



# Friends of the Old Croton Aqueduct

*Newsletter*  
No. 48, Winter 2015

## A Peek into Historic Preservation with Rich Gromek

*Steven Oakes, Historic Site Manager*

Those watching the Keeper's House transformation may wonder how decisions are made about the building renovation process. How are funds allocated? To what extent are modern materials being used? Are there federal and state guidelines? The person who knows the answers to these questions and many more is Rich Gromek, Taconic Region State Parks' Restoration Coordinator.

When Rich graduated from Georgia Tech with a degree in building construction, working in the field of historic preservation was far from his thoughts. But while living in Georgia he became intrigued by nearby Kennesaw Mountain, a national park that preserves a battlefield of the same name. The battle played a significant role in General Sherman's 1864 Atlanta Campaign.

From the Civil War, Rich's interest in historical events moved on to the Revolutionary War. When he visited his parents in the Hudson Valley, Rich toured many battlefields and historic properties and at one inquired about career opportunities. Encouraged by what he learned, he looked into a New York State civil service job for Restoration Coordinator within State Parks only to be told that he would need a Master's degree in Historic Preservation, at least, before he could take the mandatory examination. Rich immediately enrolled in Georgia State's program. He joined State Parks in 1994 and within a few years became the Taconic Region's Restoration Coordinator.

He arrived at a good time in State Parks' history. The state had made a huge investment in the 1990s in



*Rich Gromek, Taconic Region State Parks' Restoration Coordinator, making a note on a checklist at the Keeper's House in Dobbs Ferry.*

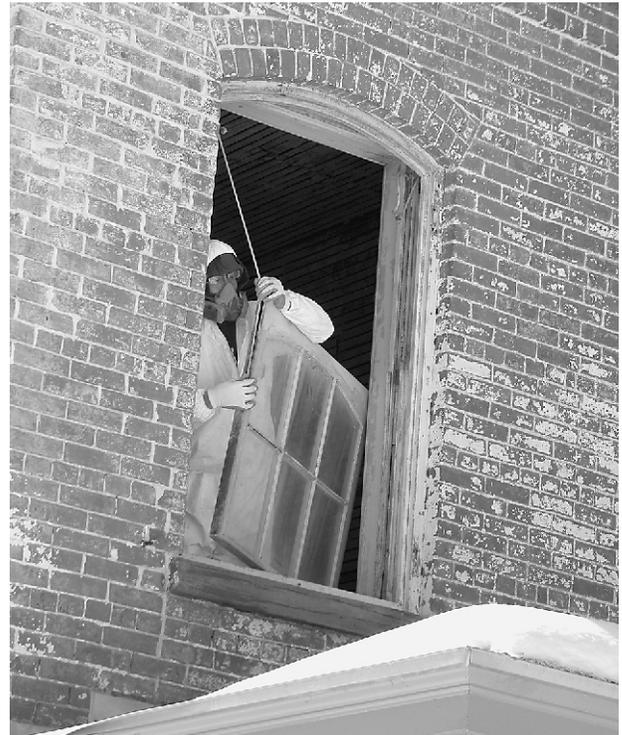
preparations for the U.S. Bicentennial. Major projects had been recently completed, particularly at sites related



*This painted doorway is upstairs and part of the later addition to the Keeper's House. The doorway was constructed using an exterior window frame, with its arched lintel mirroring the shape of the construction of the exterior windows of the original house. The workman is wearing a protective suit in case the paint he is removing contains lead.*

to the colonial and Revolutionary War period and many resources were available to him, including a crew of highly trained restoration tradesmen, complete with carpenters, plasterers and stonemasons.

Rich's initial project was an interior restoration at Mills Mansion (now Staatsburgh House). He soon moved on to larger and more involved ventures, including an extensive exterior restoration at Olana, the home of



*Workman reinstalling a window sash at the Keeper's House. All photos on pages 1 and 2 are by T. Tarnowsky.*

Hudson River School painter Frederick Church and the crown jewel among state historic sites. One of the first Olana projects was the structural stabilization and re-roofing of Cosy Cottage, Church's first house on the property, which is now occupied by the Olana Partnership.

But good things all too often come to an end, and by the early 2000s interest in restoration work at state facilities was waning. The "restoration crew" was unceremoniously merged into the Region's roving maintenance crew, and, at present, Rich is the sole remaining Restoration Coordinator in any of the State Park regions. His job, he says, has gradually metamorphosed from "building forensics" to construction management.

When assessing a project, Rich first looks at the anticipated uses of an old building, for "it's the use that drives the treatment," he says. Since the Keeper's House will not be turned into an historic house museum, the renovation is not designed to show a specific period in time, but rather the years when it was used as a residence and office of the engineer of a section of the Aqueduct. That makes the project more flexible than some.

Once a use for a building has been determined, Rich looks closely at the building to identify the architectural features that define its historic character. "You have to respect the continuum of the building, the changes that occurred during the period of significance," Rich says. A



*A plumber working outdoors at the Keeper's House in the extreme cold. Plumbers have been making final pipe connections from the waste line to the sewer.*

proper restoration must follow the Secretary of the Interior's Standards for the Treatment of Historic Properties, a set of best practice concepts and technical recommendations used by Federal, state and local officials. In general, the guidelines call for the retention of as much of the original structure as possible, but allow for the use of some modern materials.

The variety of repairs being made to the walls in the Keeper's House shows how the use of a space determines the level of restoration work. The front parlor and hallways will be restored using three coats of plaster and other historic materials. The least historically significant rooms, those in the 1890s addition at the back, will be repaired using gypsum board, the most modern and least costly method. The second floor rooms in the older section will be restored using a hybrid system that calls for the application of a veneer of plaster over a special gypsum board. Modern mechanical and electrical systems will be used throughout.

Much of Rich's day-to-day work consists of overseeing restoration projects, generally making sure that contractors comply with the construction documents. He also looks for unforeseen or changed conditions, and determines how they should be treated. During the early phases of a project, he is searching for evidence of construction dates, alterations and other telltale signs. In addition, he must ensure compliance with the contract and safety regulations and watch for poorly executed work. For example, the contractor on the Keeper's House project used a wood consolidant to repair rotten headers, as required, but he had mixed the material with the wrong hardener, rendering the repair worthless.

Occasionally, ethical questions arise. Portions of Olana, the home of artist Frederick Church, were designed by Church himself. During restoration of the property it was determined that some of Church's designs were not well executed and had in fact contributed to the deterioration of the building. The roof of Church's studio had leaked since its construction, and some structural details were substandard. "Whether it is it appropriate to fix these things is a legitimate question," Rich notes. "Ultimately, appearance was the guide and if improving the design of the structure could

be accomplished without changing the building's appearance, it was carried out."

Rich is asked often about paint on historic buildings. "Paint is just paint," Rich says, "unless it is an important part of the building's design," as was the case of Olana, designed as it was by an artist, "and for Church, colors were really important." Of course, Rich tries to use colors that were on a building at some point during the structure's period of significance or were popular and commonly used on similar buildings at the time.



*Olana, the home and studio of Hudson River School painter Frederick Edwin Church (1826-1900). Designed by Church and architect Calvert Vaux, construction began in 1870. Olana opened as a New York State Historic Site in 1967.*

Rich says that his largest challenges are competing for resources and finding competent contractors. Historic sites generally aren't huge draws and it is not a surprise that Parks places available funds where they can reach the most people or bring the largest returns — which means that resources often go to replacing deteriorated restrooms at heavily used parks or building irrigation systems at money-producing golf courses. Finding competent restoration contractors and encouraging them to bid

on state projects is always a challenge, as often the funding agencies have particular requirements and processes that make state work especially challenging. The State Department of Transportation (DOT), which has provided grants for several restoration and rehabilitation projects, is very efficient at road building but not as adept at house restoration. Lowest bidder requirements very often make it hard to achieve the best results, Rich notes.

The Keeper's House project is one of the more challenging projects, Rich admits. It seems to combine many of the truly obscure and tricky contractual rules found in DOT-funded projects with the more difficult aspects of working with state contracts generally.

You might expect a man working on state historic sites to live in an historic building. He could do all the work on it himself and he would know what he was doing. On the other hand, he might want to be as far away as possible from his daily responsibilities. As it happens, Rich doesn't live in an old house built in some traditional architectural style. For what it's worth, he lives in a 1990s prefabricated ranch.

## A Journalist Travels through the New Croton Aqueduct in 1890

The title and subtitles say it all:

**“Croton Aqueduct Tour.**

***From the Gatehouse to Pocantico in a Frail Boat.***

***Perilous Undertaking with Disaster Narrowly Averted—***

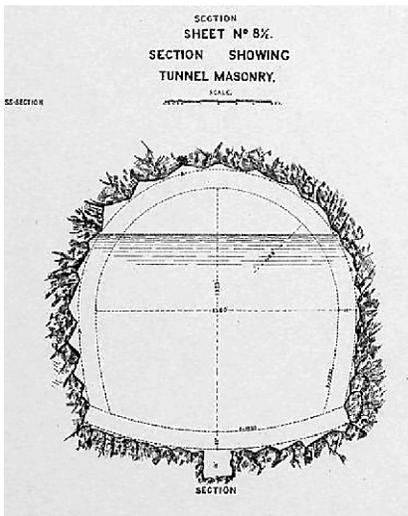
***Through the Screen Chamber to the Portal of the Tunnel—Strange Sights in the Great Conduit.”***

So begins the newspaper account taken from *French’s Scrapbook* at the Westchester County Archives. The invitation to join Charles S. Gowen, the engineer in charge of Division No.2, on a nine-mile boat trip through the tunnel was accompanied by this suggestion: “A life insurance policy would be a convenience (for your heirs) in case of accident.”

The journalist, whose name does not appear in the article, had walked through the Aqueduct tunnel six months earlier, before the water was turned on. This second trip was arranged by Gowen and the chief engineer, Alphonse Fteley, to find out whether Fteley’s theoretical calculations as to the exact daily flow of water from Croton Lake to Central Park reservoirs were correct. When the journalist arrived, a small flat-bottomed boat was being lowered into the screen chamber, the mechanism to keep debris from the Croton Reservoir from entering the water system.

Below are excerpts from his vivid descriptions of what he saw and felt that day. Please note that the physical description of the gatehouse—the relationship of the various elements to one another—are less clear.

“The rush of waters, eighty feet below, sent up a fearful and an ominous sound. It was as if an angry sea



*A representation of a cross section of the tunnel showing the masonry. Note the level of the water.*



*A 1902 photo of an intake portal at the site of the new gatehouse, similar in size and shape to the New Croton Aqueduct tunnel. The portal awaits the rising waters of the enlarged Croton Reservoir. Photo courtesy of the U.S. Geological Survey.*

had been turned loose on a rockbound coast. Nothing was to be seen by looking down through the diamond-shaped holes in the iron floor-plates, but to hear was quite sufficient to dampen one’s ardor.”

Visions of the gloomy River Styx with its grim ferryman haunted him and he could only think of what Dante had seen written on the gateway of Hell: “Leave here all hope, oh ye who enter in’.”

They begin the “descent of the pump chamber, through which the portal of the tunnel is reached. This is a small apartment in which there is an apparatus for clearing the gatehouse of water. A turbine wheel near the bottom operates powerful force-pumps, which remove millions of gallons in an incredibly short time (another brilliant example of Mr. Fteley’s admirable foresight).”

The descent was not pleasant, the writer says, as the stairs wound around an iron column so fast that it made him almost sick. As they landed on a grating beside the wheel, they met an Englishman who was in charge of the London water supply. Having made a quick examination of the gatehouse and its surroundings, the Englishman declared that he had seen nothing in all of Europe equal to them. He complimented “the engineers on the excellence of the New Aqueduct system and on the able manner in which all the details of the construction had been worked out.”

As the Englishman started up the winding staircase, the group passed through an opening in the wall into the screen chamber, standing on a platform of steel beams and iron gratings. “Beneath us, the spray beating up against our feet, is the turbulent flood, raging like a wild



*An illustration from an 1895 report to the Aqueduct Commissioners.  
Note the brick arch, torch and workers compared with the size of the tunnel.*

beast. The great gates are open and they fascinate me with their alternate vomiting and choking. It is a strange sight. I am informed that in the adjoining chamber, separated from the one in which I stand by an eight-foot wall, the waters are forty feet deep and from it comes the tide that ebbs and flows about my rubber boots. Forty million gallons a day sweep through the gates, not in steady streams but in spasmodic spurts that churn up masses of yellow foam and clouds of leaping spray. How like the frantic struggles of the imbecile mob is this strife of the confined waters. So great is the pressure, no man could survive the whirl and dash and wrenching of that mad stream....”

“Looking to the left of the screen, I saw the black throat of the tunnel gulping down the creamy water as if it were dreadfully thirsty. There was only a small part of the arch visible, about enough to bump a man’s head against if he should dare to sit too erect in a boat floating under it. And there was the boat waiting for us. ”

The expedition prepared to depart, climbing down a ladder. The cargo, stowed under the seats, included hard liquor, “sandwiches, a la Gowen; beer by the dozen bottles – the bottles to be used as life preservers when emptied—fruits of various climates, armfuls of candles and three tin scoop-reflectors to burn them in, lanterns, measuring rods, boat hooks, paddles, a stern anchor, pipes , tobacco, cigars and sundries.”

The men were getting into the boat when it tipped over, sending them into the chin-deep water and forcing them to crawl back up the ladder to dry off. Half an hour later, the anchor was hauled in, this time “without mishap, reflectors were lighted and aimed forward, paddles were dipped, and the captain got aboard. His

last words to the men left behind in the screen chamber were a warning to guard the gates till 6 o’clock. One turn of the wheel might mean sure death to the party in the tunnel. No more water should be admitted than was already flowing.” By then they should have reached Pocantico, and gates might be opened to their widest extent, as the travelers would be safe.

As they paddled along, “the weep-holes at the top of the arch were an intolerable nuisance, yet realizing their necessity, we grumbled not when they wept gallons of ice-cold water upon us....each was a small cataract leaping from the roof straight down to the big stream below on whose surface it splashed with an awful din.” According to the writer, weepers pour 1,000,000 gallons a day into the Aqueduct.

They anchored often, every 800 feet, to let Mr. Gowen take the measurements for which the expedition had been formed. The tasks were simple yet they required an immense amount of hard work. But the men soon learned a few tricks and made good progress. However, “the water was so rough that Mr. Gowen was obliged to average things, but as he had been trained that way he averaged with a large degree of accuracy.” It was the writer’s task to hold the reflector so that the figures on the measuring rod could be read.

The rest of the trip was uneventful and the crew arrived at Pocantico safely and disembarked. The following day Mr. Fteley informed the writer that the results of the expedition were entirely satisfactory since the calculations made with Mr. Gowen’s measurements tallied perfectly with his own theoretical ones.

—*Ruth Gastel*

## Renewed Aqueduct Walk in the Bronx Reopens

Summer 2014 saw completion of the renewal and re-greening of most of Aqueduct Walk, a linear Bronx park named for the Old Croton Aqueduct beneath it. Here the Aqueduct was on a southward run before turning to cross the Harlem River on the High Bridge. Sometimes called Aqueduct Lands, this “shoestring”-thin park stretches from Kingsbridge Road to Morton Place, paralleling Aqueduct Ave. and University Ave. (Martin Luther King, Jr., Blvd.). Aqueduct Walk is feature no. 14 on the Friends’ map of the route of the Aqueduct in New York City and is pictured on the cover of the map.

At the time the Aqueduct was built, all of what is the Bronx today was part of Westchester County. Aqueduct Walk now passes through dense residential neighborhoods consisting mainly of apartment buildings, often abutting the Aqueduct corridor. As in Westchester, the presence of the Aqueduct is manifested in places as embankments; here, stairways connect street level with the walkway atop the embankments. While no ventilators remain, the New York City Parks Department has provided an excellent photo of one that formerly stood on the walkway.

The Parks Department’s capital project addressed what is probably the most heavily used part of Aqueduct Walk, stretching a little more than three-quarters of a mile between Kingsbridge Road and West 181<sup>st</sup> St., where there is an Aqueduct-themed playground and basketball courts. The campus of Bronx Community College (formerly NYU’s campus) is across the street. The project’s principal goals were to welcome people at park entrances, remove invasive plants (including trees), control erosion, reclaim parkland that had been encroached upon, identify and minimize dumping sites, and in general encourage neighborhood pride in this unusual, elevated parkland.



*Ventilator that once stood on the Aqueduct at North St. in the Bronx, 1939. View is toward the south. (NYC Dept. of Parks & Recreation, with permission)*

The park had last been refurbished in the 1980s. In the current project, damaged sections of pipe railing and chain link fence were replaced and new steel picket fencing was installed. The walkway was resurfaced and the stairway at 184<sup>th</sup> St. reconstructed; street lights were replaced or repainted; tree pits were enlarged and improved. All benches were replaced. The handball courts at Fordham Road were removed and replaced with plantings. Construction plans are underway for a long-awaited comfort station at West 181<sup>st</sup> St.

To give identity to the unseen engineering landmark under Aqueduct Walk, reproductions of a beautifully lettered manhole cover from the New Croton Aqueduct era have been set into the pavement at Fordham Road and other points. (Still to come, as part of a separate project, is a newly designed kiosk with interpretive text and historic photos.) And there are new plantings in great profusion. Nearly 150 new trees, some 1,500 shrubs, plus an abundance of perennials, bulbs and more, all in a variety of species, have been planted and a small green “island” created on the north side of West 183<sup>rd</sup> St. While concerns about plant maintenance are inevitable, City Council has funded additional horticultural staff for the Parks Department in the current fiscal year. We all can hope for, and urge, its renewal.

Thanks to the project, the refurbished and very green Aqueduct Walk is already serving local residents and will no doubt be enjoyed by many Aqueduct through-walkers once the High Bridge reopens in 2015. The Aqueduct Walk capital project was funded by the NYC Department of Environmental Protection’s Croton Water Treatment Plant Mitigation Fund.

I thank Associate Project Managers Susan Ellis and Violette Rychlicki, NYC Parks Department Capital Division, for their assistance. — *Charlotte Fahn*



*Walkers on the refurbished Aqueduct Walk. (Photo by C. Fahn)*

## President's Letter

The arrival of spring will hasten the completion of the Keeper's House renovation.

We've all been impatient to see the job finished but this cold winter did slow things down. Nevertheless, you'll see that the hole in the east wall has been filled, using original bricks. The roof has been stabilized and the southwest corner that worried us all for so long will most likely have been attended to by the time members read this newsletter.

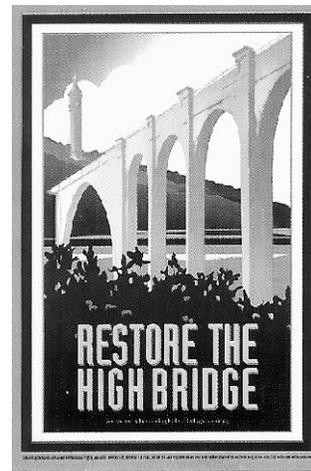
As you'll notice, the old paint has been scraped from the exterior and now workers are stripping paint from the interior moldings. The beautiful curves of the 19th century molding are being carefully preserved. If you happen to own an old house, as some of us do, you'll appreciate that caring for architectural features like these are an important part of historic preservation. Paint colors will be chosen carefully for appropriateness to the period as Rich Gromek explains in the article on page one of this newsletter.

We're delighted to report that work has already been started on some of the interior displays that will be in the

two education rooms. Our exhibition designer, Larry Langham, is working on designing of all the interactive elements of the exhibition. These hands-on activities will help explain the basic engineering principles of the Croton System in an entertaining way. He and colleagues are also working on a hand operated stereoscope that will give visitors a peek into the life of people who maintained the Aqueduct. Images from rare books are being reproduced, some of which have never been accessible to the public. Fortunately this work can go on, even before the rooms in the Keeper's House are ready.

Watch during the summer for news of the Grand Opening of the House.

— Mavis Cain



## High Bridge Update

Good news! The New York City Parks Dept. has announced a summer opening for the newly restored High Bridge. Watch our web site for further information.

### Save The Date!

**Friends' Annual Meeting**  
**Sunday, April 12, 2 pm,**  
**Irvington Public Library**

### Large Cities and the Natural World

The relationship of large cities to the natural world is a mass of contradictions. **SIDNEY HORENSTEIN**, co-author with Niles Eldredge of their recently published *Concrete Jungle: New York City and Our Last Best Hope for a Sustainable Future*, uses the example of New York to explore themes from the book.

Sidney Horenstein is Geologist and Environmental Educator Emeritus, American Museum of Natural History, and Natural History Consultant with the Bronx County Historical Society. His walking tours, slide presentations, and trove of New York lore attract a wide following. New York's water supply, including the Croton Aqueduct, is one of his many areas of expertise.

### Closure on Trail in Yonkers

The section of the trail between Palisade Avenue and Summit Street on the east-west part of the Aqueduct in Yonkers is closed until further notice. This is due to the mudslide that occurred on March 11, 2015. That section is now fenced and inaccessible to trail users.

### MEMBERSHIP COUPON

Your tax-deductible contribution helps to protect and preserve the trail.

- |                                      |  |
|--------------------------------------|--|
| <input type="checkbox"/> Renewal     | <input type="checkbox"/> New Member          |
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Other \_\_\_\_\_

Additional donation to Keeper's House Fund \$\_\_\_\_\_

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

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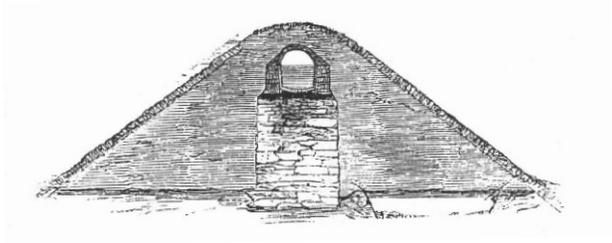
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For inquiries about Old Croton Aqueduct State Historic Park or to report trail conditions, call Historic Site Manager Steven Oakes at 914-693-5259; mailing address: 15 Walnut Street, Dobbs Ferry, NY 10522.

Friends of the Old Croton Aqueduct  
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**Friends Annual Meeting  
April 12, 2015, 2pm  
See page 7**



**Newsletter:** Ruth Gastel, *Editor*. News items, reminiscences, and comments welcome: 914-479-1414 or [ruthg@iii.org](mailto:ruthg@iii.org) or by mail c/o the Friends.

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**Newsletter No. 48 Winter 2015**



*If you are four-legged or ski, you can be on the Aqueduct in winter, too! (Photo by Oliver Lednicer)*

**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:* Keeper'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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