduct is about 15 km (9 miles) long. Adding in various

tributaries, the total length of the structure is 58 km long (36 miles). The tallest of the Gothic arches spanning the Alcântara Valley is more than 900 feet, possibly the tallest of any aqueduct ever built.

The crowning architectural moment of the structure is a 35-arch valley crossing near the heart of downtown Lisbon. The crossing may look familiar to anyone who has viewed the Croton Aqueduct's High Bridge across the Harlem River. Lisbon's crossing, over the Alcântara valley, was an important pedestrian walkway from the north into Lisbon until it was closed

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*\*Landscape Architect, Peter Walker and Partners, Berkeley, California.*



*Aqueduct crossing the Alcântara Valley near downtown Lisbon. (Photos courtesy of Daphne Edwards)*



*The masonry water channel.*

in the nineteenth century following a series of robbery-murders committed by bandits. It remains closed to the general public to this day.

This past spring, I was part of a group from the College of Environmental Planning at the University of California at Berkeley who traveled to Lisbon to study the aqueduct with a group from the School of Architecture of the Technical University of Lisbon. The study included two weeks of land-use analysis, citizen interviews, preservation brainstorming and design exercises. Our work was facilitated by Portuguese historians from the national preservation group IPAR.

Like New York City, Lisbon is located near the mouth of a large river, with plenty of brackish water but not enough fresh. Its aqueduct, begun in 1732 by King Joao V of Portugal, was of crucial economic importance to the city of Lisbon as it struggled to maintain independence from Spain. Fresh water in plentiful supply enabled the region to recover from a series of crop failures in the 1800s. The water also supported a growing body of workers to build what became for a time Europe's busiest port.

The aqueduct was continually in use as a water conduit from 1748 until 1967. There is still water in the channel, but it is not used – due in part to technological advances, infrastructure deterioration and water quality degradation. In its heyday, the aqueduct channeled water to a 5,500 cubic meter (almost 200,000 cubic feet or 1.5 million gallons) indoor reservoir in downtown Lisbon, from which it flowed to dozens of public fountains around the city. The reservoir is still housed in its original building, home to Lisbon's Museum of Water. Many of the distribution fountains exist, a few with water but most dry and decorated with graffiti.

Over the years, the city has demolished pieces of the aqueduct to make way for new roads and neighborhoods. What remains is an icon of landscape history. Aeration and access towers dot a line across the land from the rural headwaters to downtown Lisbon. The Alcântara arches are still recognizable from land, air and sea and are prominent in paintings and etchings from across the centuries. The aqueduct played an important role in international filmmaker Wim Wender's 1994 film, *Lisbon Story*, and, ironically, appears in the logo of Lisbon's municipal water company.

Looking to the future, Portuguese preservationists are seeking United Nations world landmark heritage status for the Aqueduto das Aguas Livres. A group of concerned citizens is also fighting to maintain the integrity of the aqueduct's main branch. One of the



*Towers along the aqueduct provided aeration and access.*

recommendations of the group is to preserve the main branch as a linear park, along the lines of the Old Croton Aqueduct walking route, perhaps with a footpath next to the water channel. Our group is proceeding with its analysis. We've enjoyed learning about the Old Croton Aqueduct as a popular and successful model of how an historic aqueduct can serve its region today.

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Right: *The Aqueduto das Aguas Livres, from a 19th century painting.*

## Change in Trail Management Team

This fall has seen a change in the Aqueduct's management team, with the departure of Michael Boyle for a new State Parks post and the appointment of Peter Iskenderian as Site Manager for the Aqueduct.

Mike started as Aqueduct manager in the summer of 2003 and quickly won friends with his personal warmth and his energy and enthusiasm for the job. A father of two young children himself, he was a big hit with school classes coming to visit the Ossining weir. Mike is now a park manager at Lake Taghkanic State Park in Columbia County. The Friends enjoyed working with him and appreciated his dedication to the trail. The good news is that he is still working in the Hudson Valley. Mike, good luck!

At the same time we welcome Peter Iskenderian as new manager. Peter, who is from Rockland County, comes to us from the Palisades Region of the New York State Office of Parks, Recreation and Historic Preservation. (Old Croton Aqueduct State Historic Park is part of the agency's Taconic Region.) There he was assistant manager at Tallman Mountain State Park. Peter's degree is in Park and Recreation Management from California State University at Long Beach. Most of his work has been in the field of recreation.

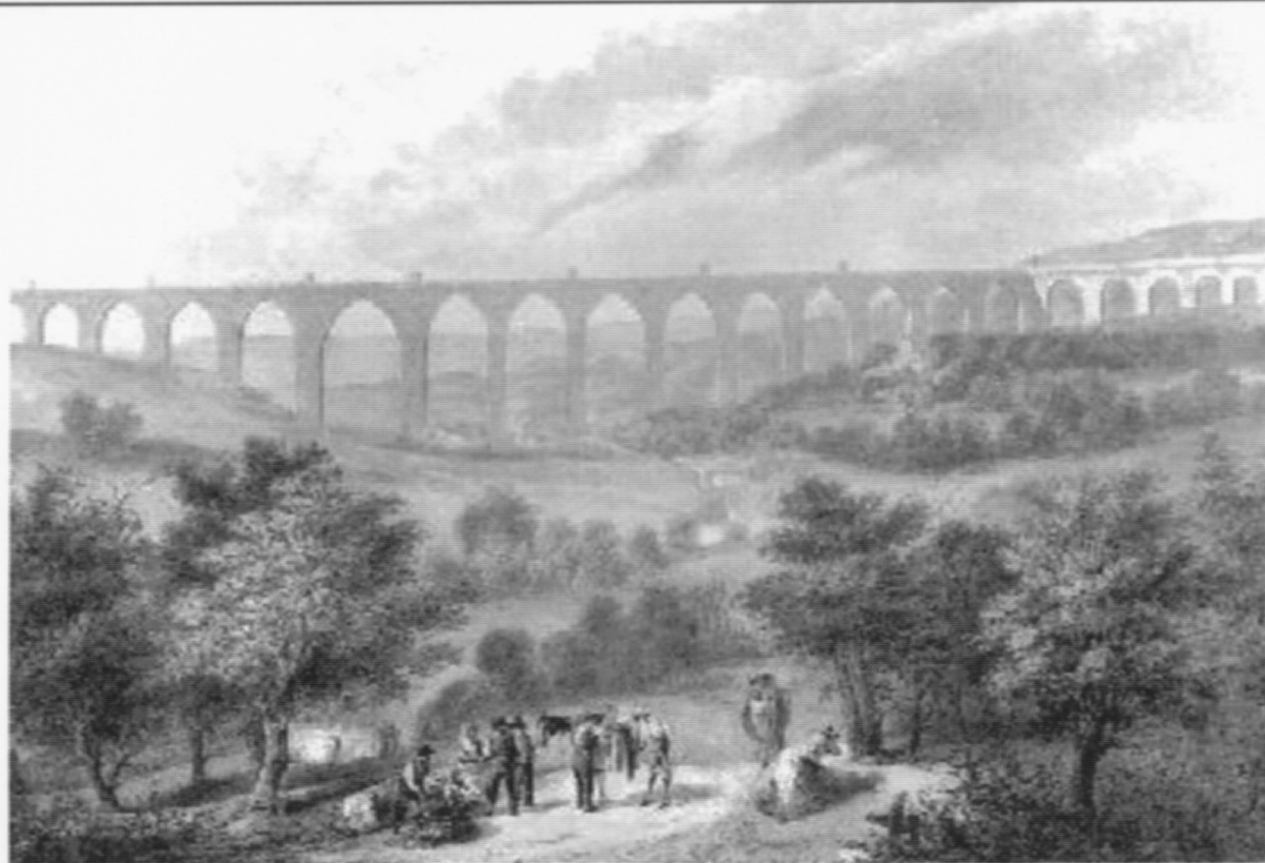
Peter has been reading Aqueduct history and has made a start on his own collection of Aqueductiana. He

can be reached at the trail manager's number, 914-693-5259, which rings at the State Parks trailer located on the Aqueduct at Walnut Street in Dobbs Ferry. Peter looks forward to getting to know the trail and trail users as well as Aqueduct history buffs. The Friends look forward to working with him.



*Peter Iskenderian,  
new Aqueduct Site Manager*

Our members may be interested to know the current management structure for Old Croton Aqueduct State Historic Park. In 2003 the park became a satellite of Rockefeller State Park Preserve - previously it had been a satellite of Franklin Delano Roosevelt State Park. Dr. Alix Schnee is both Site Manager of Rockefeller and Supervising Manager for the Aqueduct, handling intergovernmental affairs for the Aqueduct and related matters. Peter Iskenderian also holds dual titles, Site Manager for the Aqueduct and Assistant Manager at Rockefeller.



## Open House New York



*Bronx walkers, led by Robert Kornfeld, Jr. (extreme right), at the base of the Bronx arches of the High Bridge. (Photo by D. Emilio)*



*Nestor Danyluk and Aqueduct walkers at City College. (Photo by C. Fahn)*

Two walks sponsored by Friends of the Old Croton Aqueduct were among the featured attractions of the second annual OpenHouse New York, a celebration of the city's architectural landscape. On Oct. 9, Nestor Danyluk led a trek along the Aqueduct's Manhattan route from Central Park's Great Lawn to High Bridge

Tower, overlooking the great bridge that carried the Aqueduct across the Harlem River. On Oct. 10, a group led by Robert Kornfeld, Jr., traced the Bronx route from Jerome Park Reservoir to the High Bridge. Maximum turnout and enthusiasm both days attest to the public's sustained interest in the Aqueduct. Thanks are owed to Douglas Emilio, who initiated and organized the Friends' participation, and to Nestor and Bob for expert guiding.

## Gracemere Update

*Esther Samra*

In 2003 the Friends' newsletter wrote about the short, brush-covered stretch of the Old Croton Aqueduct in Gracemere, opposite Lyndhurst, that is a principal missing link in the Aqueduct trail, and the hope of residents and the Friends that a footpath could be created through it. (This section is south of Gracemere's service road, which is labeled "Private St" in the inset on the Friends' color map.)

Gracemere is the former 19th century Tarrytown estate on the east side of Route 9 (Broadway), south of the Thruway. Owned currently by the Unification Church, 35 acres of Gracemere have been subdivided and will be developed in the near future. Several residents, myself included, have banded together to try to preserve as much of the land as possible, particularly that which fronts historic Broadway and abuts the Aqueduct.

Happily, the village of Tarrytown will be acquiring nearly 15 acres of land within Gracemere, most of it wetlands or steep slopes that could not be built on anyway. In addition, approximately three acres have been preserved between Broadway and the trail-less section of the Aqueduct, thus keeping a green view both from Broadway and from the Aqueduct.

The next step is to work toward creating a path through the uncleared section. It would connect with the well-maintained, beautiful section of Aqueduct trail between Gracemere's service road and the Thruway, and would add an important link to the heavily used section between Yonkers and Lyndhurst.

Gracemere and Lyndhurst have 19th century stone entrances that face each other across Route 9. One day soon, we hope, with a walking path through the full Gracemere section, they will welcome walkers to explore further and enjoy the variety and charm of this bucolic landscape.



## Aqueduct Crossing at West Burnside Ave.: A Mystery (Partly) Solved

Aqueduct walkers see a puzzling configuration today at West Burnside Ave. in the Bronx between W. 180th St. and Morton Place, just east of University Ave. A massive embankment, rising perhaps 25 feet above the sidewalk, has obviously been sliced away and the face of the cuts on both sides of the street sealed with earth and stone. This happened when the road was widened in the early 20th century and its arched Aqueduct crossing replaced with pipes to carry the water under the street.

For some years several of us in the Friends have sought a photo of the removed crossing. Now, thanks to Tom Tarnowsky, a photoresearcher and new member, we have the vivid picture shown here. Tom found the photo at the Lehman College Library, with the assistance of Janet Munch, Special Collections Librarian, who coincidentally grew up at Burnside and University Avenues, long after the structure was removed.

Is this the original Aqueduct crossing? Aqueduct historian Robert Kornfeld, Jr., doesn't think so. He writes: "This is the only crossing I know of outside of the Clendening valley that had symmetrical side arches for sidewalks. It is a vertical wall structure like those at Clendening and Sing Sing Kill, not a culvert opening in a sloped embankment as in Irvington and at Pocantico.



*The face of the cut embankment at West Burnside Ave. today, south side. (Photo by C. Fahn)*

time. One would only have had to walk a short distance north to cross easily at grade. "As this is at a distinct low point, originally it was probably a culvert for a stream



*The West Burnside Ave. crossing, 1920s? 1930s? (Courtesy Bronx Chamber of Commerce Collection, Bronx Institute Archives, Lehman College Lib., CUNY. Photo copied by Sean Smith.)*

that has been eliminated by storm sewers, or a road culvert like that at Station Road in Irvington. I believe the elaborate structure in the photo must have been built in the late 19th century, after this area had been annexed by New York City and slated for development."

So, it appears we have part of the answer to what the Burnside Ave. crossing looked like. We continue to hope for an image from the 1850s. Can any of our readers help?

### Improvements Announced for Bronx Aqueduct Parkland

A September 29, 2004, *Daily News* editorial entitled "Greening the Bronx" noted that, as part of a package of Bronx-wide park funding connected with the siting of a Croton watershed filtration plant in Van Cortlandt Park,

"... A PROJECT DEAR TO THIS PAGE, THE REFURBISHMENT OF PORTIONS OF THE OLD CROTON AQUEDUCT, WILL GET A \$10 MILLION BOOST. THE AQUEDUCT ... IS TO BE TURNED INTO A RECREATIONAL GREENBELT THAT STRETCHES FROM YONKERS DOWN TO THE BRONX AND, SOMEDAY, WE HOPE OVER THE SPECTACULAR HIGH BRIDGE, INTO MANHATTAN. . ."

The scheduled improvements are for city parkland atop the Aqueduct between Kingsbridge Road and Morton Place, along the University Ave. corridor. Included are construction of a comfort station and operations facility, reconstruction of basketball courts, new promenade paving, new playgrounds, and new passive spaces. Additional funds are provided for a new recreational path around Jerome Park Reservoir.

## Alexander Hamilton: A Story

The following story is excerpted from "Central Park, An American Masterpiece" by Sara Cedar Miller (Abrams, in association with the Central Park Conservancy, New York, 2003), in commemoration of the 200th anniversary of Alexander Hamilton's death. Nevis, James Hamilton's estate in Irvington, is traversed by the Old Croton Aqueduct.

"Carl Conrad's staid statue of Alexander Hamilton, a founding father of the United States, memorializes a fascinating episode of early New York history and a poignant personal story as well. When the statue was



placed in 1880, it would have flanked the old Croton Reservoir, a triumph of technology over the fears of disease and fire. Nearly a century earlier, Hamilton was intricately involved in trying to develop a water system for the city. Surprisingly, he backed a plan that was hatched by his arch-enemy Aaron Burr, the man who would mortally wound him

in a duel in 1804. The plan ultimately failed, and thirty years after Hamilton's death the city still lacked an adequate water supply.

"The worst of these fears was realized on December 17, 1835, when New York experienced the most destructive fire in its young history. It began in warehouses along Pearl Street. Water from the city's small reservoir had been depleted by two previous fires that day, so when the flames reached Wall Street, the only way to contain the blaze was to blow up several buildings in hopes of creating a fireproof void. Valiantly, Hamilton's son James initiated the explosion of 48 Merchant's Place in an attempt to save the neighboring Merchant's Exchange Building. James Hamilton knew the building contained a marble effigy of his father and he watched helplessly as a few brave men tried in vain to save it before the roof collapsed upon it.

"For forty-five years, James Hamilton lived with the memory of the fire and the destruction of his father's memorial. In 1880 he rectified the situation by commissioning the Central Park sculpture. Placed beside the newly erected Obelisk - itself a symbol of permanence and endurance - Hamilton was sited near the juncture of the two [Croton] reservoirs. Whereas the

original sculpture had been carved of soft marble - believed to be the first marble sculpture carved in the United States - Central Park's monument is of a durable and fireproof granite."

Note: Gerard Koeppel, in his book "Water for Gotham" (Princeton, 2000, pp. 174-78) comments that the first Hamilton statue was "the broken victim of the city's water want, for which the living Hamilton had earned a share of blame."

## Aqueduct Images Part of New Exhibit

Among the 100-plus prints in the new exhibit, *Impressions of New York, Prints from the New-York Historical Society*, are several featuring the Old Croton Aqueduct, including engravings by William James Bennett from Fayette B. Tower's 1843 *Illustrations of the Croton Aqueduct* and scenes of the Croton reservoirs and the High Bridge. Others touch on Aqueduct-related history, for example, prints of the disastrous Great Fire of 1835.

On view from November 2004 until March 2005, the exhibit marks the 2004 bicentennial of the New-York Historical Society. The prints, spanning the years 1626 to 1995, were selected by guest curator Marilyn Symmes to provide a composite portrait of a flourishing world city. They will also be available in a book of the same title, authored by Ms. Symmes (Princeton Architectural Press).

The exhibit offers viewers an opportunity to see highlights and rarities from the Society's celebrated collections. For information, call 212-873-3400 or visit [www.nyhistory.org](http://www.nyhistory.org). The Society is at 170 Central Park West (corner of 79th St.).

### Second Edition of Aqueduct Map Planned

The Friends hope to undertake a second edition of our 1998, award-winning map of Old Croton Aqueduct State Historic Park - the 26 miles of the Aqueduct in Westchester County - to accommodate numerous updates and some corrections that should be made.

We welcome input from readers. If you have changes to suggest, please send them to Charlotte Fahn at 155 Edgars Lane, Hastings-on-Hudson, NY 10706, or [czfahn@yahoo.com](mailto:czfahn@yahoo.com). Please include either your phone number or E-mail address or, preferably, both.



## Calendar Notes

**Nov. 2004 to March 2005.** Scenes of the Aqueduct, as part of an exhibit of prints at New-York Historical Society. See article on p. 6.

**Sun., Dec. 5, 2004, 11 am.** Moderate hike from Greystone (Yonkers) to Irvington on the Aqueduct and several side trails in nearby parks. About 8 miles. Meet at Greystone Station. Appalachian Mtn. Club hike led by Hal Kaplan. Free. Information: 914-376-3156.

**Sun., Feb. 6, noon.** Greystone to Irvington, route similar to Dec. 5 but with a later start. Appalachian Mtn. Club hike led by Hal Kaplan. Free. Information: 914-376-3156.

**Tues., Feb. 22, 2005, 6 pm.** *Water Works: The Architecture & Engineering of the New York City Water Supply System.* Lecture by Kevin Bone at Gen. Soc. of Mechanics and Tradesmen, 20 W. 44th St., NYC. Admission fee. [www.generalsociety.org](http://www.generalsociety.org); 212-840-1840.

**Tues., March 22 (approx. start date), 8-10 pm.** *Water for the City.* A Continuing Education course at Croton-Harmon High School on the planning, construction, and maintenance of the Old Croton Aqueduct. Several classroom sessions will be followed by weekend hikes on the Aqueduct from Croton to Yonkers, in segments. Carl Oechsner, Instructor. Tuition fee. Information: Croton-Harmon Schools, Gersten St., Croton-on-Hudson, NY 10520, or call Iris Graves Stevens at 914-271-2356. The course is open to non-residents of the School District.

**Tues. April 12, 6:30 pm.** A program on aspects of the historic and contemporary New York City water supply system, sponsored by the Gotham Center for NYC History and High Bridge Coalition. CUNY Graduate Center, 365 Fifth Ave. at 34th St. The list of speakers is in formation. Free. For details, check [www.gothamcenter.org](http://www.gothamcenter.org) or call the Friends closer to the date.

### MEMBERSHIP COUPON

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Please make check payable to Friends of the Old Croton Aqueduct. Send it with this coupon to the Friends at Overseer's House, 15 Walnut St., Dobbs Ferry, NY 10522-2109.

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Please let us know if you would like to volunteer.



**An Easy Gift.** The Friends' color map-guides of the Aqueduct in Westchester (Old Croton Aqueduct State Historic Park) and New York City fit into a holiday stocking or regular business envelope. The following carry one or both maps:

Cornelia Cotton Gallery, 111 Grand Ave., Croton-on-Hudson

Art Barn, 211 North Highland Ave., Ossining

Ossining Heritage Area Visitor Center, Joseph G. Caputo Community Center

Hudson Office Supply, 10 Main St., Tarrytown

River Gallery, 39 Main St., Irvington

Cary's Pharmacy, 105 Main St., Dobbs Ferry

BuyFitnessStuff.com Retail Outlet, 41 Cedar St. (Store 3), Dobbs Ferry (10% discount on pedometers to members)

Corey Glass Picture Framing, 3 Main St., Hastings-on-Hudson

Good Yarns, 8 Main St., Hastings-on-Hudson

Office Ink, 572 Warburton Ave., Hastings-on-Hudson

Hudson River Museum Shop, 511 Warburton, Yonkers

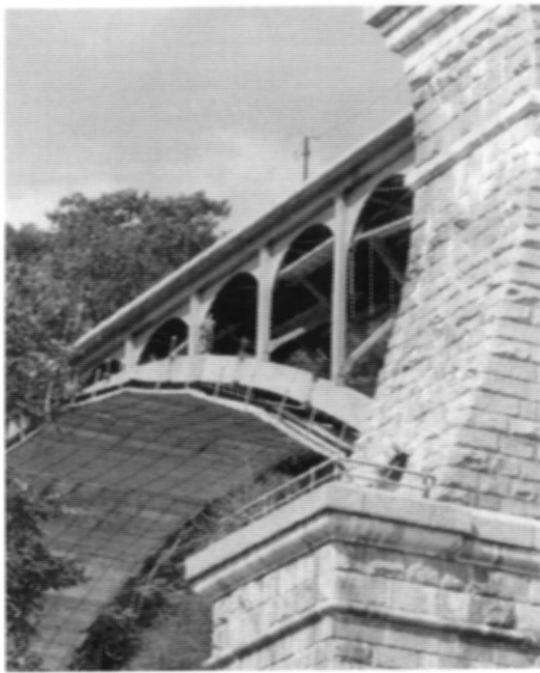
Posman Books, Grand Central Terminal, Manhattan

Urban Center Books, 457 Madison Ave., betw 50th and 51st Sts., Manhattan

**By mail:** The maps are \$5. each (members, \$4.). Add 75 cents shipping and handling for the first map, 50 cents each additional map. Please specify which map(s) you want. Send a check for the total to the Friends at 15 Walnut St., Dobbs Ferry, NY 10522. Questions? Visit [www.aqueduct.org](http://www.aqueduct.org) or call 914-693-4117.

**TO OUR MEMBERS: PLEASE RENEW EARLY WHEN THE NOTICE ARRIVES. WE DEPEND ON YOUR CONTRIBUTIONS! THANK YOU.**

**For inquiries about Old Croton Aqueduct State Historic Park or to report trail conditions, call Park Manager Peter Iskenderian at 914-693-5259.**



*Almost finished! View looking up at worker on the underside of the new bridge over the spillway of the New Croton Dam, Sept. 2004 (Photo by C. Fahn)*

**Newsletter:** Charlotte Fahn, *Editor*. News items, reminiscences, and comments welcome: 914-478-3961 or [czfahn@yahoo.com](mailto:czfahn@yahoo.com) or by mail c/o the Friends.

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Friends of the Old Croton Aqueduct  
Overseer's House  
15 Walnut Street  
Dobbs Ferry, NY 10522

**Friends of the Old Croton Aqueduct** is a private, non-profit, volunteer organization formed to protect and preserve the Old Croton Aqueduct. The Friends work to raise public awareness of the Aqueduct and trail, and to secure the resources that will enable this historic greenway to remain unspoiled in perpetuity. Address: Overseer's House, 15 Walnut St. Dobbs Ferry, NY 10522- 2109; telephone 914-693-4117, [www.aqueduct.org](http://www.aqueduct.org)

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