

## FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR THE CROTON WATER TREATMENT PLANT

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### **8.1.5. Gate House No. 1**

#### **8.1.5.1. Introduction**

Gate House No. 1 is located within Van Cortlandt Park, in the Borough of the Bronx, NY. Gate House No. 1 is entirely below grade, represented on the surface by a pair of concrete hatches on a concrete pad. The pad is surrounded by a chain link fence. Gate House No. 1 serves as the starting point of the New Croton Branch Aqueduct. The Gate House contains flow control devices to split the flow from the New Croton Aqueduct upstream to either the New Croton Branch Aqueduct or downstream to the New Croton Aqueduct. It is not staffed. The City of New York (City) currently has jurisdiction of the Gate House site. The site is surrounded by Van Cortlandt Park and the Major Deegan Expressway.

In the proposed project, Gate House No. 1 would continue to serve the existing function. If the Eastview Site is selected for the site of the proposed Croton project, and the NCA is used as the treated water conveyance, Gate House No. 1 would be used as an access point for the pressurization construction during 2011-2015. In addition, the existing caps on the structure would be upgraded to accommodate the pressurized water. During operations it would still serve as a flow control device, although the water would all flow through the NCA and the New Croton Branch Aqueduct would be sealed downstream of the Gate House. No staff would be assigned to the facility.

Prior to the proposed work for the pressurization of the NCA, Gate House No. 1 would be repaired and upgraded to maintain the operation of the NCA. This work would take place regardless of the selection of the site for the Croton project. This Baseline Rehabilitation work would take place 2004-2007. It would involve extensive excavation of this below ground facility and some clearing of trees within 20 feet of the facility fence line. The NCA Baseline Rehabilitation work is a separate action that will be conducted regardless of where the Croton water treatment plant is located. The NCA Baseline Rehabilitation would be conducted in two phases; the first phase (which was subject to an independent environmental review that resulted in a Negative Declaration being issued on June 7, 2004) is scheduled to begin in Fall 2004 and continue to Spring 2006 and the second phase (which would be subject to a future environmental review once the scope and need for the work is defined) is anticipated to begin Summer 2006 and continue to Spring 2007. The rehabilitation work will be completed before any NCA work associated with the Croton project is started.

The NCA Baseline Rehabilitation work at Gate House No. 1 is sufficient to prepare the facility for operations if the water treatment plant were built at the Mosholu or Harlem River Sites. If the Kensico-City Tunnel (KCT) is used to convey water from the Eastview Site the baseline rehabilitation at Gate House No. 1 would still be important to preserve the NCA for emergency use and to maintain freshwater flows to Jerome Park Reservoir.

The Baseline Rehabilitation work at Gate House No. 1 would prepare the facility for operations if the water treatment plant were built at the Harlem River Site. If the KCT is used to convey water from the Eastview Site the Baseline Rehabilitation at Gate House No. 1 would still be important to preserve the NCA for emergency use and to maintain freshwater flows to Jerome Park Reservoir.

For the proposed Mosholu Site, work at Gate House No. 1 would be more extensive. This work would include removing existing sluice gates, installing automatic controls for all gates, installing 55 feet of stainless steel overflow weir between NCA and the New Croton Branch Aqueduct (NCBA), and other minor modifications. Work at Gate House No. 1 associated with the Mosholu Site alternative is scheduled to take place during 2009-2010.

The Eastview alternative that would use the NCA to convey water under pressure would require work similar to that required for the Mosholu Site. In addition, the pressurization work would seal the shaft at Gate House No. 1 and make all the conveyances pressure-tight. The extent of potential impacts at Gate House No. 1 is similar for the Mosholu Site and the Eastview Site alternative with a pressurized NCA. The impact areas and construction impacts would be the same for these two alternatives but the Eastview with NCA alternative would not start until the water treatment plant was completed (2010). It would take place over a four-year period between 2011 and 2015.

The following sections describe the operational and construction impacts of the proposed pressurization work (or the Mosholu Site work at Gate House No. 1). The operation year used for these analyses is 2015, and the peak construction year is 2013. A study area of up to one-mile was established from the Gate House No. 1 site in conducting the following analyses. The methodology used to prepare these analyses is presented in Section 4, Data Collection and Impact Methodologies.

#### **8.1.5.2. Baseline Conditions**

##### **8.1.5.2.1. Existing Conditions**

**Land Use, Zoning and Public Policy.** There would be no change to Land Use, Zoning, or Public Policy as part of this project. After construction conditions would return to the existing state, with no expansion of the facility and the restoration of the existing fence line. An existing access trail runs northeast from the Gate House No. 1 perimeter fence toward the Major Deegan Expressway, though it does not connect. During construction there would be some disruption of the existing park uses, but the public access to the surrounding trail network would not be limited. Because of this, a detailed analysis of the potential impacts of the project on this parameter was not conducted.

Gate House No.1 and the majority of the study area, is located within Van Cortlandt Park. Van Cortlandt Park is identified on the New York City zoning maps; however, although Van Cortlandt Park is zoned as parkland and is under the jurisdiction of the New York City Department of Parks and Recreation (NYCDPR), there is no specific parkland zoning designation. This work would be considered maintenance of an existing infrastructure facility. No zoning impacts would occur because there would be no change to the finished area.

**Visual Character.** There would be no change to the visual character of the area as part of this project. Nine trees would be cut down, and up to 35 additional trees would be threatened because their branches extend to within 20 feet of the construction boundary. The existing fence line and flush to the ground hatches would be restored. Because of this level of impact in the forest, a detailed analysis of the potential impacts of the project on this parameter was not

conducted. Potential visual character impacts during construction are discussed in the Potential Construction Impacts section below.

***Community Facilities.*** No impacts to the area community facilities are anticipated as part of this project. Because of this, a detailed analysis of the potential impacts of the project on this parameter was not conducted. Potential community facilities impacts during construction are discussed in the Potential Construction Impacts section below.

***Open Space.*** No impacts to the open space are anticipated as part of this project. Because of this, a detailed analysis of the potential impacts of the project on this parameter was not conducted.

***Neighborhood Character.*** There would be no change to neighborhood character in the vicinity of Gate House No. 1 as part of this project. Because of this, a detailed analysis of the potential impacts of the project on this parameter was not conducted. Potential impacts during construction are discussed in the Potential Construction Impacts section below.

***Socioeconomic Analysis.*** No impacts to the study area socioeconomic conditions are anticipated as part of this project. Because of this, a detailed analysis of the potential impacts of the project on this parameter was not conducted. Potential impacts during construction are discussed in the Potential Construction Impacts section below.

***Water Rate Structure.*** For this information, refer to the Water Rate Structure discussion for the Eastview Site (Section 5.7, Socioeconomic Analysis).

***Growth Inducement.*** This analysis addresses the proposed NCA work, which would be conducted in conjunction with the proposed Croton project. Therefore, the analysis of any growth inducement effects related to improvements to the NCA is addressed in the Growth Inducement analysis prepared for the Eastview Site (Section 5.8, Growth Inducement).

***Traffic and Transportation.*** The existing operating conditions of the nearby transportation system, including traffic, parking, pedestrian safety and transit are presented. The study areas were established based upon volumes, logical traffic routes, and potentially problematic areas.

***Traffic Study Area.*** The Gate House No. 1 Site is adjacent to a service station located on the southbound portion of the Major Deegan Expressway. As such, access to the site is limited to only these southbound lanes. There is no existing roadway access to this site. Therefore, a construction access would need to be constructed either off the southbound Expressway or off the existing adjacent service station parking lot. The study area therefore is limited to the Major Deegan Expressway southbound lanes.

The Major Deegan Expressway (I-87) is a major north-south arterial highway that provides connections south to Manhattan and to New Jersey and north to Connecticut via I-95. Northern New York is also accessible from the Expressway. Interchanges in the vicinity to local roadways include East 233<sup>rd</sup> Street to the south and Yonkers Avenue to the north. In the vicinity of these interchanges, the Major Deegan Expressway consists of three travel lanes in each direction with

a concrete barrier median. Currently, the Expressway experiences significant delays during rush hour times along this segment of roadway.

Traffic Conditions and Analysis. Traffic data for the Major Deegan Expressway obtained from the New York State Department of Transportation shows that this segment of the highway experiences an Annual Average Daily Traffic (AADT) volume of 82,600 vehicles per day.

Parking. There is no parking along the Major Deegan Expressway.

Transit and Pedestrians. There is no access to the site via public transportation or for pedestrians.

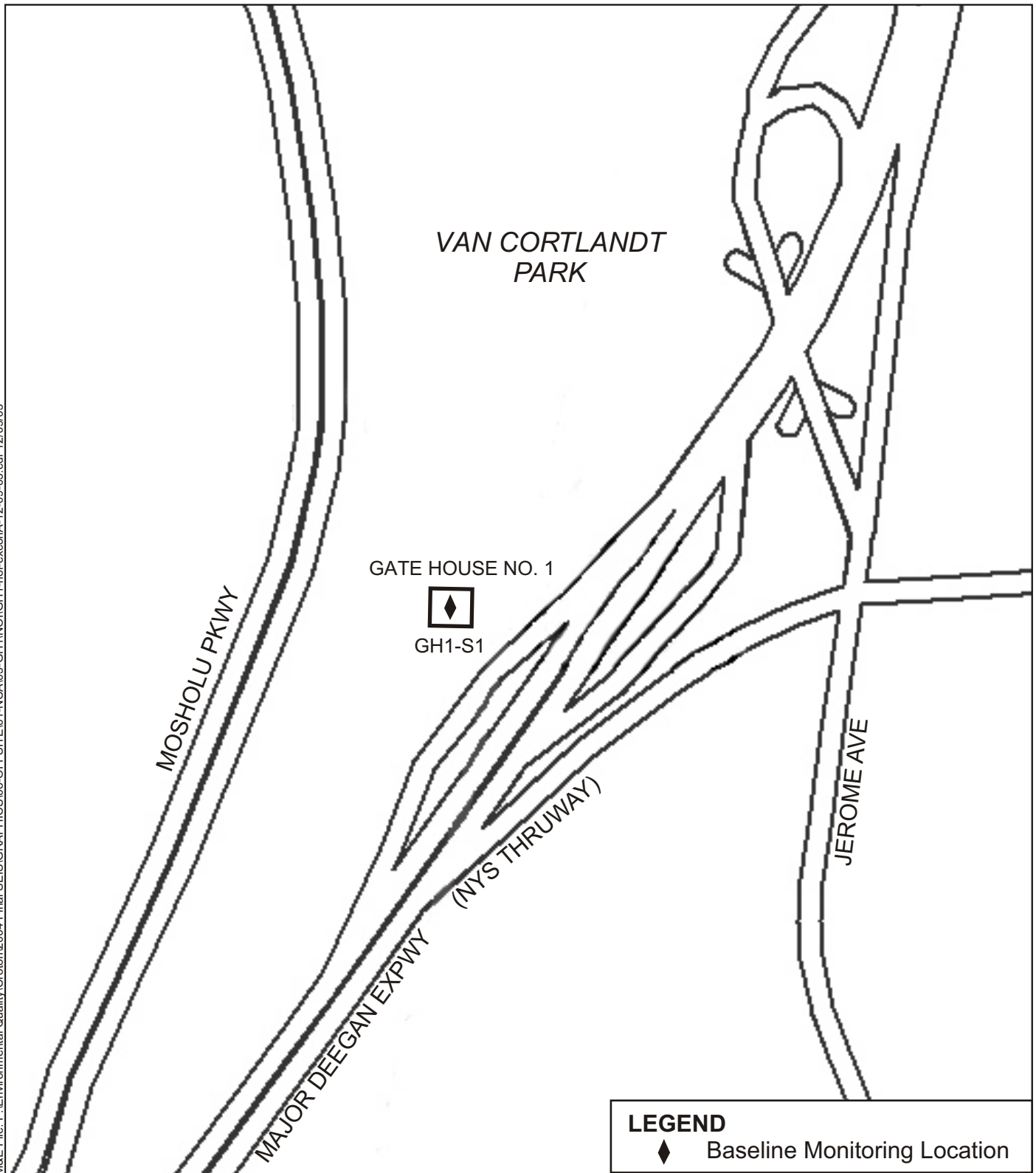
### *Noise Analysis.*

Mobile Source Noise. No roadways connect I-87 to the site; therefore, no traffic conditions exist at the site to be analyzed. At the time of construction, a short temporary road would be built to provide access to the site from I-87. No mobile source noise impacts are anticipated at this site due to its close proximity to the Major Deegan Expressway, which is the dominant noise source in the area.

Stationary Source Noise. Stationary source noise monitoring was performed at the site in order to establish existing baseline conditions. Noise monitoring was performed to reflect the construction. Baseline noise monitoring was performed on the property line of the site (Figure 8.1.5-1). The dominant noise source at this location was traffic from I-87.

Baseline noise level measurements were collected from 6:30 AM until 10:00 PM on a weekday and on a Sunday. The only sensitive receptor in the vicinity of the Gate House No. 1 Site is Van Cortlandt Park itself. The residences present to the northeast of the site were not considered for analysis because they are separated from the site by the Major Deegan Expressway (approximately 1,000 feet), which is the dominant source of noise in the area. The park opens at 6:30 AM and closes at sunset. No additional operational noise is anticipated at this site following the completion of construction activities at the Gate House No. 1 Site. Monitoring was performed in order to establish the period of the day with the potential for the greatest incremental change in noise. Monitoring periods were chosen to analyze times of patron usage of the Park.

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Not To Scale

Note: GH1-S1 monitoring location same as baseline monitoring location.

## Gate House No. 1 Stationary Noise Source Monitoring Locations

*Weekday Baseline Monitoring.* The baseline noise levels measured on a weekday are presented in Table 8.1.5-1. The quietest period (between 7:00 PM and 8:00 PM) had a Leq of 59.9 dBA, and the noisiest period (between 6:00 AM and 7:00 AM) had a Leq of 62.6 dBA.

**TABLE 8.1.5-1. MEASURED 24-HOUR NOISE LEVELS (Leq) AT GATE HOUSE NO. 1 ON A WEEKDAY**

Hourly Leq (dBA)												
TIME	12	1	2	3	4	5	6	7	8	9	10	11
AM	NA	NA	NA	NA	NA	NA	62.6	62.3	62.0	61.6	61.1	60.7
PM	61.2	60.5	61.0	61.4	61.4	61.1	60.6	59.9	60.2	61.0	NA	NA

*Sunday Baseline Monitoring.* The baseline noise levels measured on a Sunday are presented in Table 8.1.5-2. The quietest period (between 7:00 AM and 8:00 AM) had a Leq of 56.3 dBA, and the noisiest period (between 1:00 PM and 2:00 PM) had a Leq of 59.7 dBA.

**TABLE 8.1.5-2. MEASURED 24-HOUR NOISE LEVELS (Leq) AT GATE HOUSE NO. 1 ON A SUNDAY**

Hourly Leq (dBA)												
TIME	12	1	2	3	4	5	6	7	8	9	10	11
AM	NA	NA	NA	NA	NA	NA	56.6	56.3	56.9	58.0	57.7	58.9
PM	59.3	59.7	58.6	58.3	58.1	58.9	58.9	59.3	59.4	58.6	NA	NA

*Weekday Monitoring at Receptors.* Following initial baseline monitoring, 20-minute measurements were required from a location within Van Cortlandt Park during the noisiest and quietest times as determined by the initial monitoring. Because the site is located within the proximate receptor, measurements collected during baseline monitoring were considered representative of existing noise levels at Van Cortlandt Park itself. Table 8.1.5-3 presents relevant noise monitoring data.

**TABLE 8.1.5-3. TWENTY-MINUTE WEEKDAY NOISE LEVELS AT SENSITIVE RECEPTOR NEAR GATE HOUSE NO. 1 (Leq, dBA)**

Monitoring Location	Monitoring Period	Monitoring Time	Noise Level
GH1-S1	Noisiest Daytime	6-8 AM	62.6
	Quietest Daytime	1-2 PM	60.5
	Quietest Evening	7-8 PM	59.9

*Sunday Monitoring at Receptors.* Table 8.1.5-4 presents 20-minute noise levels collected at the proximate receptor for the noisiest and quietest period on a Sunday.

**TABLE 8.1.5-4. TWENTY-MINUTE SUNDAY NOISE LEVELS AT SENSITIVE RECEPTOR NEAR GATE HOUSE NO. 1**

Monitoring Location	Monitoring Period	Monitoring Time	Noise Level
GH1-S1	Noisiest	1-2 PM	59.7
	Quietest	7-8 AM	56.3

***Air Quality.*** A screening level analysis was performed based on the anticipated level of construction activity at Gate House No. 1. No operational impacts to the air quality within the study area are anticipated as part of this project. Potential impacts during construction are discussed in the Potential Construction Impacts section below.

***Historic and Archaeological Resources.*** No impacts to historic and archaeological resources within the study area are anticipated as part of this project. Potential impacts during construction are discussed in the Potential Construction Impacts section below.

***Hazardous Materials.*** There is the potential for hazardous materials to exist at Gate House No. 1. These materials could consist of asbestos-containing materials (ACM) or lead-based paint. A hazardous material evaluation would be conducted within Gate House No. 1 in order to ensure environmental safety for construction workers and NYCDEP personnel and to ensure compliance with all applicable hazardous material rules and regulations. In addition, potential contamination within Gate House No. 1 would not pose a threat to public health or safety since the facility is a restricted use facility. The information gathered as part of this evaluation would be used to develop a Construction Contamination Management Plan (CCMP) and to determine the proper disposal requirements for material removed from the facility as part of the rehabilitation conducted as part of this project. The hazardous materials investigation to determine the appropriate level of material handling in accordance with a detailed CCMP would ensure the safety of public health. Therefore, no potential hazardous material impact is anticipated.

#### ***Natural Resources.***

**Vegetation.** The Gate House No. 1 Site is surrounded by an oak-tulip tree community, which is a mixed deciduous upland forest. This area is a Coastal Oak Hickory type forest. The forest within the proposed area of construction impact is a portion of the 158 acres of contiguous forest in Van Cortlandt Park known as Croton Woods.<sup>1</sup> The most common canopy species present in the vicinity of the Gate House No. 1 Site includes green ash (*Fraxinus pennsylvanica*), American elm (*Ulmus americana*), black walnut (*Juglans nigra*), black cherry (*Prunus serotina*), black oak (*Quercus velutina*), honey locust (*Gleditsia triacanthos*), and London plane (*Platanus acerfolia*).

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<sup>1</sup> Kunstler, D. 1996. Biological Survey of Croton Woods, Van Cortlandt Park, Bronx, New York – September 18, 1996. City of New York Parks and Recreation. New York, NY.



Croton Woods, in Van Cortlandt Park, is a unique plant community within the context of New York City in general, and the Bronx in particular.<sup>2,3</sup> The Yale School of Forestry and Environmental Studies (1996) has surveyed vegetation present in Croton Woods and compiled a Management Plan for the Croton Woods.<sup>4</sup> The Management Plan depicts that the location of the Gate House No. 1 Site is within both Cover Types II and III. This indicates that the Gate House No. 1 Site varies between xeric (dry) and hydric (damp) conditions. Cover Type II is located in xeric conditions and favored by species of red oak (*Quercus rubra*) and tuliptree (*Liriodendron tulipifera*), Sassafras (*Sassafras albidum*), black cherry (*Prunus serotina*), white ash (*Fraxinus Americana*), and bitternut hickory (*Carya cordiformis*) were found to be growing in this cover type to a lesser extent. Cover Type III exists in moister soil conditions and is dominated by sweetgum (*Liquidambar styraciflua*) and pin oak (*Quercus palustris*). Upland species such as black cherry, sugar maple (*Acer rubrum*), and white ash are growing in the understory but are not established in the overstory. See Appendix F for a list of dominant vegetation within Cover Types II and III identified by the Yale School of Forestry and Environmental Studies.

A 1996 biological survey of Van Cortlandt Park reports that 177 species of vascular plants have been documented within Croton Woods, including 28 species of canopy vegetation, 12 mid-canopy species and 88 sub-canopy species.<sup>5</sup> Appendix F includes the list of plants that were observed within Croton Woods during the 1996 survey and could potentially occur in the vicinity of the Gate House No. 1 Site.

Croton Woods provides numerous valuable natural resource functions. The forest has been documented as providing habitat for many resident and migratory wildlife species, including 30 butterfly species, 1 amphibian species, 103 species of birds, and 7 species of mammals.<sup>6</sup> In addition, the forest is likely to provide habitat for additional wildlife species that have not been directly observed. Due to its large size and the continuity of uninterrupted forest canopy, Croton Woods provides habitat for many species of migratory birds and many species of birds that require a minimum area of interior habitat.<sup>7</sup> This type of habitat is extremely rare in the Bronx and in New York City in general.

Croton Woods also performs an important role in improving air quality and attenuating noise, which benefits both wildlife habitat and the human environment. Forest vegetation physically removes particulates in the air by providing a surface for sedimentation, and removes numerous gaseous air pollutants, including nitrogen dioxide, sulfur dioxide, and ozone.<sup>8</sup> The forest also aids in attenuating and filtering stormwater flows and protecting against erosion. An important recreation and open space function is provided by Croton Woods as well. Walking trails are

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<sup>2</sup> Kunstler, 1996.

<sup>3</sup> Beard, K. D. Halberg, S. Komabayashi, R. Payne, K. Saltonstall. 1996. Management Plan for the Croton Woods, Van Cortlandt Park, Bronx, New York – February 1996. Yale School of Forestry and Environmental Studies. Storror, CT.

<sup>4</sup> Beard, 1996.

<sup>5</sup> Kunstler, 1996.

<sup>6</sup> Kunstler, 1996.

<sup>7</sup> Beard, 1996.

<sup>8</sup> Wegner, K.A., editor. 1984. Forestry Handbook. 2<sup>nd</sup> Edition. New York: John Wiley & Sons. Section 16 – “Urban Forestry.”

present throughout Croton Woods, including the area around the perimeter of the Gate House No. 1 Site. The Croton Woods provides an uncommon opportunity in the City of New York for residents to enjoy a natural setting and appreciate nature.

***Infrastructure and Energy.*** Gate House No. 1 is located underground. This facility provides flow diversion and control functions for the NCA and the NCBA, which originates at Gate House No. 1. Flow diversion and control at Gate House No. 1 is achieved using manually operated sluice gates on the NCA and stop logs on the NCBA to direct flow into either or both of the aqueducts. Under current normal operations, the sluice gates on the NCA are kept closed and all water is diverted to the NCBA and sent to Jerome Park Reservoir. The NCBA is typically kept open whenever the Croton System is in service.

***Water Supply.*** Gate House No. 1 is not served by the public water supply system. Currently, no active personnel are located at the Gate House No. 1 Site; therefore, this facility does not consume potable water. The closest potable water connections are located in the two Mobile gasoline stations located to the east of the Gate House No. 1 Site, along the Major Deegan Expressway.

***Sanitary Sewage.*** Van Cortlandt Park, where the Gate House No.1 Site and the surrounding areas are located, is in the Wards Island Sewer District. Sewage flows from this district are treated at NYCDEP's Wards Island Water Pollution Control Plant (WPCP). The Gate House No. 1 Site is not served by a sewer system. Since there are no active personnel at the Gate House No. 1 Site, the facility does not generate sanitary sewage.

***Stormwater System.*** The Gate House No. 1 Site does not maintain any stormwater drainage system. In a storm event, runoff from the asphalt slab above the Gate House No.1 Site is discharged to the surrounding vegetation areas in Van Cortlandt Park.

***Energy Demand.*** The Consolidated Edison Company of New York (Con Edison) maintains overhead feeders along Forrest Avenue that extend to Van Cortlandt Park, feeding the Gate House No. 1 Site, to provide electricity to this facility. The annual amount of energy consumed by the Gate House No. 1 Site is minimal, comparable to an average household use.

***Gas Demand.*** No natural gas service is provided to the Gate House No. 1 Site.

***Electric And Magnetic Fields (EMF) / Extremely Low Frequency Fields (ELF) Analysis.*** A low current electric service supplies Gate House No. 1 via a buried cable. This would be upgraded with a new cable from a conduit that runs along the Major Deegan. This buried and shielded supply would have no impact on EMF/ELF and no further analysis is necessary.

***Solid Waste.*** No impacts related to solid waste handling or facilities are anticipated as part of this project. Potential impacts during construction are discussed in the Potential Construction Impacts section below.

***Public Health.*** The existing public health conditions at Gate House No. 1 concern the project-related potential risks that can potentially affect the people living and working in the study area. These people live in a low risk environment for public health concerns. One concern

could be the influence of West Nile Virus from the local mosquito population. Existing Federal, State and Local regulations protect this area and are responsible for preventing any new public health concerns from emerging.

#### ***8.1.5.2.2. Future Without the Project***

The Future Without the Project considers the future through the year 2015. The peak construction year for work related to pressurization of the NCA at Gate House No. 1 is 2013; the operation year is 2015. The pressurization of the NCA that is associated with construction of the water treatment plant at the Eastview Site (scheduled for 2011-2015) would constitute the worst-case scenario in terms of potential future impacts at Gate House No. 1.

***Gate House No. 1 Site.*** In the Future Without the Project, visual resources and urban design in the vicinity of Gate House No. 1 are not anticipated to change substantially. The facilities throughout Van Cortlandt Park would continue to be used for recreation by local residents and visitors. The existing below grade structure and above grade fencing would remain. The water flow would be diverted from the NCBA to the NCA but this would not be noticeable above grade.

Independent of the proposed project, the NYCDEP has plans to conduct general maintenance and repair on the 115-year old NCA and its access locations. Necessary repairs to cracks and leaks would be conducted following an inspection of the NCA. In addition, new security measures would be installed. These improvements would assist to protect the public utility and ensure its operation well into the future. This work would involve the removal of the existing access hatch and the repair of structures that are 40-50 feet deep. To facilitate this work an existing paved trail would be extended to the off-ramp of the nearby Major Deegan Expressway at a gasoline service station along the Park boundary.

The below grade structure and aqueducts (Old Croton and New Croton Aqueduct) are all eligible for listing on the National Register of Historic Places and attention would be made to ensure that new installation are consistent with the design patterns of the structures and special care is made to protect the historical structures.

***Study Area.*** In the Future Without the Project, there are numerous projects and proposals within the study area. Some of the projects are proposed and already under construction or are generally in the permitting phase with a targeted implementation schedule. These include projects of a relatively moderate size that typically occur throughout the City and are considered in other analyses of this Final SEIS as part of the overall background growth in the study area. These projects include amenities upgrades to Van Cortlandt Park to include signage and trail marker enhancements and Van Cortlandt Lake restoration and improvements to the Mosholu Golf Course.

Additional projects and proposals were identified within the study area and are noted below. These projects do not have specific action dates. Instead, they are activities proposed in comprehensive plans or other documents and are in need of funding, further development, or decisions. Some of these projects and proposals have the potential to affect the existing land uses. Multiple greenway projects are proposed that could be located within the study area. These include the Aqueduct University Greenway (proposed to run north and south through Van

Cortlandt Park) Putnam Railroad Greenway also proposed to run north and south through Van Cortlandt Park, and Woodlawn/Seton Falls Greenway proposed in the eastern section of Van Cortlandt Park. These proposed greenways have the potential to result in land use changes along the non-park portions of their routes. These changes would likely consist of potential conversion to Parks and Recreation), though these alterations would not be anticipated to occur along their entire routes. In addition, a cross-country trail is proposed within Van Cortlandt Park. No specific location for this trail has been identified and there is no implementation date for the project.

Traffic and Transportation. In the Future Without the Project, changes to the current conditions around the Gate House No. 1 Site are not anticipated. Therefore, the development of Future Without the Project base traffic volumes and analysis is not necessary.

#### Noise Analysis.

*Mobile Source Noise.* As discussed previously, there are no roadways connecting I-87 to the Gate House No. 1 Site. In the Future Without the Project, Van Cortlandt Park is anticipated to continue to consist primarily of parkland. Therefore, no future baseline traffic was anticipated for this site for the peak year of construction traffic (2013).

*Stationary Source Noise.* Future Without the Project noise levels at proximate receptor locations for the construction phase of the proposed NCA work was determined for the peak year of construction (2013). A review of future planned developments in the vicinity of the Gate House No. 1 Site for 2013 revealed no new stationary noise sources that would significantly increase the existing background noise levels at proximate receptor locations. Therefore, the Future Without the Project noise levels at Van Cortlandt Park are not anticipated to change from existing noise levels measured during the noise-monitoring program.

No changes in stationary sources were anticipated for the operation year (2015). Since the Future Without the Project conditions for the stationary source noise was anticipated to remain unchanged, no further analysis of the build year was included.

Air Quality. Since the number of project-generated traffic is small, a mobile source analysis was not conducted for the Gate House No. 1 Site. There are no regulated stationary sources at the Gate House No. 1 Site. Future air quality impacts from stationary sources without the project would be anticipated to remain unchanged from those presented in the existing conditions above.

Hazardous Materials. If the hazardous materials assessment indicates that contaminants are present at Gate House No. 1, these contaminants would be remediated as part of the NCA baseline rehabilitation work.

Natural Resources. Gate House No. 1 is proposed as a main access location for personnel, equipment and materials into the Aqueduct to perform the NCA baseline rehabilitation work. Access to the Gate House would be from a temporary 13-foot wide gravel track, approximately 250 feet long, leading from a gas station adjacent to the Major Deegan Expressway to the staging area surrounding the Gate House. Placement of a temporary pre-cast concrete culvert within a drainage ditch would be required for the access track. Two existing

clearings, one near the gate house and one along the Major Deegan Expressway, would be used for additional worker parking and staging. The staging areas would be covered with compacted, graded gravel and a geomembrane and would require the removal of two trees. In addition, seven trees would be removed from around the existing Gate House No. 1 structure. Eight other trees could be threatened by nearby construction because their driplines are within twenty feet of the proposed construction boundary. The total area, in addition to the Gate House No. 1 Site, that would be required for construction staging and access at this site would be approximately 0.5 acres (inclusive of temporary access tracks).

Although the Gate House No. 1 area would have been disturbed as part of this work, it would be restored upon completion of that project (2007) in coordination with NYCDPR.

#### **8.1.5.3. *Potential Impacts***

Under the proposed project the existing pressurized section would be increased to 143 psig while the remainder of the NCA (gravity flow portion) would be pressurized to 92 psig.

Under the proposed project, in low rock cover and cut-and-cover sections of the NCA a steel lining would be installed and in the high rock cover sections of the NCA reinforced concrete lining would be installed. The steel lined sections would be circular and backfilled with unreinforced concrete 12-inches thick. The concrete lined section would be circular and have reinforced concrete 12-inches thick. Contact grouting would be performed at the steel lining (with concrete reinforcement) and at concrete/brick and mortar lining interfaces, to seal any voids resulting from concrete shrinkage or temperature changes in the steel lining.

Access to the inside of the treated water portion of the NCA for pressurization work would be gained from NCA Shaft No. 9, NCA Shaft No. 14, NCA Shaft No. 18, Gate House No. 1 and NCA Shaft No. 21 in Jerome Park Reservoir. The latter two locations would also be the access points to the NCBA.

##### **8.1.5.3.1. *Potential Project Impacts***

The anticipated year of completion of the proposed pressurization work is 2015. Therefore, potential project impacts have been assessed by comparing the Future With the Project conditions against the Future Without the Project conditions for the year 2015.

In the anticipated year of completion (2015), Gate House No. 1 would continue to operate as described under the Future Without the Project. The land use occurring in the study area consists of parkland and completion of the proposed pressurization work would not result in an alteration of the existing land use. The access to the site and the clearing of trees immediately around the site conducted for the baseline rehabilitation work (see Future Without the Project) would be sufficient to provide access and staging for this proposed project without any new impacts to natural or water resources. The improvements made would not result in any permanent employment or other types of new activity on-site. Replanting the temporary access road needed during construction would return the area to resemble its existing conditions and the jogging path/park road would be reconstructed. No employees would be assigned to this location therefore, no services would be required and no additional infrastructure would be needed. There would be no impact on public health from the operation of Gate House No. 1 during

operations. With the end of the construction process no additional truck or vehicle trips to the Gate House No. 1 Site would be required nor would the upgraded facility generate air emissions or noise. If the Eastview Site is selected and the NCA is pressurized, the base of Gate House No. 1 where it joins the NCA would be sealed to contain water under pressure. This would result in a significant adverse impact to the historic resources of the NCA and the base of the Gate House No. 1 structure.

#### ***8.1.5.3.2. Potential Construction Impacts***

The anticipated year of peak construction of the proposed pressurization work is 2013. Therefore, potential construction impacts have been assessed by comparing the Future With the Project conditions against the Future Without the Project conditions for the year 2013.

***Land Use.*** During the proposed pressurization work, land use on the Gate House No. 1 site would change temporarily in terms of the overall level of activity occurring on-site. The construction activity would occur within the limits of an existing water supply facility and in conformance with the boundary dictated by the permanent Park alienation legislation to permit the use of the Mosholu Site for the Croton project.<sup>9</sup> The construction activities may temporarily affect the aesthetic quality and park-like setting for the recreational users of Van Cortlandt Park in the immediate construction area. There is a jogging path/park road that currently runs north-south between Gate House No. 1 and the Major Deegan Expressway and, despite the existing disturbed nature of this area due to its proximity to a major transportation corridor, the construction activities would be anticipated to add additional disturbance to persons using this path. The proposed construction access road to Gate House No. 1 would cross this jogging path/park road; an alternative pathway would be developed to accommodate users around the construction area.

***Socioeconomic Analysis.*** During the peak construction year approximately 56 construction workers and approximately 13 trucks would visit the Gate House No. 1 Site on any given weekday. The 56 construction workers would likely add money to the local economy through their visits to area businesses. The RIMS II multipliers<sup>10</sup> for the construction industry indicate that the sectors that would benefit most during construction are retail trade and business services. It is not possible to determine exactly where the workers may conduct business, but it is likely that they would visit gas stations, convenience stores, and restaurants. It is likely that some of the economic benefits from the construction activity would spill over to nearby communities. The costs of construction activities for the proposed rehabilitation of the Gate House site are included in overall costs for the proposed project. For the complete analysis of indirect effects, refer to the socioeconomic analysis for the Eastview Site, Section 5.7.

***Community Facilities.*** Local Emergency Services representatives would work with the City to establish a safety and emergency response plan that would adequately assess the construction activities and identify potential needs. In the event of an emergency, the

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<sup>9</sup> The 0.28 acre area around Gate House No. 1 and the access road would be alienated if the proposed project were located at the Mosholu Site (see Section 1.3.7, Introduction and Project History, Legislative Approval of Park Alienation, and Section 6.2, Land Use, Zoning, and Public Policy).

<sup>10</sup> RIMS II (Regional Input-Output Multiplier System) multipliers account for interindustry relationships within regions, and are useful tools for conducting regional economic impact analysis.

construction workers at the shaft site would activate the response plan. It is not anticipated that these needs would result in a significantly adverse impact to services provided in the study area.

***Historical and Archaeological Resources.*** As discussed in the existing conditions, the below grade structure and the aqueducts (NCA and NCBA) are eligible for listing on the National Register of Historic Places. The base of the Gate House where it joins the NCA would be sealed to contain pressurized water. This action would significantly adversely impact the historic character of the NCA and the base of the Gate House No. 1 structure. The Gate House structure and historic spillway above the NCA connection would be preserved and not adversely impacted. Due to the eligible listings, prior to construction, New York State Office of Parks, Recreation, and Historic Preservation in addition to the Secretary of the Interior's Standards for the Treatment of Historic Properties would be consulted to minimize impacts to the historic character of the structures. There would not be any work conducted that would affect archaeological resources; therefore, no adverse impacts to archaeological resources would occur as part of this proposed work.

The proposed construction activities could result in potential construction impacts at the Gate House No. 1 Site, therefore, detailed analyses that could result in potential impacts are presented below.

***Natural Resources.*** The Future Without the Project describes impacts to the trees immediately around Gate House No. 1 that would take place 2004-2007 as part of the Baseline Rehabilitation work. The proposed construction for the pressurization of the NCA (2011-2015) would consist primarily of using Gate House No. 1 for access and transport of materials to the Aqueduct. The proposed construction for the Croton project at the Mosholu Site (2009-2010) would involve reconstruction of the existing flow control devices below grade with new sluice gates. There would be a gap of two to four years, depending on the final project scenario, between the completion of the Baseline Rehabilitation work and the start of the work required for these proposed project scenarios. During this period prior to the start of the Croton water treatment plant work, the native understory would be replanted with herbaceous and woody vegetation. This would stabilize the site from damage from erosion and provide habitat value.

Both the Mosholu Site and the Eastview Site with the pressurization alternative would require new clearing. The area of clearing would be the same for both of these alternatives. The staging and access road constructed for the Baseline Rehabilitation would be utilized for access to the Gate House No. 1 for the new work with minor additional tree removal. The area immediately surrounding the Gate House No. 1 would require the clearing of an additional nine trees. This additional clearing could threaten 35 trees in the forest around the excavation due to the compaction of soil by heavy equipment, possibly cutting of roots, or the removal of overhanging limbs.

The loss of nine trees and the risk to established forest trees would not present a significant adverse impact to natural resources. The intermittent construction activity would be adjacent to the Major Deegan Expressway, so the wildlife in the area is already habituated to artificial noise and disturbance from the nearby highway. Because the forest provides habitat for nesting birds, if nests or roosts are encountered activity would cease until an NYCDEP wildlife biologist is notified and assesses the situation to determine if any of the birds are protected by the Migratory Bird Treaty Act or the Endangered Species Act.

***Traffic and Transportation.*** Traffic generated by the proposed pressurization work at Gate House No. 1 in relation to the southbound Major Deegan Expressway is not at high enough levels to create an adverse impact on the traffic network. Therefore, traffic analysis of the potential construction impacts was not performed. The construction traffic generated at this location is detailed below.

Transportation data and planning assumptions for the construction workers as well as the construction trucks during the 2013 peak construction period were presented previously in Section 4.9, Data Collection and Impact Methodologies, Traffic and Transportation. As described under existing conditions, there are no transit facilities in the vicinity the Gate House No. 1 site. For the purpose of traffic analysis, it was assumed that all construction workers would arrive in private vehicles. Table 8.1.5-5 shows the anticipated 2013 peak year construction resources based on preliminary engineering design for the pressurization work at the Gate House No. 1 Site.

**TABLE 8.1.5-5. CONSTRUCTION RESOURCE REQUIREMENTS**

<b>Construction Impacts</b>	<b>Gate House No. 1</b>
Peak Year	2013
Construction Hours	7:00AM to 6:00 PM
Construction Shifts	1
Construction workers on a peak day	56
Construction trucks on a peak day	13
Peak Time of arrival (workers)	6:00 AM to 7:00 AM
Peak Time of departure (workers)	6:00 PM to 7:00 PM
Period of arrivals and departures (trucks)	7:00 AM to 6:00 PM

The construction traffic generated at Gate House No. 1 would represent less than one percent of the through traffic during the AM and PM peak hours on the southbound Major Deegan Expressway. This low construction generated traffic volume would not create a significant traffic capacity impact.

The construction access from the southbound Major Deegan Expressway or from the existing service station would be constructed in accordance with NYCDOT and NYSDOT design guidelines. To provide a construction access that maintains the through traffic on the Major Deegan Expressway and also provides a safe means of ingress and egress from Gate House No. 1 would require review of the following during design and construction; location of the ingress/egress points, geometry and length of the acceleration/deceleration lanes, signage for this restricted construction access, and maintenance of traffic signage during construction of the access. The design and implementation of this access construction would be coordinated with the NYCDOT and NYSDOT.

**Parking.** Construction at Gate House No. 1 is anticipated to provide on-site parking facilities for construction vehicles and workers during project construction. Based on the transportation data and planning assumptions presented in Section 4.9, Data Collection and Impact Methodologies, Traffic and Transportation, this on-site parking facility would need to



accommodate 56 construction worker vehicles. Since the site facility would accommodate these parked vehicles, no significant parking impacts are anticipated to occur to the public and private parking facilities in the vicinity of Gate House No. 1.

### *Air Quality.*

Gate House No. 1 Site. The construction and rehabilitation work at Gate House No. 1 would result in emissions of air pollutants associated with exhaust from construction activity. The construction activities at the site would involve the use of one crane, one backhoe/loader and supply delivery trucks. In general, diesel-powered equipment and trucks are mainly a concern because of the potential particulate matter that they can emit. Also, a 200 hp electric-powered fan would provide ventilation for workers located below ground. Construction activities are also a potential source of fugitive dust emissions that may have a temporary effect on local air quality. Therefore, the rehabilitation work at Gate House No. 1 Site was examined for its potential to create a significant adverse impact from emissions of PM<sub>10</sub> and PM<sub>2.5</sub>.

### Particulate Analysis PM<sub>2.5</sub>.

*Mobile Sources.* Since there is no defined methodology determining the potential for significant PM<sub>2.5</sub> impacts from vehicle sources of emissions an interim method has been developed by NYCDEP's Office of Environmental Planning and Assessment (OEPA). OEPA determined a screening procedure could be used if there were less than 21 truck trips per hour, maximum annual PM<sub>2.5</sub> concentration would be less than 0.05 µg/m<sup>3</sup>. This is below the 0.1 µg/m<sup>3</sup> *de minimis* threshold value. Assuming no additional PM<sub>2.5</sub> impacts, no further mobile source PM<sub>2.5</sub> analysis would be required. Assuming no additional PM<sub>2.5</sub> impacts from any other sources, the total PM<sub>2.5</sub> impact would be below the 0.1 µg/m<sup>3</sup> *de minimis* threshold value, and insignificant.

Work at Gate House No. 1 would result in emissions of PM<sub>2.5</sub> associated with diesel exhaust. The locations of mobile source impacts and the locations of impacts from the below ground ventilation air would be different and would not overlap. Therefore, the construction at the Gate House site would not be anticipated to have any significant adverse impacts on the air quality.

### *Noise Analysis.*

Traffic generated by construction activities and the construction equipment tally was not anticipated to change over the course of the construction period. As a result, mobile and stationary source noise levels resulting from construction would not fluctuate substantially over the course of the construction phase. Construction activities would occur between 7:00 AM and 6:00 PM on weekdays. The work would take place from 2011 through 2015.

An electric fan would be placed at the Shaft access point and may operate continuously (24 hours a day, seven days a week) for the duration of construction activities. The fan would discharge through ventilation louvers that would be placed on top of the existing structure. Even though construction would not take place on weekends, analysis of construction impacts from stationary sources included both weekdays and weekends to account for possible continuous use of the fan.

The Gate House No. 1 site falls within the jurisdiction of the City. Applicable standards for the City parkland were applied to the area surrounding the site. Standards from CEQR that govern construction noise were used to evaluate any impacts for this site. According to CEQR, a project-generated increase of 5 dBA or more over the baseline noise level recorded at a sensitive receptor during the daytime is considered a significant impact if the existing noise level is less than 60 dBA. If the existing noise level is 62 dBA or more, a 3 dBA incremental change constitutes a significant impact. A 3 dBA incremental threshold applies during the nighttime. The City prohibits construction activity from 6:00 PM to 7:00 AM on weekdays and from 4:00 PM and 10:00 AM on weekends.<sup>11</sup> Construction on weekends is subject to certain conditions and restrictions. The proposed work, however, is anticipated to occur on weekdays between 7:00 AM and 6:00 PM.

Mobile Source Noise. Potential impacts from mobile sources during the construction phase were determined for Gate House No. 1. As discussed previously, a mobile source analysis was not performed at this site due to their being no noise-sensitive route segments connecting the Major Deegan Expressway to the site. As a result, it was concluded that mobile sources would not contribute to the total construction-related noise.

Stationary Source Noise. Potential noise impacts from construction activities were determined for the receptor proximate to the site. An algorithm (that considered equipment noise levels, usage factors, and distances from source to receptor) was used to calculate the average noise level for a typical hour during peak construction (see Section 4.10, Data Collection and Impact Methodologies, Noise). Noise levels for construction equipment were determined from industry and governmental publications. Usage factors accounted for intermittent utilization, and subsequent noise generation, of construction equipment throughout the course of a normal workday. The horizontal and vertical distances from construction equipment to the receptor being studied were measured in order to calculate the line-of-sight distance used in the algorithm.<sup>12</sup> The noise levels from construction activity then were added to the 2013 Future Without the Project noise level to arrive at a future construction noise level. Table 8.1.5-6 presents construction equipment, and associated noise levels and usage factors.<sup>13</sup> Equipment noise levels (at their associated reference distances) and the usage factors are standard values established through noise studies. The usage factors are not anticipated to change because the scope of work would not change significantly over the construction duration.

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<sup>11</sup> City of New York. October 2001. CEQR Technical Manual.

<sup>12</sup> City of New York. October 2001. CEQR Technical Manual.

<sup>13</sup> City of New York. October 2001. CEQR Technical Manual

**TABLE 8.1.5-6. NOISE LEVELS AND USAGE FACTORS FOR EQUIPMENT USED  
AT GATE HOUSE NO. 1  
(Leq, dBA)**

<b>Equipment</b>	<b>Equipment Noise Level</b>	<b>Reference Distance (feet)</b>	<b>Usage Factor</b>
Ventilation Fans	59	5	1.0
20-Ton Crane	83	50	0.08
Concrete Pump	82	50	0.4
Trucks	88	50	0.16

**Source:** Bolt, Beranek, and Newman, Inc. December 1971. Noise from Construction Equipment and Operations, Buildings Equipment and Home Appliances.

Table 8.1.5-7 compares noise levels for weekday construction hours for the Future Without the Project (year 2013) to noise levels for year 2013 including contributions from project construction activities.

*Van Cortlandt Park (GH1-S1).* Noise levels predicted to occur as a result of the proposed construction at Van Cortlandt Park would exceed the 3-5 dBA threshold used to define significance. The largest incremental change at this receptor (which surrounds the gate house) over the Future Without the Project level would be 15.5 dBA. This noise level increase would constitute an adverse impact.

An analysis was performed to determine the total distance beyond the limits of the Gate House No. 1 enclosure (and further into the Park) that noise levels exceeding the 3-5 dBA threshold would extend. This was performed to determine the maximum distance into the Park that the noise levels would extend. Noise levels that exceed the 3-5 dBA threshold would extend to a maximum distance of approximately 460 feet into the Park. It was assumed that noise would propagate out in each direction from the construction zone. As such, the construction noise levels would be a temporary adverse impact on the anticipated limited number of Park users in this remote area of the Park.

***Combined Mobile and Stationary Source Noise.*** The dominant source of noise in the Park is from the nearby Major Deegan Expressway. As previously discussed, construction traffic would not add to the traffic noise generated by the Expressway. As such, the park would not be exposed to the combined effect of both mobile and stationary sources of construction noise. Receptors at this site already would have noise level increases due to contributions from stationary source noise (construction equipment) in excess of the CEQR impact threshold used to determine significance.

Between the Draft and Final SEIS, NYCDEP has further evaluated the findings of the noise analysis and Gate House No. 1 site conditions discussed above. The predicted noise levels would impact a limited number of Park users due to the remote nature of the site during the four-year construction period. In addition, during the construction period, noise generated from the site would be relatively intermittent and is not anticipated to render the entire Park area affected by noise unfit for recreation use. Due to the remote location of the Gate House No. 1 Site, its existing disturbed nature and noisy character, the limited number of Park users expected to be in the vicinity of the site and the relatively intermittent nature of the construction noise, it was determined that the noise impacts at this site would not be significantly adverse and therefore,

that no mitigation is necessary. Adverse impacts from construction related noise would remain unmitigated at this site

Table 8.1.5-8 compares noise levels for Sundays and weekdays during quietest non-working hours for the Future Without the Project (year 2013) to noise levels for year 2013, including contributions from project construction activities. Noise from activities on Sundays and weekday non-construction hours only includes noise emissions due to operation of the ventilation fan. For weekends and weekdays during non-working hours, the monitoring location did not show a noise level increase that would exceed the 3-5 dBA threshold.

**TABLE 8.1.5-7. NOISE LEVELS FROM CONSTRUCTION ACTIVITIES AT RECEPTOR NEAR GATE HOUSE NO. 1  
WEEKDAYS CONSTRUCTION HOURS (Leq, dBA)**

<b>Proximate Receptor</b>	<b>Monitoring Period</b>	<b>Future Without Project Noise Level (2013)</b>	<b>Predicted Construction Noise Level</b>	<b>Total Noise Level During Construction<sup>1</sup> (2013)</b>	<b>Incremental Change</b>	<b>Exceed Threshold (Yes/No)</b>
GH1-S1	Quietest (1-2 pm)	60.5	75.9	76.0	15.5	Yes
	Noisiest (7-8 am)	62.6	75.9	76.1	13.5	Yes

Total Noise Level = logarithmic addition of Future Without Project and Predicted Construction Noise Level

**TABLE 8.1.5-8. NOISE LEVELS FROM CONSTRUCTION ACTIVITIES AT RECEPTOR NEAR GATE HOUSE NO. 1  
SUNDAYS AND WEEKDAY NON-WORKING HOURS (Leq, dBA)**

<b>Proximate Receptor</b>	<b>Monitoring Period</b>	<b>Future Without Project Noise Level (2013)</b>	<b>Predicted Construction Noise Level</b>	<b>Total Noise Level During Construction<sup>1</sup> (2013)</b>	<b>Incremental Change</b>	<b>Exceed Threshold (Yes/No)</b>
GH1-S1	Sunday Quietest (7-8 am)	56.3	30.7	56.3	0	No
	Sunday Noisiest (1-2 pm)	59.7	30.7	59.7	0	No
	Weekday Non-work (7-8 pm)	59.9	30.7	59.9	0	No

Total Noise Level = logarithmic addition of Future Without Project and Predicted Construction Noise Level

### ***Hazardous Materials.***

The environmental assessment confirmed that hazardous materials have not impacted the soil and groundwater in the vicinity of Gate House No. 1. Therefore, there is minimal potential that environmental contaminants would adversely impact the proposed construction activities at this site. This finding is not unexpected since Gate House No. 1 was constructed in the Park and therefore is not adjacent to highly developed areas and potential sources of environmental contamination.

Several metals (zinc, iron, manganese) were found in the soil and groundwater, which exhibited concentrations above typical site background levels for the eastern United States. Although anthropogenic sources, such as the atmospheric fallout of lead from the former use of leaded fuels, may have had a limited contribution, the metals detected in the soil and groundwater are likely to be due to natural conditions.

For solid materials that would not be reused on-site, testing would be required to determine appropriate off-site disposal options. In addition, testing may also be required for reuse of solid materials on-site either to confirm that contaminants are not present or to demonstrate that selected management techniques are suitable for the contaminant concentration levels present. The testing data for either the on-site or off-site management of contaminated materials would be specifically generated for each lot of material requiring disposition.

The off-site disposal of solid wastes generated as a result of the proposed action would depend on the nature of the construction activity (e.g., quantity of material to be excavated) and the bulk chemical characteristics of the waste materials to be managed. Wastes containing contaminants at concentration levels above applicable action levels, regulatory thresholds, or risk-based limits would require specialized disposal.

Based on testing data, the soil and groundwater in the vicinity of Gate House No. 1 does not contain any contaminants of concern that would require specialized management if encountered during construction activities. Nonetheless, realizing that concentrations of several metals may exceed regulatory guidance values, the CCMP would include provisions to manage contaminated soil and groundwater if it is found.

Hazardous Materials Used During Construction. During the construction activities at Gate House No. 1, the Contractor may introduce a variety of hazardous materials to the site to support the construction activity. The specific types and quantities of hazardous materials stored and used on the construction site would depend on the nature and extent of activities being performed. In general, various petroleum-related materials would be used to support the operation of vehicles and heavy equipment (e.g., diesel fuel, gasoline, lubricants, glycol) as well as hazardous materials used in the construction process itself (e.g., concrete release agents, adhesives, paints and coatings). Each contractor would provide Material Safety Data Sheets (MSDS) for the construction-related hazardous materials that they would introduce to the site.

No impacts are anticipated from hazardous materials within Gate House No. 1. These materials, if they were found within the structure, would have been remediated as part of the NCA baseline rehabilitation work.

### ***Natural Resources.***

Nine trees would be cut and 35 trees would be threatened because of their proximity to the proposed construction as a consequence of this proposed project. The site is only about 250 feet from the Major Deegan Expressway, so the noise from the construction would be largely masked by the busy nearby highway. Any wildlife currently in the area would be habituated to road noise and human activity and would not be significantly adversely impacted by the proposed construction. After the temporary construction period conditions would return to the existing conditions. No additional detailed impact analysis for natural resources is required at this site.

### ***Infrastructure and Energy.***

The introduction of 56 construction workers would require the availability of utilities to service the workers and the construction-related activities.

Water Supply. During construction, the contractor would be responsible for providing an independent source of water for drinking and construction uses. The contractor would likely select a method of supplying water from alternate sources to best suit its method of working; therefore, no significant impact would occur to the local water supply system.

Sanitary Sewage. Throughout the construction period, portable rest rooms would be made available for the construction personnel. The sanitary sewage would be collected and properly disposed of through a contract with a private hauler. No connection or discharge to the existing sanitary sewer system would be made. Therefore, no significant impact is anticipated on the existing sewage system in the study area.

Stormwater System. Construction staging would be limited to within the construction fencing. A row of hay bales would be installed inside the construction fence to collect the minimal dust and soil anticipated from the equipment wash-water. A temporary access road would be constructed from the Major Deegan Expressway to Gate House No. 1 in the initial stage of construction. This temporary access road would cause the removal of trees and be surfaced with asphalt during construction; stormwater drainage ditches would be provided on either side of the road. The ditches would be constructed to enhance natural infiltration and imitate the characteristics of the current ground condition. Therefore, no significant impact is anticipated on the existing stormwater drainage system in the study area.

Energy Demand. The proposed pressurization work would involve installation of some minor ventilation equipment and placement of an office trailer on-site. The ventilation equipment and the office trailer are anticipated to require a 1,000 to 1,500-kVA service that would be hard wired directly to the existing Con Edison grid, and would operate independently of the existing electrical system. The existing electrical system; therefore, would not be altered

from the Future Without the Project. Con Edison would be responsible for supplying this temporary power independently of the existing system; therefore, no significant adverse impact is anticipated on the existing electric utilities in the study area.

Gas Demand. Natural gas would not be utilized during construction. No connection to the existing gas main would be made; therefore, no significant adverse impact is anticipated on the existing gas utilities in the study area.

### ***Solid Waste.***

Construction activities would generate worker generated solid waste and miscellaneous construction debris. All worker-generated and miscellaneous construction debris would be removed from the site by a private hauler, and handled by the NYCDOS.

During the proposed pressurization work the estimated manpower would be 56 individuals, whom would each generate 13 lbs/week of solid waste. This would make the total employee generated solid waste during construction 728 lbs/week of solid waste. Excavation at Gate House No. 1 would create approximately 1,500 cubic yards of earth and rock solid waste. Additional miscellaneous solid waste would be generated as a byproduct of construction. This material would be highly variable in nature; it would include concrete forms, packaging, scraps of pipe, ductwork, sheetrock, and electrical materials. This amount of waste would be added to the worker-generated waste described above. The Future Without the Project considerations do not anticipate future solid waste generation at the Gate House No. 1 Site. However, the quantity of solid waste generated during construction would be negligible compared to the amount handled by the City solid waste disposal system, and would be easily handled by the existing NYC Department of Sanitation. It is anticipated that the solid waste produced by construction workers would not result in a significant adverse impact on local or regional solid waste.

### ***Public Health.***

The presence of a crane and concrete pump, as well as a few delivery trucks, would not constitute a public health risk from air emissions or traffic. Therefore, there is no potential for significant adverse impacts from the proposed construction activity at Gate House No. 1.

### ***Permits and Approvals.***

The following table lists the discretionary approvals that would be required for the proposed project at the Gate House No. 1 Site.



**TABLE 8.1.5-9. POSSIBLE APPROVALS AND PERMITS REQUIRED FOR GATE  
HOUSE NO. 1**

<b>DEPARTMENT</b>	<b>PERMIT TITLE</b>
<b>New York State</b>	
Department of Health	<ul style="list-style-type: none"> <li>State Environmental Review Certification for New York Revolving Fund Program (Public Health Law, Sections 1161 and 1162; 21 NYCRR Part 2604)</li> </ul>
NYSOPRHP	<ul style="list-style-type: none"> <li>State Historic Preservation Office Approval</li> </ul>

New York City Approvals. Permits and approvals required for the construction and operation of the Croton project within New York City include permits from the New York City Department of Parks and Recreation for work in Van Cortlandt Park.

The City would secure all applicable approvals necessary. All permits and approvals considered being potentially required and the rationale for them would be made public.