An aerial, black and white photograph of a forested hillside. A dirt path or road curves diagonally across the upper half of the image. In the lower-left quadrant, there is a small, square stone structure with a flat roof and a small square opening on top. To the right of this structure, a stone wall or foundation runs diagonally across the middle of the image. The hillside is covered with many bare trees, suggesting a late autumn or winter setting.

The Croton Waterworks

A Guide to the Preservation and Interpretation of Historic Infrastructure

Historic Preservation Studio II, Spring 2011



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Proposed Interpretation by Typology

Interpretation recommendations for seven of the Croton Waterworks typologies are presented below. This list is meant to provide ideas for “interpretation by typology,” the purpose of which is to supplement the holistic interpretation plans presented later in this volume with ideas for interpretive features, which will aid in the connection of structures within each typology.

Culverts

The documentation of culverts is a difficult and continuous process due to the large number (and various sizes) constructed for the Old Croton Aqueduct. “Culvert Hunting” is a fun, engaging, and educational game for all ages, which will ultimately aid in the documentation and location of all 114 culverts present along the Old Croton Aqueduct.

Ventilators

Ventilators were originally placed at every mile along the length of the Old Croton Aqueduct. Although all have been demolished in New York City, many are extant along the Old Croton Aqueduct Trail in Westchester County. These ventilators may be used as part of a circuit-training course, with an associated map or signage developed.

QR codes will also be proposed for placement on small-scale signage at (possibly) each ventilator, which will connect a visitor to online information regarding the structures. As part of “The Ventilator Voyage,” each ventilator may be numbered in sequence, with each QR code linking to one piece of a complete text or vocal explanation of the history/significance of the ventilators. The entire story will not be told until all ventilators have been visited!

Gatehouses

Due to the large size and durability of the gatehouses (located in Manhattan), these structures will best support adaptive reuse. The 135th Street Gatehouse has recently been renovated and reused as the home for the Harlem Stage. The 113th Street Gatehouse was renovated in the early 1990s for use as part of the Amsterdam Nursing Home. Gatehouses that remain unused include the 119th Street Gatehouse, the Central Park North Gatehouses and the Central Park South Gatehouse. Due to its incredibly large scale and prominent location near “Museum Mile” along Fifth Avenue, the Central Park South Gatehouse would provide an ideal space and location for a Croton Waterworks Museum. The High Pumping Station in the Bronx could also provide space for another Croton Waterworks Museum with a deeper focus on the engineering of the system (particularly if any of the internal structure and mechanisms still exist).

A more in-depth discussion of a reuse plan for the 119th Street Gatehouse is now presented: The abandoned 119th Street Gatehouse stands out as fertile ground for interpretative planning due to its location near Columbia University, on the southeast corner of 119th Street and Amsterdam Avenue, as well as its structural integrity (exterior), size, and relation to both the Old and New Croton Aqueducts. The need for interpretation and reuse of the building would promote the understanding of New York City’s historic infrastructure and the Croton Waterworks in particular, as well as the potential for using decommissioned structures for new purposes. Proposed long-term interpretation plans for the site include an initial stabilization

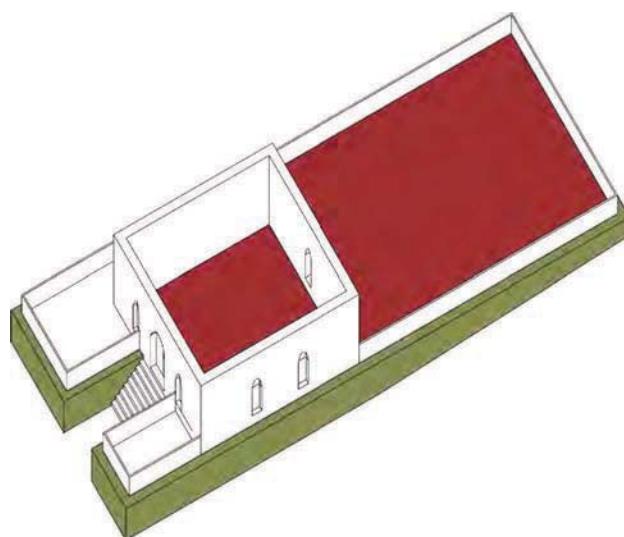
(masonry and roof restoration, removal of window infill, interior surveying) of the building and lot, followed by a Croton Fountain Design Competition, which would eventually lead to the construction of the winning design in the gatehouse's yard. The original Croton Fountain was erected in City Hall Park in 1842 to celebrate the opening of the Old Croton Aqueduct. Despite its dismantlement in 1870 (to make room for the new Federal Post Office), the tradition of celebrating the Croton Waterworks through fountains has continued elsewhere along the system. In 1972, M. Paul Friedberg designed and installed a contemporary Croton Fountain in City Hall Park that was in place until 1999. The installation of a new Croton Fountain behind the 119th Street Gatehouse would continue this trend of publicly visible tributes to the Croton system and make for an engaging interpretive program. For the entire structure, a new use is proposed that will focus on the historic and current connection between New York City and its rural resources in Westchester County. Both the interior and exterior space may be utilized as a Croton Waterworks New York City-Westchester Center, with the goal of fostering

a link between the urban environment and its regional resources. The interior space would be used for programming, including (but not limited to) temporary exhibitions and events exploring this urban-rural relationship. The Center would also incorporate an exploration of historic infrastructure, particularly water systems, for which the urban-rural link is often invisible to the public. The gatehouse's outdoor space would also be incorporated into the proposed program and could be used for previously stated events as well as weekly farmers' markets (featuring regional farms and vendors). Especially important to this reuse proposal is the involvement of stakeholding organizations located in New York City and Westchester County.

Shafts

The Croton Waterworks shafts are associated with the construction and maintenance of the New Croton Aqueduct, which is still active. Although many of the shafts have been either filled in or are capped with masonry headhouses, and are relatively inaccessible to the public due to their active nature, they can nonetheless be interpreted. Projections

Right: Axonometric of the 119th Street Gatehouse, a New York City landmark that is located across the street from Columbia University



Structure Guide Legend

Typologies



Bridges



Culverts



Dams



Fountains



Gatehouses



Headhouses



Keepers' Houses



Parks



Reservoirs



Shafts



Siphons

MISC

Support



Ventilators



Water Towers and Pumping Stations



Weirs

Significances

eng/ENG

Low/High Degree of Engineering Significance

arch/ARCH

Low/High Degree of Architectural Significance

land/LAND

Low/High Degree of Landscaping Significance

soc/SOC

Low/High Degree of Social and Cultural Significance

Interpretation

ON

On-Site

OFF

Off-Site

N/A

None/ Unknown

Sign Proposals



Small Sign



Medium Sign



Large Sign

Designations

NH
CEL

National Historic Civil Engineering Landmark

NHL

National Historic Landmark

NR



National Register of Historic Places

NYC

New York City Landmark

Working in conjunction with the 92nd Street Gatehouse, the 113th Street Gatehouse controlled the inlet of water for the six lines of pipes buried between the two structures.

For more information, see fiche on page 204.



Type	Significance(s)				Interpretation	Sign
	eng	arch			N/A	
Current Designation(s)						

119th Street Gatehouse 1894-1895

Plate 31-7, Old Croton Aqueduct

The existing 119th Street Gatehouse replaced one built in the center of Amsterdam Avenue. Like its predecessor, it provided an outlet for the water under pressure in the Manhattan Valley Siphon.



For more information, see fiche on page 205.

Type	Significance(s)				Interpretation	Sign
	eng	arch			N/A	
Current Designation(s)		NYC				

119th Street Gatehouse c 1840

(Demolished)
Plate 31-8, Old Croton Aqueduct

Located in the middle of Amsterdam Avenue, the original 119th Street Gatehouse regulated the southern outlet of the Manhattan Valley Siphon.



Type	Significance(s)				Interpretation	Sign
	eng	arch			N/A	
Current Designation(s)						

135th Street Gatehouse 1884-1890

(Adaptive Reuse - Harlem Stage)
Plate 31-13, Old/ New Croton Aqueduct

As one of the more architecturally expressive gatehouses, the 135th Street Gatehouse was constructed to receive water from both the Old and New Croton Aqueducts, and regulate its distribution to Manhattan.



For more information, see fiche on page 206.

Type	Significance(s)				Interpretation	Sign
	ENG	ARCH	land		N/A	
Current Designation(s)		NYC	NR	NHL		

142nd Street Gatehouse c 1840

(Demolished)
Plate 31-6, Old Croton Aqueduct

In conjunction with a gatehouse near 135th Street in the center of Amsterdam Avenue, the 142nd Street Gatehouse regulated the northern inlet of the Manhattan Valley Siphon.

Type	Significance(s)				Interpretation	Sign
	eng	arch			N/A	
Current Designation(s)						

Miscellaneous

Publicly auctioned by the City of New York in 1993.

Sources

Gray, Christopher. "Streetscapes: The Croton Gatehouse; Worthy Interests Clash on 113th Street." *The New York Times*, November 25, 1990.

"POSTINGS: City Auction; Gatehouse Sale, With Conditions." *The New York Times*, February 7, 1993.

119th Street Gatehouse

General

Structure/Property Name (Current and Original, if Different): 119th Street Gatehouse

Street Address/Location: Southeast corner of 119th Street and Amsterdam Avenue

Town/City: New York (Manhattan)

County: New York

Owner: City of New York

Structure/Property

Architect/Engineer/Other Responsible Parties: George W. Birdsall (chief engineer), John W. McKay (assistant engineer), Mario Lorini (assistant engineer), Peter J. Moran (contractor)

Historic Use: Gatehouse

Present Use: Vacant

Typology: Gatehouse

Architectural Style: Romanesque Revival

Period(s) of Construction: 1894–95

Date of Decommissioning: 1990

Date(s) of Demolition: N/A

Structural System/Materials: Load-bearing masonry wall construction, steel truss, and terra-cotta block roof structure; granite, dolomite, slate, stained-glass, cast iron, wrought iron

Significant Alterations: Below-grade levels filled in with sand, windows sealed with stone

Brief Description: The one-story gatehouse has a square plan and is on a sloped site. The structure sits on a rough-cut granite base and contains a water table, exterior walls, and cornice of rock-faced dolomite. The front (northern) facade features a cast-iron door topped by a semi-circular stained-glass window and two arched windows, all of which are framed by granite voussoirs. Arched windows framed by voussoirs are also present on the other facades (two windows on the east and west facades, one on the south). The overall form is very similar to that of the 113th Street Gatehouse, and conveys a sense of solidity and durability and seems to have been inspired by Romanesque Revival architectural design. A hipped slate roof completes the structure.

Brief Statement of Historic Significance: The current gatehouse replaced an older gatehouse (ca. 1842) that was located in the middle of the road at Amsterdam Avenue and West 119th Street on “Asylum Ridge.” By 1890, the Morningside Heights area was growing and the structure became an obstruction to increasing street traffic. A new gatehouse was thus built on the east side of the street on New York City land acquired as early as 1877. The original structure (1842) functioned as the southern connection between the inverted siphon pipes running through Manhattan Valley (to the north) and the above-grade aqueduct (to the south), which was moved below-grade in 1870–75. The extant structure was built and served as the transition point between the inverted siphon and the standard pipe that brought the Croton water downtown. Work on this new structure began in early 1894, with the foundation excavated by March of that year; water began flowing through in July. Most of the structure was completed by December 1894, and it was officially completed in March 1895.

Interpretation

Accessibility to Public: None

Landmark Status: New York City Landmark (2000, LP-2051)

Threats: Demolition by neglect, general deterioration

Current Interpretation: None

Miscellaneous

The cost of construction was forty thousand dollars.

Sources

“POSTINGS: The West 119th Aqueduct Gatehouse; Landmark Designation Nearing.” *The New York Times*, December 19, 1999.

Shockley, Jay. “119th Street Gatehouse.” New York City Landmarks Preservation Commission Designation Report, 2000.

135th Street Gatehouse

General

Structure/Property Name (Current and Original, if Different): Harlem Stage/135th Street Gatehouse

Street Address/Location: 150 Convent Avenue

Town/City: New York (Manhattan)

County: New York

Owner: Harlem Stage

Structure/property

Architect/Engineer/Other Responsible Parties: Frederick Cook

Historic Use: Gatehouse

Present Use: Theater and cultural center