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**CULTURAL RESOURCE  
ASSESSMENT  
PROPOSED CROTON WATER  
TREATMENT PLANT  
MOSHOLU SITE,  
VAN CORTLANDT PARK  
BRONX COUNTY  
NEW YORK**

**SEQR. NO. 98PRO056  
CEQR NO. 98DEP027**

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Cultural Resource Assessment  
Croton Water Treatment Plant  
Mosholu Golf Course  
Van Cortlandt Park  
Bronx County  
New York

SEQR No. 98PRO056  
CEQR No. 98DEP027

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## EXECUTIVE SUMMARY

The New York State Department of Health and the United States Environmental Protection Agency have mandated the filtration of the Croton Water Supply to comply with the standards set in state sanitary codes and the Federal Surface Water Treatment Rule. Therefore, the New York City Department of Environmental Protection Bureau of Water Supply (NYCDEP), proposes to design and construct a new Water Treatment Plant (WTP) at one of eight locations. One of these locations is situated east of the New Croton Aqueduct (1884-1890) at the Mosholu Golf Center and Driving Range at Van Cortlandt Park. These proposed actions have necessitated the completion of an Environmental Impact Statement (EIS), and a series of affiliated Cultural Resource Assessments to ascertain whether or not potentially significant cultural resources exist within each of the project sites.

The proposed project includes the design, construction, and operation of a Water Treatment Plant (WTP), Treated Water Reservoir (TWR), and a Raw Water Pumping Station (RWPS) beneath the golf course. Raw water would be conveyed to the plant from the New Croton Aqueduct (NCA) through a new pipeline. The TWR would fit beneath the WTP and would not increase the footprint from that required for the WTP. A portion of the finished water would flow by gravity back to the NCA in a pipeline adjacent to the raw water pipeline. The remainder of the finished water, depending on demand, would be pumped through two new pipelines in a new deep tunnel to the High and Intermediate Level Pipes near Gate House No. 5 on Goulden Avenue. The roof would be below existing grade on the west side of the facility and rise to about 15 feet above the existing grade at the east end. The roof would be grassed over and the driving range and golf course would be restored after construction. The club house would also be rebuilt.

The land that now comprises Van Cortlandt Park was acquired by New York City as parkland in 1888. Although it is historically important, no formal process has been undertaken to definitively determine its eligibility for landmarking.

The Mosholu Golf Course, of note in the historical development of municipal golf courses, was created in 1914. Although the proposed project would result in a temporary visual alteration of the historic golf course, it is not considered to have a significant adverse impact on historic resources since the driving range and golf course would be rebuilt, the club house would also be rebuilt.

The Mosholu Golf Course Club House, although probably not eligible for listing on the National Register as an individual structure, is of historical note. The structure is reminiscent, on a small scale, of the grand club houses erected at private suburban golf courses. The building is a brick Colonial Revival structure. The most notable features of the building are the entrance portico and the gables. The total loss of this existing feature is considered a potential significant loss. In order to mitigate this impact, a black and white photographic

record of the exterior elevations would be made and copies repositied with the Municipal Archives. A design for a new club house would be sensitive to the historic nature of the existing facility.

The proposed Water Treatment Plant would be visually and physically separated from any historic and/or landmarked structures within the park or the surrounding area (e.g., Van Cortlandt Mansion, Vault Hill, Woodlawn Cemetery). Therefore no significant impacts to existing historic structure are expected. Construction would entail connections with the buried New Croton Aqueduct, a National Register eligible structure. The Aqueduct is still in active use and rehabilitation of a portion of it would be necessary. This impact to the Aqueduct is not considered significant and no mitigation is proposed.

The potential loss of archaeological resources at the Mosholu Golf Center and Driving Range is not considered significant, because the creation and current usage of the golf course, a continuously evolving recreational landscape, has precluded the possibility of intact below-ground archaeological resources.



## TABLE OF CONTENTS

INTRODUCTION	1
METHODOLOGY	2
ENVIRONMENTAL SETTING	4
HISTORICAL CONTEXT	5
EXISTING CONDITIONS	15
FUTURE WITHOUT THE PROJECT	17
POTENTIAL IMPACTS	18
CONCLUSIONS AND MITIGATION	19

### BIBLIOGRAPHY

### FIGURES

### APPENDIX

Communication with the New York State Museum Division of Research and Collections and the New York State Office of Parks Recreation and Historic Preservation.

## FIGURES

1. U.S.G.S. Project Location
2. Proposed Water Treatment Plant Site
3. Grumet's *Native American Place Names in the Bronx*
4. 1868 Beers *Atlas of New York and Vicinity*
5. 1874 Viele *Topographical Atlas of the City of New York*

## INTRODUCTION

The New York State Department of Health and the United States Environmental Protection Agency have mandated the filtration of the Croton Water Supply to comply with the standards set in state sanitary codes and the Federal Surface Water Treatment Rule. Therefore, the New York City Department of Environmental Protection Bureau of Water Supply (NYCDEP), proposes to design and construct a new Water Treatment Plant (WTP) at one of eight locations. One of these locations is situated at the Mosholu Golf Center and Driving Range at Van Cortlandt Park (Figure 1). These proposed actions have necessitated the completion of an Environmental Impact Statement (EIS), and a series of affiliated Cultural Resource Assessments to ascertain whether or not potentially significant cultural resources exist within each of the project sites.

The parcel, situated east of the New Croton Aqueduct (1885-1891) and the Mosholu Parkway, is currently comprised of golf greens, partially wooded areas, and the Mosholu Golf Course Club House (Figure 1). To the north is the Shandler Recreation Area and to the east is Jerome Avenue.

The proposed project includes the design, construction, and operation of a Water Treatment Plant (WTP), Treated Water Reservoir (TWR), and a Raw Water Pumping Station (RWPS) beneath the golf course (Figure 2). Raw water would be conveyed to the plant from the New Croton Aqueduct (NCA) through a new pipeline. The TWR would fit beneath the WTP and would not increase the footprint from that required for the WTP. The plant would be sufficiently high enough so that the TWR can fit beneath the WTP without an increase in footprint size. The roof would be about 15' above the grade at the east end and nearly at existing grade at the west end. The roof would be grassed over and the driving range would be restored. The club house would also be rebuilt.

A portion of the finished water would flow by gravity back to the NCA in a pipeline adjacent to the raw water pipeline. The remainder of the finished water, depending on demand, would be pumped through two new pipelines in a new deep tunnel to the High and Intermediate Level Pipes near Gate House No. 5 on Goulden Avenue. The roof would be below existing grade on the west side of the facility and rise to about 15 feet above the existing grade at the east end. The roof would be grassed over and the driving range and golf course would be restored after construction. The club house would also be rebuilt.

Because of the mandated environmental review process, a cultural resources study has been conducted. The purpose of this study is to identify the significant archaeological and historic resources in or around the immediate vicinity of the proposed water treatment facility and to address any potential impacts caused by the proposed installation and associated infrastructure connections. If significant adverse impacts are identified, the study is to also delineate appropriate mitigation measures.



## METHODOLOGY

Background research for the proposed WTP site was designed to provide a framework for assessing potential cultural resources, and to address two major questions. What is the specific level of potential for prehistoric and historical archaeological resources of significance to exist in the project site; and, what is the likelihood that such resources have survived historical subsurface disturbances. Sufficient information was gathered to compare, both horizontally and vertically, the prehistoric past, the historical past, and the subsurface disturbance record. This also served to establish twentieth century construction episodes to aid in the assessment of architectural remains. In order to address potential sensitivity research included a review of primary and secondary sources, cartographic analysis, site files review, informant interviews, and field visits. Each of these tasks is discussed below

### Review of Primary and Secondary Sources

Many local and regional histories were examined for relevant data to help place the site within a historical context. These include works such as Stephen Jenkins' *The Story of the Bronx*, Robert Bolton's *The History of the Several Towns, Manors, and Patents of the County of Westchester*, J. Thomas Scharf's *History of Westchester County, New York, Including Morrisania, Kings Bridge, and West Farms*, and Shonnard and Spooner's *History of Westchester County*, as well as more recent works such as John McNamara's *History in Asphalt*. For the prehistoric period, archaeological literature, such as William Ritchie's *The Archaeology of New York State* provided an overview of the lifeways of the Native inhabitants of New York. In addition, Robert Steven Grumet's *Native American Place Names in New York City*, and Reginald Bolton's *Indian Life of Long Ago in the City of New York* furnished valuable information on Native American settlements.

### Cartographic Analysis

In order to determine the original topography and compile a disturbance record for the Mosholu WTP site, cartographic resources were examined. Information collected included data on the site's possible land-use over time and building history. Historical maps were examined at the Map Division of the New York Public Library and the Westchester County Historical Society.

### Site Files Review

Historic resources within the study area that are either listed, or eligible for listing, on the National Register of Historic Places were also researched. All available site reports and journal publications relating to archaeological sites were researched for data specific to Van Cortlandt Park and the northern section of the Bronx. Finally, the data files at the New York

State Museum (NYSM) and the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) were examined for information regarding recorded sites in and around the project area.

### Field Visit

A field visit was also conducted during which the current conditions were recorded and site photographs were taken.

## ENVIRONMENTAL SETTING

Three known glacial periods were responsible for the creation of the present topography of the New York City area over the last one million years. Hills or moraines running north-south through the Bronx were formed by the buildup of glacial debris and the irregular erosion of the surrounding valleys and hills were a direct result of the retreating continental glaciers. Geologically, the borough of the Bronx lies within the Hudson Valley Region and is considered to be part of the New England Upland Physiographic Province, which is a northern extension of the Great Appalachian Valley (Schubert 1968: 10, 74). The substratum is made up of "gneiss and mica schist with heavy, intercalated beds of coarse-grained, dolomitic marble and thinner layers of serpentine" identical to what underlies Manhattan Island (Scharf 1886:6-7).

Water from the melted ice floes was directed along the moraines in the area forming many rivers and creeks, including the nearby Tibbetts Brook, which flows just west of the project site (Figure 1). These watercourses have further eroded limestone belts still exposed between the glacial deposits, creating a varied landscape of hills and valleys. In low-lying areas, lakes and ponds were formed and in the locations with poor drainage, swamps and marshy areas covered the landscape.

Nineteenth and early twentieth-century topographic maps depict the project area as open farmland and woodland with Tibbetts Brook located to the west. The present topography of the project site is partially the result of the alteration and shaping of the land in order to create the golf course greens. At the southern end of the park there were two locations where low-lying dips collect water during times of intense rain saturation. A recent U.S.G.S. topographical map shows the project area as a park and recreation setting on a slight east west slope with elevations between 180 and 190 feet above sea level (Figure 1).



## **HISTORICAL CONTEXT**

In order to fully understand the use of the project site through time it is necessary to develop a historical context for the Mosholu Golf Center and Driving Range site specifically. As defined by the National Park Service, "historic contexts provide a framework for the identification, evaluation, designation, and treatment of cultural resources associated with particular themes, areas, and time periods. Historic context-based planning permits recognition of individual properties as parts of larger systems. Historic contexts also help managers and others evaluate properties within their proper levels of significance. As such, they provide both a systematized basis for comparison and a comprehensive frame of reference. In so doing, historic contexts provide cultural resource managers with a guide for rational decision-making" (Grumet 1990:18). The following discussions establish a contextual framework for both the prehistoric and historic eras pertinent to the project site.

### **PREHISTORIC BACKGROUND**

#### **Prehistoric Cultural Chronology**

Much of the knowledge and understanding of Native Americans in the Hudson Valley area is derived from three sources: ethnographic reports, Native American artifact collections, and archaeological investigations. Archaeologists have devised a cultural chronology for the North American prehistory in which the Prehistoric era is divided into four main periods, the Paleo-Indian (c. 12,000-10,000 years ago), Archaic (c. 10,000-2,700 years ago), Woodland (c. 2,700-500 years ago), and Contact (500-300 years ago). Settlement types, subsistence, cultural systems and characteristic artifacts changed during each of these stages. In order to present a comprehensive overview of the prehistoric era and to fully evaluate the potential of recovering prehistoric cultural remains, each period will be reviewed with regard to 1) the environment during the time period, 2) the characteristics illustrative of the phase, and 3) any recovered archaeological sites within the region. This examination was completed in order to assess the potential that indigenous groups would have had for exploiting the project locale in general as well as the actual project site.

Prehistoric sites are characterized by their proximity to a water source, fresh game, and exploitable natural resources (i.e., plants, raw materials for stone tools, clay veins, etc.). These sites are often divided into three types, primary (campsites or villages), secondary (food processing, tool manufacturing), and isolated finds (a single recovery of artifacts either lost or discarded). The examination of primary habitation sites indicates that they are often situated in locales that are surrounded by a number of exploitable resources. In addition, these sites are located in areas easily defended against both nature (weather) and enemies. Secondary sites are often found at the location of an exploitable resource (e.g., lithic quarry site).

## Paleo-Indian Period

The earliest period of human occupation, the Paleo-Indian Period, is characterized by the presence of small bands of large- game hunters scattered over large areas of territory. Following the big-game animals that made up the major portion of their diet (e.g., mastodon, bison, caribou), these nomadic hunters moved seasonally across the landscape. Originally, these bands crossed the narrow land bridge from the Old World to the New, and although the population was small in number, they eventually spread over the wide expanse of territory now known as North America.

During the early Paleo-Indian Period the northeastern area of North America was evolving into a more favorable deciduous forest environment. Paleo-Indian sites have been recovered in well- elevated fertile areas situated close to a water source, which is typical of most prehistoric sites in all subsequent phases. The remains of big-game animals have been recorded in large numbers on the west side of the river in Orange County (Ritchie 1994: 10-11). While this verifies that the locale surrounding the project area may have provided a food source for the Paleo-Indian hunters, no "kill sites" have been recovered. The fact that these sites have not been found may be the result of the flooding of coastal sites as the glaciers continued their retreat, or may be due to the estimated small site size during the early Paleo-Indian period.

With the exception of stone tools, artifactual material from this early period, has not survived well in the archaeological record. Extensive research indicates that the diagnostic artifact of the nomadic Paleo-Indian hunters was the fluted point. By the late Paleo-Indian Period, however, small leaf shaped or bifacial knives, scrapers, and borers had become part of the hunter's tool kit. As the climate became warmer, the environment in the Northeast became more advantageous to prehistoric peoples. In addition, small game animals more suited to the temperate environment replaced the larger fauna that were rapidly becoming extinct.

Following the final retreat of glacial ice, the area now known as the Bronx flourished with plants suited to arctic and tundra conditions. Eventually, the locale became a forest composed of deciduous trees and conifers. The fluctuating floral and faunal communities eventually stabilized over the last 12,000 years, resulting in an environment often characterized as a climax forest, comprised of oak, hemlock, beech and chestnut trees.

While no Paleo-Indian sites have been recovered in this section of the Bronx, there are reports of sporadic finds of fluted points in the Croton Point area to the north in Westchester County (Crichton 1986). A number of archaeological investigations in Westchester County during the mid-1980s noted a distinct level of Paleo-Indian occupation (Crichton 1986). To the south, a small campsite (Port Mobil), was recovered in Staten Island (Ritchie 1994: 1, 3, 7).

## Archaic Period

Data regarding the Archaic period indicates that the quantity of recorded archaeological sites is much larger than those dating to the Paleo-Indian Period, thus suggesting a significant increase in the population of native peoples. The Archaic period is also characterized by an overall shift in the environment, an expansion of the lithic tool kit, and the exploitation of defined territorial boundaries.

By the Early Archaic the environment in the Northeast had developed into a deciduous woodland forest. A gradual warming trend allowed new resources to establish themselves in the river valley. The Archaic peoples subsistence was "based on hunting, fishing and gathering of wild vegetables" (Ritchie 1994:31). They hunted smaller game animals (deer, rabbit, beaver, and wild turkey) and gathered a variety of wild plants, as well as exploited the marine environment (fish and shellfish gathering). Artifacts attesting to the expanded subsistence economy include fishing implements, and the mortar and pestle.

During the Period, the expanding exploitable resource base may have initiated the significant increase in population. The Archaic hunters also began exploiting a well-defined territory, often reoccupying favored sites. Because of the repeated occupation of these Archaic sites as well as the seasonal rounds made within specific territories, archaeologists have been able to recognize several identifiable cultural traditions in New York State (Ritchie 1994). The change in the number of sites recovered also indicates that Archaic peoples had a greater impact upon the landscape. Typical with all prehistoric sites, river valleys and coastal areas were the preferred locale for primary camp sites. This environment supported the game, plants, and marine resources desired by Archaic peoples.

Additions to the tool kit of the Archaic hunter include the narrow bladed projectile point, grooved axe, and beveled adz. Archaeologist Robert Funk has suggested that the Laurentian, Susquehanna, and small stemmed cultural traditions persisted in the Hudson River Valley during the Archaic period (Funk 1976: 250). In his reassessment of the distribution of Late Archaic (or Transitional Archaic 4,000-3,000 years B.P.) projectile points, Snow alternatively suggests that the Susquehanna tradition, represented by the Snook Hill, Perkiomen and Susquehanna Broad points, was dominant in the first half of the period and the Orient Complex in the latter (Snow 1980: 237). In the Hudson River Valley, where a number of Archaic sites have been investigated, Orient Points have been radiocarbon-dated to approximately 4,000 to 2,800 years B. P. To date, however, the exact sequence of cultural traditions and representative complexes for the Archaic period is still undefined and a constant source of debate.

The Native American population had increased significantly in the Hudson River Valley region by the Late Archaic period. The variety of recovered sites from this period include rockshelters, open woodland camps, and secondary processing locations overlooking the

various water sources. In a section of the Bronx's Riverdale Park, excavations were conducted on a series of prehistoric sites (DeCarlo 1990: 5). Archaeologists recovered a Late Archaic assemblage of oyster shells, fire cracked rocks, scrapers, bifaces, lithic debitage and diagnostic projectile points suggesting that this location may have been used for hunting and shellfish procurement from the Hudson River (Lenik 1992: 24).

### Woodland Period

The Woodland Period is characterized by the introduction of pottery and horticulture, the appearance of large semi- permanent or permanent villages, and the establishment of clearly defined trade networks which marked the transition to a more settled culture. As with the earlier prehistoric periods, archaeological evidence suggests a marked preference for large-scale primary habitation sites within the vicinity of a fresh water source (e.g., rivers, lakes, streams, and ponds). In the majority of cases, secondary sites, where specific activities occurred (e.g., shellfish collecting and/or processing, butchering, and stone tool-making), were situated near the location of the exploited resource.

The first appearance of pottery was during the Early Woodland in New York State (c. 1000 B.C.) when crude, undecorated pottery, called Vinette 1, was first produced. This type of pottery has been recovered from sites on major waterways and tributaries. As the Woodland period progressed, regional variations in ceramic styles became common. Other innovations during the Woodland period reflect different cultural styles that archaeologists have been able to identify with specific native groups. A few of these include the introduction of the bow and arrow, pipe-smoking, and mortuary ceremonialism.

During the Woodland Period, fish and shellfish continued to provide a stable and reliable resource. In the smaller tributary rivers fish weirs were used for the recovery of large quantities of anadromous fish (Brumbach 1986:35). The introduction of horticulture in the New York area also signaled the advent of larger and more permanent settlements. Large tracts of land were cleared in locations nearby the primary settlements. Some of the native villages settled during this period were fortified and situated on "high ground." By the Late Woodland Period, Native paths were established connecting permanent villages, creating a trail to exploitable resources, and providing a link for the distribution of trade goods.

### Contact Period

Documentary and archaeological sources have provided much of what is known about the Contact Period. Archaeologists and historians have carefully examined historic documents in order to understand the native cultures that were living along the Hudson River when Europeans first arrived. Legal documents and ethnohistorical accounts have provided valuable details about the past lifeways of native peoples. Because information about the settlements, appearance, and behavior of ancient peoples cannot be reconstructed from the

recovery of a few artifacts, these additional resources have provided the means by which archaeologists can assemble more complete data about past cultures.

When the first Europeans arrived it was noted that Native American groups living along the shores of the Hudson River had developed complex group dynamics. The first contact between Europeans and Native Americans occurred when Henry Hudson docked his vessel near the present day Yonkers, just north of the project site in Westchester County. Initial trade between the two cultures began along the Hudson River before moving inland. Furs and wampum were used as a medium of exchange for European goods. . In 1625, Johannes de Laet, one of the early travelers to the area wrote that the natives he encountered were "divided into many nations and languages" (Bolton 1972: 16). Descriptions like this were often repeated by many describe many of the diverse groups encountered. While initial contact was primarily peaceful, large scale conflicts erupted following the arrival of Governor Willem Kieft in 1638. Kieft was notorious for his harsh policies against the local tribes. By the mid- to late seventeenth century, many of these peoples were subsequently decimated by local hostilities and European-introduced diseases.

Historic documents indicate that when the first Europeans arrived there was a large number of native peoples occupying the locale along the Hudson River in the northwest Bronx. Early historical records (deeds, treaties, and maps) identify the indigenous people that inhabited this section of New York City. One early document, the Hendricks Map of 1616, depicted a group called the Wikagyl, subsequently identified as the Wiechquaesgeek, as the inhabitants of the northern Bronx and lower Westchester County (Bolton 1934: 128; Grumet 1981: 59-60). The Wiechquaesgeek were able to exploit the rich environment of the northwest Bronx between the Hudson and Bronx Rivers, including the area just north of the site identified as the "Indian Field" (Figure 3). The area provided an optimal locale for deer, raccoon, fox rabbit, and waterfowl. Historic documents indicate that many of the surviving native peoples eventually sold their land or moved to the north (Grumet 1981: 60-62; Ruttenber 1982).

### **Known Prehistoric Sites in the Vicinity**

Prehistoric archaeological sites have been recovered throughout the northwestern region of the Bronx. Primary sites (villages), secondary sites (tool manufacturing, food processing), and isolated finds (single items or features) have been investigated in the area surrounding Van Cortlandt Park. Some of the prehistoric sites identified within roughly two miles of the present project location include several shell middens and prehistoric quartz processing sites (Beauchamp 1900:10; Lenik and Gibbs 1994: 55).

Several prehistoric sites have been identified within the confines of Van Cortlandt Park. A map depicting Native American sites in the Bronx indicates that the village called Keskeskick was at one time located in Van Cortlandt Park (Figure 3; Bolton 1972: 136; Anderson 1991: 4).

Historical deeds from the seventeenth century also describe this village when it was sold to the early Dutch settlers of the Bronx (Grumet 1981: 19). Reginald Bolton's research further indicates that this "extensive and probably permanent village" was located close to the Van Cortlandt mansion, to the west of Van Cortlandt Lake and to the southwest of the present project site. The examination of documents also indicates that the area surrounding the mansion was where some of the village inhabitants had large planting fields (Grumet 1981: 15). Grumet's research also identified that another "Indian field" was located on the eastern side of the park, north of the current project site.

A native trail, identified by Reginald Bolton and confirmed by Robert Grumet's research, extended south from Westchester County along the western boundary of Van Cortlandt Park (Figure 3). This trail, which traveled roughly north-south along what is now Broadway (Old Post Road), curved eastward into the park near its southwest corner before turning south again following the path of the present day Deegan Expressway (Bolton 1972: 136; Grumet 1981: 69). The trail likely gave access to the many primary and secondary sites located throughout the park.

The earliest archaeological exploration within Van Cortlandt Park was conducted in 1890 by J. B. James, who recovered pottery, fire pits, lithic material, burials, and other traces of the long-term occupation of this locale (Anderson 1991: 4; Bolton 1972: 141; Storch Associates: 36). Additional material has been recovered from sites all over the park including storage pits, pottery fragments, shell middens, burials, and lithic material (Bolton 1934: 141; Tieck 1968: 3; Skinner 1915: 55).

More recent investigations within Van Cortlandt Park (NYSM #2387, #2823, #4057, and #7727) have identified a camp, village, shell midden, and campsite in locales throughout the park. During the early 1990s several archaeological investigations were conducted within the park. Bankoff and Winter recovered a storage pit containing shell, ash, and lithic material. The archaeological examination of the Chapel Farm site (A005-01-00079, NYSM #7729) identified a prehistoric lithic workshop (Kearns and Kirkorian 1991). Furthermore, a quartz quarry site was identified nearby. One relatively recent archaeological investigation, however, did not turned up any additional prehistoric material. The two sites closest to the current project area NYSM#7727, within Van Cortlandt Park, and NYSM#2837, east of the park and the Major Deegan Expressway, are described by Arthur C. Parker as prehistoric camp sites.

### **Prehistoric Archaeological Potential**

Documentary research found that the project site is in an area of high sensitivity for prehistoric resources. The site file search and assessment of sensitivity conducted at the New York State Museum (NYSM) and the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) reported eight known prehistoric sites within a two-mile radius of the proposed facility. The well-documented presence of a nearby native pathway and the



permanent village of *Keskeskick* within the park indicates that the village site may have been extensive and/or occupied over a long period of time. The physiographic characteristics of the park, together with the information extracted from the documentary record and the number of prehistoric sites explored archaeologically suggests that the proposed project site may have been exploited by Native American peoples.

The project area was used as farmland and later parkland during the nineteenth and twentieth centuries. Extensive grading and landscaping necessary to create the golf course most likely severely altered the prehistoric landscape.

## HISTORICAL BACKGROUND

### Historical Chronology

The initial European settlement of the New York City area was marked by misunderstandings and hostilities between the native groups and the Dutch colonists. Following a short but bloody "war," which ended in 1645, Adriaen van der Donck purchased 24,000 acres of land from the Wiechquaesgeek Indians along the Hudson River. This large tract of land, granted to him by the Dutch prior to his purchasing it from the sachem Tacharew, encompassed what is now Van Cortlandt Park (Anderson 1991: 12; Pons 1994: 2). Much like the earlier Dutch Settlers, van der Donck took advantage of the areas already cleared by the Native Wiechquaesgeek and established a farm that included large corn fields in the locale of what is now the Van Cortlandt Mansion. Van der Donck maintained a good relationship with the native inhabitants until his death in 1655. Over ten years later, his widow and her second husband sold a large portion of land (most of the south half of present day Van Cortlandt Park) to her brother, Elias Doughty, who in turn sold the land to William Betts and his son-in-law George Tippet in 1668. The water source in the center of the property eventually became known as Tibbetts Brook, an alteration of the Tippet family name.

In 1670, the property was again sold to Frederick Philipse, who had amassed a large estate extending from the north Bronx up through much of Westchester County. Large sections of the Manor of Philipsburgh, located in what was then Westchester County, were leased to tenants. Jacobus Van Cortlandt purchased fifty acres of land from his father-in-law Frederick Philipse in 1699. The property then became known as Van Cortlandt Manor. Eventually, Tibbetts Brook, located to the west of the present project site, was dammed to create present day Van Cortlandt Lake. It was there that in c. 1700 Stephanus Van Cortlandt constructed a saw mill. A large manor house, which is still standing, was built near the lake in 1748 by Frederick Van Cortlandt (Jenkins 1911: 352). Nearby, the family vault was constructed on what has become known as "Vault Hill." Both the mansion and the vault are located in the southwestern portion of the park, removed from the present project site.

During the American Revolution, Van Cortlandt Manor became the center of action on several occasions. In fact, the municipal records of the City of New York were hidden by Augustus Van Cortlandt inside the family vault in 1776. In an effort to recapture Fort Independence, American soldiers marched south from Yonkers to the high ground above the Van Cortlandt house on January 18, 1777. Although this attempt failed, George Washington used the main house for his headquarters and ordered his troops to cut down much of the forage in the fields surrounding the manor in order to prevent surprise attacks by British soldiers.

A major battle took place within the confines of the park during the following year. A small group of American soldiers accompanied by several Stockbridge Indians sympathetic to the American cause attacked a battalion of British troops on August 20, 1778. After forcing a retreat, they were ambushed by British, Tory and Hessian troops. The small band was driven across Van Cortlandt's woods to what is now the eastern portion of the park. Thirty-seven of the Indians, including their leader Ninham, were slaughtered near what was thereafter called Indian Field (Jenkins 1912: 162-164; Storch Associates: 44). The site of the ambush is said to be near the corner of East 233rd Street and Van Cortlandt Park East (Pons 1994: 13). The remains of these peoples were buried a few days later near the site of the ambush, just north of the present project site.

The review of nineteenth century maps indicates that much of the northwestern area of the Bronx was still being used as farmland and woodland. The population of New York City was rising steadily during the early part of the century. Water resources and transportation networks became priorities for city officials. In order to provide an ample supply of water to the populace, resources in Westchester County were explored. It was determined that the Croton River would be able to provide enough water via an aqueduct to insure an abundant water supply. Acting on this notion, the Croton Aqueduct Commission was established in 1833. Over the next nine years, construction plans were established and the aqueduct was completed in 1842. In order to build the aqueduct a large tract of land was cleared along its route. Now known as the "Old" Croton Aqueduct, it ran north-south paralleling the Hudson River. A portion of this aqueduct runs through Van Cortlandt Park and can be found to the east of Tibbetts Brook, and west of the Mosholu WTP project site.

By 1868 much of the former Van Cortlandt property was divided into smaller parcels (Figure 4). At that time, most of the project site was owned by the Estate of J. Trier. The western portion of the project site was divided between two owners, G. and J. Dickenson. A portion of the southeastern part of the project site was owned by J. Williams. No structures were depicted as being present within the project site boundaries. The 1874 Viele topographic map gives a clear indication that much of the land was cleared during the late nineteenth century (Figure 5). Three structures are shown just south of the proposed project site boundaries.



The intense demand for water had exceeded the potential of the aqueduct by 1875 and plans were once again formulated to build a second, larger, aqueduct from Croton to New York City. The segment of the New Croton Aqueduct that flows through Van Cortlandt Park is a masonry brick-lined tunnel found at an average depth of 125 feet. This new conduit that runs partially beneath the project site was completed in 1891. An 1891 Atlas of the Hudson River Valley depicts both the Old and New Croton Aqueducts as well as the boundaries of the newly formed Van Cortlandt Park. The only buildings shown are the historic Van Cortlandt mansion and surrounding structures.

A third construction project that affected the terrain of Van Cortlandt Park was the introduction of the New York City and Northern Railroad Line in 1872. The line, completed in 1880, provided a link between New York and Boston. The route of the railroad, with its many bridges, passed directly through the eastern portion of the park, parallel to Tibbetts Brook, and altered the drainage patterns within the park creating a series of marshy areas. Passenger service on this railroad, by then called the Putnam Line, ceased by 1958.

The last Van Cortlandt moved out of the mansion house in 1888. One year later, a large section of land, including the former Van Cortlandt Manor and the parcels encompassing the present project site, was acquired for public parkland in the northwestern section of the Bronx. At the time of acquisition, half of the acreage within the park was meadowland and the other half woodland. Only approximately 40 acres was identified as vegetable gardens. That same year the mill, located within the park, ceased operation and the Parade Ground near the mansion house was opened to the public.

During the late nineteenth and twentieth centuries most of the physical changes made to the park were near the locale of the Van Cortlandt house and lake. The southern and central areas of the park were used for picnics, outdoor games, and the 1895 creation of the first municipal golf course, the 55-acre Van Cortlandt Links Golf Course (Storch Associates 1986: 73). As the popularity of the sport increased, the original nine hole course was replaced by a larger 18 hole course in 1899 (Ibid). By that date the Van Cortlandt Links covered 120 acres. Increased congestion encouraged the New York Golf Club, which had 300-400 members patronizing the Links, to propose the construction of a second golf house near the foot of Gun Hill Road (Ibid: 74). Although this new building was not constructed, the idea of utilizing the area near Gun Hill Road persisted. In 1904, a new "advanced" course was laid out in that location to alleviate overcrowding on the older course (Ibid: 75). This course may have been constructed in the location of the present Mosholu course. Only two years after the advanced course was established, a new course permanent golf course was proposed for this location. However, it was not until 1914 that the Mosholu Links was built on the project site (Ibid). During the twentieth century both courses were popular and many politicians, celebrities, and sports figures, including Babe Ruth, were known to play there frequently.

Throughout the twentieth century, a number of major roadways were built beginning with the Grand Concourse Extension, later called the Mosholu Parkway Extension in 1931. This parkway constitutes the western boundary of the WTP site. This was followed by the Henry Hudson Parkway in 1935 and the Major Deegan Expressway in 1948.

### **Known Historical Sites in the Vicinity**

Excavations have been conducted by both avocational and professional archaeologists on nearby sites that have been dated to the historical period. In 1910, a foundation for what may have been van der Donck's house was uncovered by workmen excavating for a new sewer near the Van Cortlandt Manor Mansion. The subsequent excavation revealed a large amount of domestic debris dating to the seventeenth century. Archaeological excavations in other areas surrounding the Manor house have also been conducted.

The historic Van Cortlandt Mansion, now a museum, and Vault Hill are in the southwestern section of the park and therefore well outside of the proposed WTP site. When this area was part of Philipsburgh Manor and Van Cortlandt Manor, large portions of these estates, including the park property, were likely leased to tenant farmers. Small farm houses with their associated outbuildings and cultivated fields were likely present up until the Revolutionary War. Some of these dwellings may have been situated in the northeastern section of the park in the location of the former native planting grounds. The woodland in the northern area of the park would have provided timber and possibly small game for the inhabitants of the Manor.

The Mosholu Golf course, of note in the historical development of municipal golf courses, is an important feature within Van Cortlandt Park. While no landmarked buildings are located on the site, the Mosholu Golf Course Club House is present. Although not eligible for listing on the National Register as an individual structure, this building is of historical significance. The structure is reminiscent, on a small scale, of the grand club houses erected at private suburban golf courses. The building is a Colonial Revival structure built of brick with a wood trim. The most notable features of the building are the entrance portico, with its eight Roman Doric columns, and the gables, which are pierced by Palladian windows.

The main body of the Mosholu Golf Course in Van Cortlandt Park (1888) is located to the west of Jerome Avenue. On the east side of Jerome Avenue, is Woodlawn Cemetery. This historic cemetery has numerous extravagant mausoleums, memorials, and tombstones; several affluent citizens of New York are interred here. Woodlawn is also noted for its elaborately-groomed grounds and manicured lawns. Jerome Avenue serves as a buffer, physically separating the cemetery and the Golf Course.

### **Historical Archaeological Sensitivity**

None of the historical maps consulted clearly depicted structures within the project site. However, the 1874 Viele map depicted a possible structure just south of the project site, although clearly no dwellings, barns, or other historical structures were depicted within the boundaries of the project site.

## EXISTING CONDITIONS

The site of the proposed WTP is situated east of the New Croton Aqueduct (1884-1890) in the Mosholu Golf Course at Van Cortlandt Park. The parcel is located between Jerome Avenue and the Mosholu Parkway.

### Archaeological Resources

**Prehistoric Archaeological Resources.** Documentary research found that the project site is in an area of high sensitivity for prehistoric resources. The site file search and assessment of sensitivity conducted at the NYSM and the NYSOPRHP reported eight known prehistoric sites within a two-mile radius of the proposed facility. The well-documented presence of a nearby native pathway and the permanent village of *Keskeskick* within the park indicates that the village site may have been extensive and/or occupied over a long period of time. The physiographic characteristics of the park, together with the information extracted from the documentary record and the number of prehistoric sites explored archaeologically suggests that the proposed project site was also likely exploited by Native American peoples.

The project area was used as farmland and later parkland during the nineteenth and twentieth centuries. Therefore, much of this locale may not have been altered by widespread development. While the introduction of the two aqueducts, railroad tracks with associated bridges, and paved roads and/or paths have transformed many areas within the park. More recently, the introduction of the initial 1904 "advanced" course and the 1914 Mosholu Golf Course, with the associated extensive land manipulation, changed the physical appearance of the project site considerably. As a result, there is no potential for the presence of intact prehistoric archaeological resources.

**Historical Archaeological Resources.** The Revolutionary War events that took place within the grounds of Van Cortlandt Park most likely did not leave a significant below ground imprint except in the eastern area of the park, near the present project site, where the Stockbridge Indians were ambushed and buried. No historical structures were clearly depicted in the Mosholu WTP site location on any of the historical maps reviewed. In addition, a visit to the proposed Mosholu WTP project site yielded no evidence of visible historical remains.

Only one of the maps consulted depicted a structure in the vicinity of the project site. The 1874 Viele map showed a building just south of the project site's boundary. However, even if a historical structure once stood in this area, its associated archaeological deposits would have been disturbed significantly by the initial and continued land manipulation associated with golf courses. As a result, there is little potential for the presence of *in situ* historical archaeological resources.

## **Historic Resources**

According to the current design plan, the proposed WTP would be located to the east of the New Croton Aqueduct and the Mosholu Parkway. The documented aqueduct is a functioning component of the city's water supply system.

The proposed WTP site is also visually and physically separated from the known historic structures in the Park, such as the Van Cortlandt Mansion, which is located approximately 3/4 mile to the west. Although Van Cortlandt Park itself is historically important, no formal process has been undertaken to definitively determine its eligibility for landmarking.

## **FUTURE WITHOUT THE PROJECT**

If the proposed Water Treatment Plant is not constructed beneath the Mosholu Golf Center and Driving Range, the recreational facility would remain in place. In addition, the golf course has been chosen by the Professional Golf Association as one of three hosts for a golf training center. This action has generated a proposal to convert the present course into a short 18-hole course with a training/teaching facility.

## **POTENTIAL IMPACTS**

### **Archaeological Resources**

The creation and current usage of the golf course, a continuously evolving recreational landscape, has precluded the possibility of intact below-ground archaeological resources. Since the site lacks any archaeological potential, the construction of the proposed WTP would have no significant impact to archaeological resources.

All temporary construction parking, hauling roads, and staging areas that are outside of the golf course land may have a potential to impact archaeologically sensitive areas.

### **Historic Resources**

Starting in 1895, when the first municipal golf course was created, Van Cortlandt Park has been the home to several distinguished golf facilities. During the years that construction is underway, there would be a temporary loss of the golf facility at the Mosholu Golf Course (ca. 1914). Although not a landmarked building, the Mosholu Golf Course Club House would also be demolished and reconstructed. Though this structure is probably not eligible for listing on the National Register as an individual structure, it is of historic note and its total loss would be considered a potential significant impact.

Construction would take place above a National Register-eligible feature, the New Croton Aqueduct. The Aqueduct is still in active use and a connection to and rehabilitation of a portion of the Aqueduct would be necessary. This impact to the Aqueduct is not considered significant.

Construction for the proposed Water Treatment Plant (WTP) would be visually and physically separated from the other historic and/or landmarked structures within the park or the surrounding area (e.g., Van Cortlandt Mansion, Vault Hill, Woodlawn Cemetery). Therefore, no significant construction related impacts to existing historic structures are anticipated.

All temporary construction parking, hauling roads, and staging areas would have only a temporary visual impact on the existing parkland.

### **Secondary Impacts Which Would Occur At Other Sites**

There are no proposed related facilities at other sites as part of this project. Therefore, no secondary impacts are anticipated at other sites as part of this construction alternative.

## **CONCLUSIONS AND MITIGATION**

The Stage 1A research, which included documentary analysis, cartographic research, informant interviews, site file searches, and a walkover survey, concluded that the project site may have once had a high potential for the presence of prehistoric cultural material, however subsequent disturbance has probably compromised integrity for most, if not all, of the parcel. Furthermore, no historical occupations episodes occurred at the site. Therefore, no historical archaeological resources were probably ever deposited within the project site.

## **CONCLUSIONS**

### **Archaeological Resources**

Documentary research found that the project site is in an area of high sensitivity for prehistoric resources. The site file search and assessment of sensitivity conducted at the NYSM and the NYSOPRHP reported eight known prehistoric sites within a two-mile radius of the proposed facility. The physiographic characteristics of the park, together with the information extracted from the documentary record and the number of prehistoric sites explored archaeologically suggests that the proposed project site was also likely exploited by Native American peoples. However, documentary research suggests that there were no historical structures built within the project site and therefore, has almost no potential to yield historical archaeological resources.

The project area was used as farmland and later parkland during the nineteenth and twentieth centuries. Therefore, much of this locale may not have been altered by widespread development. The introduction of the two aqueducts, railroad tracks with associated bridges, and paved roads and/or paths have transformed many areas within the park.. More recently, the introduction of the initial 1904 "advanced" course and the 1914 Mosholu Golf Course, with the associated extensive land manipulation, changed the physical appearance of the project site considerably. As a result, there is no potential for the presence of intact prehistoric archaeological resources.

### **Historic Resources**

According to the current design plan, the proposed WTP would be located to the east of the New Croton Aqueduct, which is a functioning component of the city's water supply system.

The proposed WTP site is also visually and physically separated from any known historic structures in the Park, such as the Van Cortlandt Mansion, which is located approximately 3/4 mile to the west. Although Van Cortlandt Park itself is historically important, no formal process has been undertaken to definitively determine its eligibility for landmarking.



The project will entail removing and rebuilding the historically important Mosholu Golf Course Club House. Though this structure is probably not eligible for listing on the National Register as an individual structure, it is of historic note and its total loss would be considered a potential significant impact.

## **MITIGATION**

### **Archaeological Resources**

Because of the amount of disturbance associated with golf course land manipulation at this site, it is unlikely that intact archaeological features remain *in situ*. Therefore, mitigation is not required for potential archaeological resources at the Mosholu Golf Course Water Treatment Plant site.

### **Historic Resources**

Removal of the existing Mosholu Golf Course Club House is considered a potential significant loss. In order to mitigate this impact, a black and white photographic record of the exterior elevations would be made and copies repositied with the Municipal Archives. This recordation would be undertaken to the specific standards of the Historic American Engineering Record. These standards stipulate the types of views to be shot, large format film, acid free film, archivally stable developing chemicals, and acid free storage sleeves.

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