

**FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE
CATSKILL/DELAWARE UV FACILITY**

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EXECUTIVE SUMMARY

ES.1. INTRODUCTION

The New York City Department of Environmental Protection (NYCDEP) proposes to design, construct, and place into operation an Ultraviolet Light Disinfection Facility (“UV Facility”). The UV Facility would improve and ensure high quality water for the Catskill/Delaware Water Supply System. The proposed facility would be located in the Town of Mount Pleasant, Westchester County, New York, with ancillary facilities in the Town of Greenburgh, Westchester County, New York (Figure 1). The location is commonly known as Eastview and is referred to in this document as the Eastview Site (Figure 2). The portion of the Eastview Site located within the Town of Mount Pleasant is referred to as the “north parcel,” and the portion of the Eastview Site located within the Town of Greenburgh is referred to as the “south parcel.” The property was purchased by the City of New York in the early 1900s and was equipped with provisions for connection to the Catskill and Delaware Aqueducts in anticipation of the potential future need for water treatment. The Eastview Site has been chosen for the location of the proposed UV Facility due to the location of the Eastview Site with respect to the long-term goals for the City’s water supply.

Because of the ongoing success of New York City’s (City) watershed protection program and continued excellent water quality of the Catskill and Delaware water supplies, NYCDEP and United States Environmental Protection Agency (USEPA) have agreed that the design and construction of a UV Facility is feasible and appropriate for the Catskill and Delaware water supplies. With the commitments to protect the Catskill and Delaware water supply and to construct the UV Facility at the Eastview Site, the USEPA has granted the City relief from the requirement of the original 1993 Filtration Avoidance Determination (FAD) to complete a Final EIS for and Final Design of a Catskill/Delaware filtration facility.

In accordance with the terms of the November 2002 FAD issued by the USEPA, the proposed UV Facility is being introduced to meet the water supply needs of the City and to safeguard the City’s compliance with State and Federal drinking water standards. The introduction of this additional disinfection “barrier” would significantly enhance the City’s water supply protection program. Lower Westchester County would also benefit from the treated water from this project.

ES.1.1. Major Project Elements

The proposed UV Facility at the Eastview Site would primarily involve construction of a largely below-grade disinfection facility on City-owned property with a structure extruding through to the surface on the southeastern portion of the north parcel. The facility would not be a prominent feature in the surrounding community due to the local topography. Primary access to the facility would be from a new entrance off Walker Road between Grasslands and Dana Roads. The entrance on the east side of Walker Road would not conflict with the entrances/exits to the Westchester County Bee-Line Bus facility on the west side of the street. In addition, during construction, portable construction light stands would largely be directed toward the construction work area and away from the site perimeter. Except as required by security and worker safety requirements, night lighting would be hooded to direct illumination downward and inward

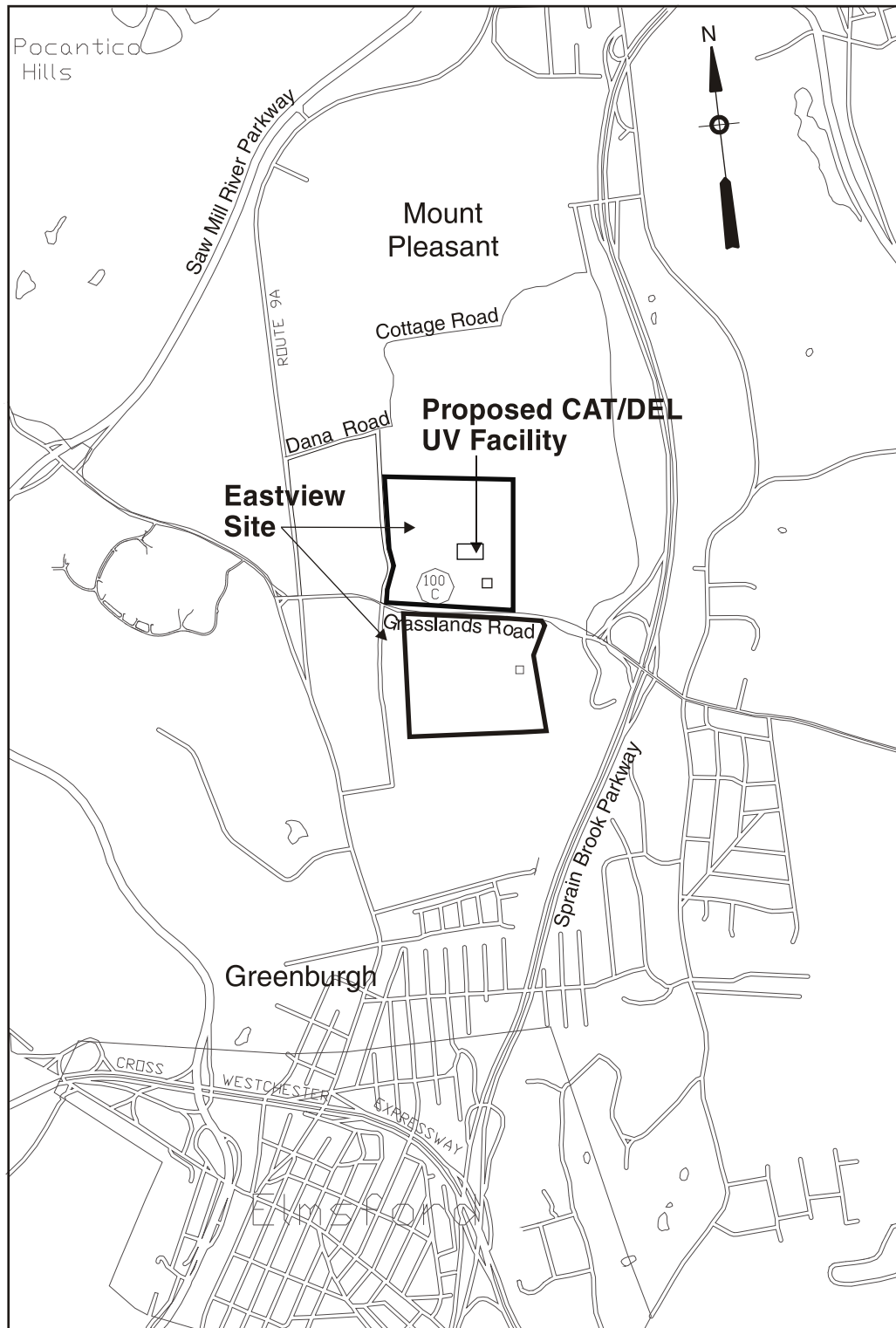
toward the specific work areas. Best efforts would be made to minimize nighttime light and glare, backscatter to the nighttime sky, and visibility of lighting to vehicles on Route 100C and to the uses surrounding the Eastview Site.

On the south parcel, utility corridors would need to be cleared so that underground water conveyances could be constructed between the Catskill Aqueduct in the Town of Greenburgh and the UV Facility on the north parcel. A small above ground access structure would be located at the existing Catskill Connection Chamber (CCC) in the Town of Greenburgh; if raw Catskill water is delivered to the proposed UV Facility from the Catskill Aqueduct on the south parcel, a new CCC would be constructed to the north of the existing CCC, and a small above ground access structure would be located at this new CCC.

The proposed facility would require modifications to several existing Catskill/Delaware System facilities. The modification work would take place within two main areas in the Town of Mount Pleasant; one area is adjacent to the Kensico Reservoir, and the other area is adjacent to the Taconic State Parkway within the Mount Eden and Gate of Heaven cemeteries. This modification work would entail rehabilitation and/or replacement of existing structures. The modifications to the Catskill Aqueduct between the Kensico Reservoir and the Eastview Site would allow this section of the Catskill Aqueduct to be pressurized. This would eliminate the need to create a new pumping station, plus reduce the need to operate the Delaware Aqueduct continuously at its full capacity. However, the proposed pressurization work on the aqueduct would require periodic shutdowns between the Kensico Reservoir and the CCC. These shutdown periods are anticipated to occur between the months of September and May during the years 2007 to 2011. NYCDEP would work with the upstate suppliers that rely upon the Catskill Aqueduct to facilitate their water supply needs.

As part of the proposed project, NYCDEP also intends to fill and subsequently landscape the existing Catskill and Delaware Aerators near the Kensico Reservoir. Fill material excavated from the Eastview Site, starting with the initial construction (site preparation) activities, would be trucked from the Eastview Site to the Aerators. There are five possible routes for trucking fill materials between these two locations. This Final EIS specifies the preferred route for the transport of the materials. The selection of the preferred route was based on considerations of on-street safety, traffic, air quality, and noise impacts on the local community and the time restraints of the FAD for completing construction of the project.

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Not to Scale



Aerial View Eastview Site

Catskill/Delaware UV Facility

Figure 2

During the construction of the proposed UV Facility and associated Catskill Aqueduct Pressurization, the Catskill Aqueduct would need to be refurbished and reconstructed. To accomplish this, a series of seasonal shutdowns (September to May) of the Aqueduct are required. NYCDEP has identified two options for providing the Town of Mount Pleasant with a continuous supply of water from the Delaware Aqueduct during the prolonged shutdowns required for the dewatering of the Catskill Aqueduct. Two options have been identified for the supply of water to the Town of Mount Pleasant, once the proposed UV Facility is operational. For a discussion of these options see [Section ES 5.1.2.4, Water to the Town of Mount Pleasant](#).

The UV Facility structures would include the main UV Facility (housing the treatment process and administrative and utility functions); the electrical/generator building (housing the main substation and emergency generators); Delaware Shaft No. 19 and the North and South Forebays for conveying Delaware water to and from the UV Facility; the CCCs for conveying Catskill water to and from the UV Facility; and access roads, including a secure main entrance off Walker Road, and an emergency entrance from Route 100C that would be locked and secured during normal operations. Other associated components would include raw and treated water conduits, Catskill flow meters, underground fuel oil storage, stormwater detention basins, and employee/visitor parking. As noted above, the proposed project would call for the pressurization of the Catskill Aqueduct between the Kensico Reservoir and the Eastview Site, which would require construction staging at each of the sites where work is proposed to provide direct access to the aqueduct.

ES.1.2. Environmental Impact Statement

This Final Environmental Impact Statement (Final EIS) has been prepared to assess the potential for significant adverse environmental impacts that could occur at the Eastview Site and associated off-site work locations from the proposed UV Facility. In addition to the proposed UV Facility for the Catskill/Delaware System, the NYCDEP is currently considering four separate possible projects for the 149-acre property: (1) the Croton Water Treatment Plant (Croton project);¹ (2) a NYCDEP Police Precinct;² (3) the Kensico-City Tunnel (KCT)³, and (4) an Administration/Laboratory building(s)⁴. Each of these proposed actions have or will be evaluated separately in the context of their own environmental review since they are independent

¹ A Final Supplemental EIS for the three potential sites was made available in June 2004. The Eastview Site was first identified and evaluated in a Final EIS for the Croton Water Treatment Plant Project released by the NYCDEP in April 2003; a Final Supplemental EIS for the Croton project was then prepared and published in June 2004.

² The new Police Precinct, which recently received approval from the Town of Mount Pleasant, would serve to protect and manage the Upstate East-of-Hudson System.

³ The City of New York is evaluating the introduction of a new City water tunnel from Kensico Reservoir to the City's Van Cortlandt Valve Chamber. Construction of a new City water tunnel would include connections to the City-owned property that would provide reliability and flexibility to the existing system.

⁴ The Eastview Site is being considered as a possible location for a new administration headquarters and laboratory building(s) to consolidate the Upstate East-of-Hudson Southern Division Administrative and Engineering offices. A siting evaluation is currently ongoing to recommend a possible location for the facility; the Eastview Site may possibly be one of multiple sites considered. This project is separate from and independent of the proposed UV Facility and will be evaluated as part of an independent environmental review.

projects subject to individual decision-making. These projects are not linked, and the outcome of a decision on one of the projects does not predetermine or prejudice the decision-making on any other NYCDEP project. However, any potential for combined effects on the environment from these projects, as they are sequenced on the site, would be included in each project's respective environmental review. On July 16, 2004, NYCDEP formally selected the Mosholu Golf Course Site in the Bronx, New York City, for the Croton project. Nonetheless, this Final EIS for the proposed UV Facility considers the possibility of the Croton project being located on the Eastview Site since the Eastview Site must be considered as a potential alternative until all legal issues surrounding the Mosholu Site are resolved.

The proposed project would be in accordance with the terms of the 2002 FAD issued by the USEPA. The Final EIS is being presented in accordance with the construction schedule in place under the FAD. However, NYCDEP is currently in discussion with USEPA to extend the FAD schedule. This extension is being requested to better meet the construction requirements, and NYCDEP's commitment to perform full-scale validation testing of the Facility's UV units.

The Final EIS includes: a description of the proposed UV Facility; methods of analysis; descriptions of existing environmental conditions and future conditions without the project; and, potential impacts of the project during operation and construction conditions. The Final EIS also describes proposed alternatives to the proposed facility. Under the Alternatives Section of this Final EIS, as described above, a summary of why the site is preferred by NYCDEP is included, along with a description of the potential build-out of the site over the long term that affects the positioning and construction of the proposed UV Facility. No Action scenarios and a reasonable range of alternatives are addressed which might mitigate or lessen the potential significant adverse impacts predicted to occur as a result of the proposed action. Additional planning alternatives assessed in the Final EIS include construction schedule, technology, configurations, and not filling the Aerators nears the Kensico Reservoir (since filling of the Aerators are included as part of the proposed project in the Final EIS analyses). In addition, in the event that the Croton project is constructed at the same time as the proposed project at the Eastview Site, an alternative to address reducing the impact of construction truck trips on the community was also assessed.

This Final EIS has been prepared in accordance with the New York State Environmental Quality Review Act (SEQRA), as set forth in 6NYCRR Part 617 and the New York City Environmental Quality Review (CEQR) process, as set forth in Executive Order 91 of 1977 and its amendments, and by the State Revolving Loan Fund program. The NYCDEP issued a Lead Agency Determination, Positive Declaration and Final Scope of Work on October 10, 2003 and held a public hearing on the Final Scope of Work on February 11, 2004. The comment period remained open until March 12, 2004, and NYCDEP issued a Final Scope of Work that responded to the public comments received on March 19, 2004. On May 31, 2004, NYCDEP published a Draft EIS, and on September 22, 2004 a public hearing was held on the Draft EIS in the Town of Mount Pleasant. Comments were accepted by NYCDEP from May 31, 2004 through October 4, 2004. This Final EIS addresses the comments on the Draft EIS and updates the EIS analyses, as necessary, to reflect subsequent changes in the design of the UV Facility.

This Final EIS describes the proposed project to disinfect the Catskill/Delaware Water Supply, methods of analysis, existing conditions, future without the project, potential impacts (including potential construction-related impacts and potential project impacts), and proposed mitigation measures, where applicable. The purpose of this document is to disclose the information and conclusions reached on potential environmental concerns, particularly those potential environmental impacts that are considered to be “significant” as a result of the proposed UV Facility.

The Final EIS addressed the potential construction and operational impacts of the proposed UV Facility (with and without the Croton project in the future) on land use, zoning, and public policy; visual character; community facilities; open space; neighborhood character; socioeconomic conditions (including water rates and additional property taxes/payments in lieu of taxes (PILOTS) to the local communities); growth inducement; traffic and transportation; air quality; noise; historic and archaeological resources; hazardous materials; natural resources; water resources; infrastructure and energy; electric and magnetic fields and extremely low frequency fields (EMF/ELFs); solid waste; and public health. Potential significant adverse impacts from operation of the proposed UV Facility were identified for traffic and historic resources. In addition, potential significant adverse impacts from construction of the proposed UV Facility were identified for natural resources, and temporary adverse impacts were identified for noise, traffic, and neighborhood character. Where potential significant or temporary adverse impacts were identified or construction-related effects of the project were problematic, feasible mitigation measures to reduce or eliminate such impacts were identified.

ES.2. DESCRIPTION OF THE CATSKILL/DELAWARE WATER SUPPLY SYSTEM

Situated approximately 100 to 125 miles north of lower Manhattan, in the sparsely populated areas of central and eastern Catskill Mountains is the Catskill Watershed. The 571 square mile watershed was constructed in two stages; with the first stage completed in 1917 and the second completed in 1927. With a total storage capacity of 178 billion gallons and a safe yield of 470 million gallons per day (mgd), the Catskill System accommodates approximately 35 percent of the City’s average day demand for drinking water.

The Delaware System is situated between 85 and 125 miles northwest of lower Manhattan. The 1,010 square mile watershed was planned in the 1920’s but it wasn’t constructed until the late 1930’s and then completed by 1964. With a total storage capacity of 326 billion gallons and a safe yield of about 580 mgd, the Delaware System accommodates approximately 55 percent of the City’s average day demand for drinking water.

While constructed as part of the Catskill System, the Kensico and Hillview Reservoirs serve as balancing and distribution Reservoirs, respectively, for both the Catskill and Delaware Systems. The Catskill and Delaware Aqueducts normally discharge into Kensico Reservoir before flows return to the Delaware and Catskill Aqueducts and are conveyed to Hillview Reservoir, where flows enter the City’s distribution system. Therefore, the Kensico and Hillview Reservoirs, the sections of the Catskill and Delaware Aqueducts between the two Reservoirs, and the three water tunnels that extend from Hillview Reservoir into New York City are generally referred to as the “Catskill/Delaware System.” Together, the Catskill/Delaware System provides approximately

90 percent of the City's average day demand, in addition to supplying estimated maximum day demand of 200 mgd for all upstate users.

The majority of upstate consumers are located in lower Westchester County, in the vicinity of Kensico Reservoir or south of the Reservoir. The upstate consumers obtain water from the Catskill/Delaware System via the Catskill Aqueduct, the Delaware Aqueduct, the Bronx-Kensico Pipeline, or directly from the Kensico or Hillview Reservoirs (the Bronx-Kensico Pipeline, which is owned and operated by the Westchester County Water District No.1, is located between Kensico Reservoir and the Westchester-Bronx boundary).

ES.3. PURPOSE AND NEED FOR THE PROJECT

The provision of clean, safe drinking water is considered by NYCDEP to be one of its vital functions. The City has a fundamental obligation to provide a reliable potable water supply that meets all public health and regulatory requirements, and is regulated under the Federal Safe Drinking Water Act (SDWA).

The USEPA has determined that the City has an adequate long-term watershed protection program for its Catskill/Delaware water supply that meets the requirements of the Surface Water Treatment Rule (SWTR) and the Interim Enhanced Surface Water Treatment Rule (IESWTR) for unfiltered water supply systems.⁵ Therefore, following a Mid-Course Review in May 2000 the USEPA granted the City of New York a conditional relief for the final design requirements for a Catskill/Delaware Filtration Facility, as outlined in the 1997 FAD. This conditional relief is contingent upon the following requirements, as stated in the 2002 FAD: (1) complete the upgrade of the largest wastewater treatment plants in the watershed by June 2002; (2) conduct a feasibility study and then design and construct UV disinfection facilities for the Catskill/Delaware System, in accordance with the USEPA-approved schedule; (3) institute a biennial review of the Catskill/Delaware filtration plant preliminary design; and (4) conduct other watershed planning activities.

At any time, the USEPA may make a determination that the City's watershed program no longer provides adequate protection of the City's water supply, pursuant to the SWTR/IESWTR and/or other avoidance criteria in the SWTR/IESWTR and require the City to filter its Catskill/Delaware water supply.

ES.4. BACKGROUND TO THE PROJECT

As part of the SDWA, the SWTR requires that all public water systems supplied by unfiltered surface water sources meet and maintain specific filtration avoidance criteria, or filter their supplies. These criteria include standards for water quality, operations, and watershed controls. The rule provides criteria under which a supply may qualify for a FAD from the USEPA or the NYSDOH where the latter entity is granted "primacy" by the USEPA ("Primacy" is the responsibility for implementing and enforcing the drinking water regulations).

⁵ USEPA, New York City Filtration Avoidance Determination, *Surface Water Treatment Rule Determination for New York City's Catskill/Delaware Water Supply System*, November 2002.

Since 1992, the City as worked closely with regulatory agencies in obtaining filtration avoidance for its Catskill and Delaware Systems. With the City's ongoing water quality monitoring, watershed protection programs, educational and land acquisition practices the City has proven its dedication to protecting and preserving the City Water Supply Systems.

Through the 1997 New York City Memorandum of Agreement (MOA), signed by New York State, New York City, watershed towns and counties, environmental parties and USEPA, NYCDEP has implemented watershed protection programs necessary to continue to avoid filtration of the Catskill/Delaware systems. In addition, the MOA mandates upgrades to wastewater treatment plant, non-point source pollution controls, and a review of the existing monitoring program. The united support for a comprehensive watershed protection program protects and preserves the quality of the City's water supply while promoting economic growth in the watershed communities. In addition, public education programs have been introduced throughout the watershed communities, promoting and teaching the Watershed Rules and Regulations and watershed management practices.

The City's 2001 Long-Term Watershed Protection Program continues most of the existing program components, while providing significant enhancement (i.e., time and money) to several components, expands program responsibilities to cover additional watershed areas, and introduces a number of new program initiatives. It was these steps that exemplify the City's long-term commitment and strategy of an adequate watershed control program (pursuant to the SWTR/IESWTR) that when presented to the USEPA showed an important and appropriate adjustment to the existing program, which drove the USEPA's filtration determination.

ES.5. SUMMARY OF THE PROPOSED PROJECT

ES.5.1. The UV Disinfection Facility

The proposed UV Facility would include a UV main building; water conveyance systems (for both the Catskill and Delaware water supply); two forebay structures to house the conveyance systems to and from the Delaware Aqueduct; connection chambers to convey water to and from the Catskill Aqueduct; and an electrical generator building (Figure 3). The disinfection units would be housed within the main disinfection building and would be accompanied by administrative offices, UV lamp storage, a process laboratory, security and maintenance, and the heating, ventilation and air conditioning (HVAC) system. The facility would be capable of disinfecting a maximum flow of 2,020 million gallons per day (mgd), with an average flow of 1,310 mgd.⁶ With a design capacity of approximately 2 billion gallons a day, the proposed facility would be designed to minimize space requirements.

The proposed UV Facility would be located on City-owned property within the Towns of Mount Pleasant and Greenburgh, in Westchester County, New York. Currently, the City of New York

⁶ The proposed UV Facility could be designed to handle up to 2,400 mgd for future potential needs. The potential increase in capacity could be required if the City builds the Kensico-City Tunnel, which could have a capacity of 2,400 mgd. This increase in capacity is anticipated to be achieved without expansion of the proposed UV Facility.

owns approximately 149 acres of land (83 acres in the Town of Mount Pleasant and 66 acres in the Town of Greenburgh). The proposed facility would be situated on the Mount Pleasant parcel (“north parcel”) while water conveyances would extend into the Greenburgh parcel (“south parcel”). The north parcel is identified by Town of Mount Pleasant Assessor’s Office as Section 116.16, Block 1, Lot 2 and Section 116.20, Block 1, Lot 1 and is currently zoned OB-2 (Public Utility Office Building). The south parcel is identified by Town of Greenburgh Assessor’s Office as Section 20, Block 20,000, Lots 19, 20, and 21 and is currently zoned R-20 (Single-Family Residential).

The proposed facility would require approximately 66 acres (61 acres in the Town of Mount Pleasant and 5 acres in the Town of Greenburgh) of disturbance for the construction activities, while the finished project would require approximately 9 acres. The additional 57 acres would be required for staging, parking and storage activities during construction.



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Catskill/Delaware UV Facility

Proposed UV Facility Eastview Site

Figure 3

ES.5.1.1. Raw and Treated Water Conveyances

The proposed facility would utilize the existing water conveyances to deliver raw water (i.e., water which has not been subject to treatment, such as UV light) to the facility and convey disinfected water (i.e., water which has been subjected to UV light) from the facility to the City distribution system. To deliver raw Catskill water to the proposed UV Facility, two options are being considered: (1) a pressurized raw water conduit that would deliver raw Catskill water from the Catskill Aqueduct on the south parcel to the proposed UV Facility; and (2) a pressurized tunnel that would be constructed from the Eastview Site to the Catskill Aqueduct in the vicinity of the Sprain Brook Parkway. To deliver treated Catskill/Delaware water to the Catskill Aqueduct, one treated water conduit route is being considered; this conduit would extend from the proposed UV Facility to the south parcel and deliver treated water to the Catskill Aqueduct to the existing CCC.

ES.5.1.2. UV Disinfection Process

UV disinfection is a treatment process in which water passes in close proximity to a network of lamps that emit ultraviolet light. The UV lamps that would be put into this facility are similar to the fluorescent lights that may be found in many businesses and households; however, they would not have the fluorescent coating that is applied to fluorescent lights. When passing through a UV disinfection unit (which houses the lamps), the DNA of microorganisms (such as *Giardia* and *Cryptosporidium*) in the water are altered in such a way that the microorganisms are no longer able to replicate and therefore are rendered non-infective. Without the ability to replicate, the organisms are shed from the host's digestive tract without causing illness.

The UV Facility would be subdivided into four equally sized banks or modules. Each module would be equipped with 14 process trains (13 duty and 1 standby) along with the associated electrical panels, UV sleeve cleaning system and appurtenances. A "process train" is a descriptor for the overall equipment and transmission path that water passes through the UV Facility. The primary components of a process train include two valves for isolation and flow control, a flow meter, and a UV unit along with the necessary fittings and appurtenances.

Each disinfection unit could contain fourteen rows of twelve lamps, for a total of 144 low-pressure high output (LPHO) lamps to achieve the design dose of 40 millijoules per square centimeter (mJ/cm²). Each of the lamps would be situated within a quartz sleeve that is inserted into the disinfection unit. The quartz sleeve surrounds the lamp to protect the lamps from the water passing through the unit. Following the disinfection process, treated water would be conveyed from the disinfection units into one of two common treated water conduits and distributed to the treated water conveyance systems.

NYCDEP is currently preparing for two evaluation programs with respect to UV design criteria. The first program involves the construction of a small-scale "pilot" facility that would evaluate low pressure high output (LPHO) and medium pressure UV units to look at the impact of

“fouling”⁷ on the lamps. The results of these studies would assist in the evaluation of how fouling would affect operation of the proposed UV Facility. The second program is an evaluation and validation of the full-scale UV system. NYCDEP has contracted to have an existing validation facility expanded to be able to test the 40-mgd UV units at flows up to 60 mgd. From the evaluation, the optimal unit for would be selected for inclusion in the proposed UV Facility. From this testing, the units would also be validated to meet the requirements of State and Federal regulations.

ES.5.1.2.1. Electrical Demand

Power usage at the maximum flow capacity of 2,020 mgd is estimated at 6.30 megawatts MW (8.75 MVA). At the daily average flow of 1,310 mgd, the power usage would be about 4.45 MW (6.15 MVA). Power would be provided to the UV Facility from Consolidated Edison Company of New York (Con Edison) from the Grasslands Reservation Substation, situated east of the north parcel of the Eastview Site along Route 100C.

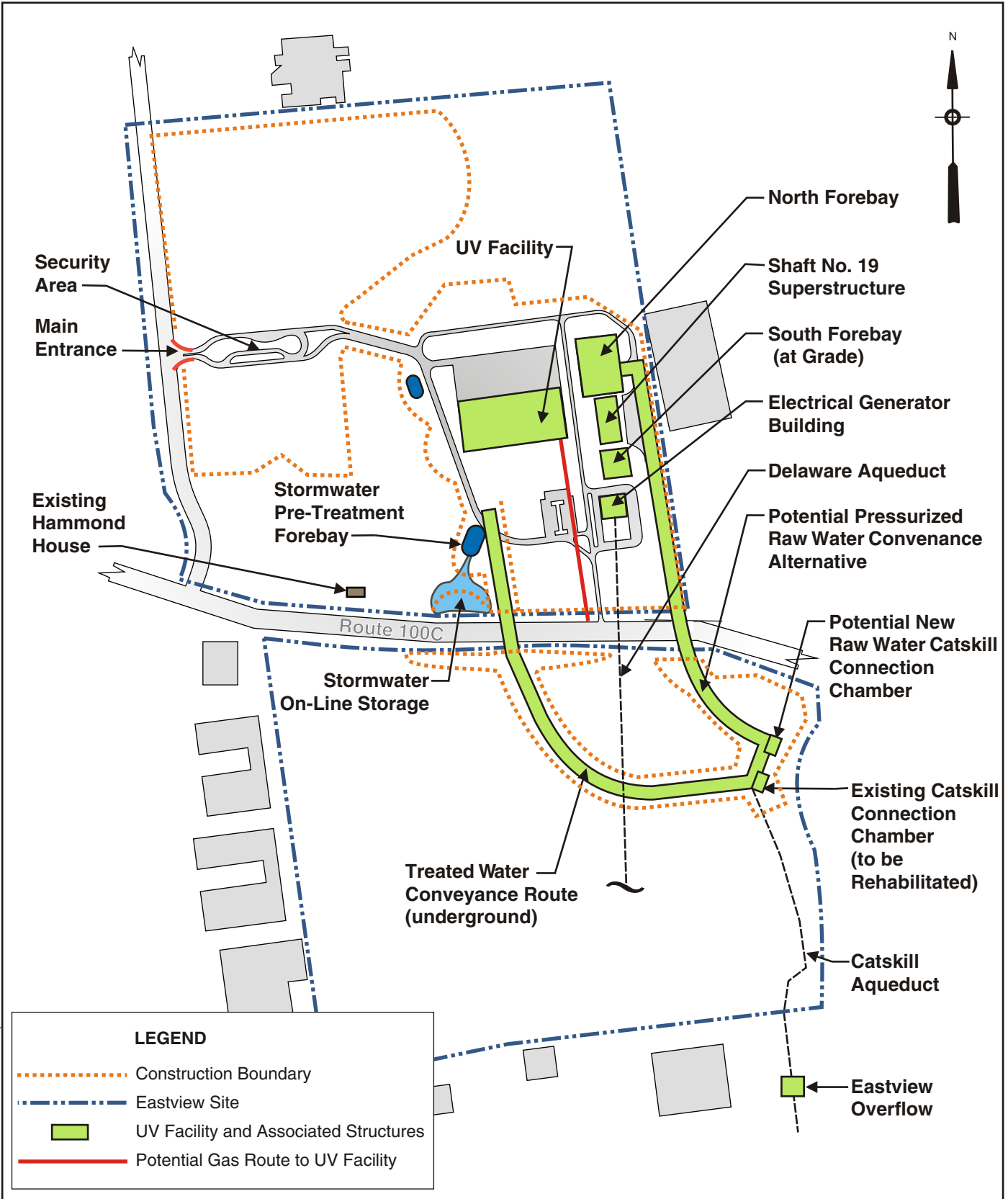
In case all Con Edison feeders are out of service, four emergency standby diesel generators, each rated 1,750 kW (480 volts), would provide emergency power. Each of the four diesel generators would be run for up to one hour per week in order to properly maintain the units. The generators would provide power to run all UV disinfection equipment in the event of loss of power. In addition, the generators would power fire pumps, fire alarm, fire protection, smoke purging exhaust fans, emergency elevators, and other emergency equipment in case of fire or other emergency conditions. Emergency power for the security system, communication systems, lightning protection system, plant control system and other safety equipment would also be provided. For the disinfection process, emergency power would also be provided.

UV System Uninterruptible Power. With the sensitivity of the UV system to power disturbances, uninterruptible power supply (UPS) back-up battery systems would be provided. The UPS would automatically maintain properly conditioned AC power to the UV system, without interruption during failure or deterioration of the normal or emergency power source. Continuity of power to the UV systems would be maintained during power interruptions up to 15 minutes, until normal power is restored or until the emergency generators are brought on-line. If the emergency generators fail to automatically synchronize or fail to start, 15 minutes should be sufficient for facility personnel to manually start generators and manually synchronize the power supply.

ES.5.1.2.2. Fuel Demand

Con Edison would deliver natural gas to the proposed UV Facility. Con Edison maintains two natural gas mains that could potentially be used to supply the proposed facility: a high-pressure 8-inch main gas line that runs along Saw Mill River Road and a low-pressure 8-inch gas line along Dana Road (Figure 4).

⁷ Fouling is a result of water-quality effects such as precipitation of iron, calcium, aluminum, and manganese salts along with other organic and inorganic constituents. Fouling is also depending on the type of lamp used.



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NOT TO SCALE

UV Facility Location Plan

Catskill/Delaware UV Facility

Figure 4

The proposed UV Facility heating system would be provided by three dual fuel (natural gas/fuel oil) hot water boilers. Natural gas would supply the boilers with the exception of limited days of extreme cold weather; in these instances, fuel oil could supply the boilers if a disruption in the delivery of natural gas to the proposed UV Facility were to occur. Fuel oil storage design would include two 20,000 gallon fuel storage tanks located underground in a vault. These tanks would contain fuel oil and would be used for both emergency generators and as a back-up source of fuel for the boilers. The exact location of the fuel oil storage tanks would be determined in the final design. The capacity of the fuel storage is equivalent to a 15-day supply. Fuel oil would only potentially be utilized during the months of December through March (heating season).

ES.5.1.2.3. UV Facility Bypass

If the proposed facility were to be taken out of service, water flow would be maintained by raw water bypasses that would be utilized to provide a flow of water to each aqueduct.

ES.5.1.2.4. Water to the Town of Mount Pleasant

During Shutdowns of the Catskill Aqueduct

The NYCDEP committed to UV disinfection in the Filtration Avoidance Determination and prefers siting the facility at the Eastview Site in order to optimize the system's hydrology. The result of NYCDEP's decision to site the UV Facility at the Eastview Site and the Catskill Aqueduct pressurization work would require periodic shutdowns of the Catskill Aqueduct. These periodic shutdowns would interrupt the water supply to the Town of Mount Pleasant. Unlike the short-term shutdowns of 24 -36 hours that were implemented earlier this year to facilitate inspection of the aqueduct, the proposed shutdowns would need to be substantially longer to support demolition and construction activities within the aqueduct and its ancillary facilities. Since the Catskill Aqueduct is currently the sole source for water within the Town of Mount Pleasant and the existing water supply infrastructure within the Town can only accommodate 1-2 day disruptions in service, it would be impractical to attempt the necessary aqueduct modifications in the absence of an alternate water source or delivery conduit for the Town. Therefore, NYCDEP would provide a water source for the Town in order to facilitate the proposed Catskill Aqueduct Pressurization work and enable NYCDEP to shutdown the Aqueduct for extended periods of time. The Town of Mount Pleasant currently has available two connections to the City's Catskill Aqueduct: 1) near the Catskill Venturi Meter off of Columbus Avenue, and 2) a tap on the Kensico Siphon adjacent to the Taconic State Parkway. As described above, during the refurbishment/reconstruction of the Catskill Aqueduct, the Aqueduct would be shutdown and dewatered, so these connections would not be available. Therefore, two options are being considered for providing Delaware Aqueduct water to the Town during extended shutdowns of the Catskill Aqueduct for the pressurization work.

The first option is a 30-inch diameter gravity feed connection that could be installed from the Delaware Shaft No. 18 Flow Control Structure to the existing Commerce Street Pumping Station (Figure 5). The gravity feed connection from the Delaware Shaft No. 18 Flow Control Structure would be routed from the Kensico campus heading west along Lakeview Avenue and Wall Street

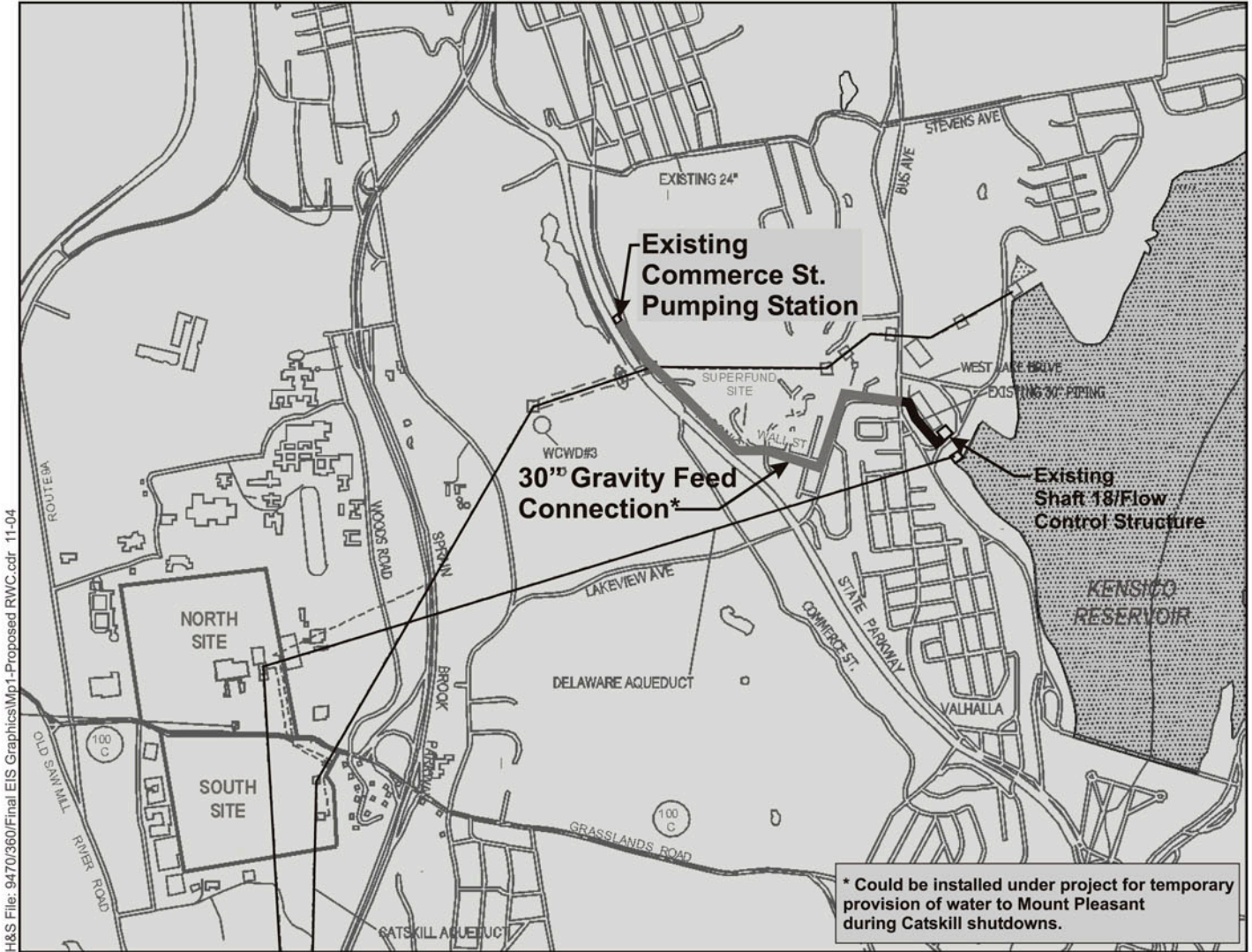
before intersecting Commerce Street. This route consists of public roads and a Mount Pleasant right-of-way, which is adjacent to an industrial park (Farrand Controls Division, Ruhle Companies, Inc.) prior to intersecting Commerce Street. Construction would commence in late 2006. See [Section 5.1, Kensico Reservoir Work Sites](#), for further discussion of this option. The second possible option could include the construction of a temporary booster pumping station at the Eastview Site and installation of a 24-inch diameter force main to convey water from a temporary bypass pumping station on Delaware Shaft No. 19 to a connection at Mount Pleasant's Commerce Street Pumping Station. See [Section 7, Alternatives](#), for further discussion of this option. Westchester County Water District No. 3 would continue receiving water from its connections to the Towns of Mount Pleasant and Greenburgh.

The pumped supply from the Delaware Shaft No. 19 could be routed from the Eastview Site to Commerce Street following one of two possible routes:

- One route alternative would exit the Eastview Site to the east along Grasslands Road (Route 100C), and follow Route 100C east to Woods Road (Penitentiary Road), west of the Sprain Brook Parkway. The piping would continue north along Woods Road onto Westchester County property; then east through the County property; then east across the Sprain Brook Parkway; then east through County property to Route 100; then north along Route 100 to Lakeview Avenue (Old Tarrytown Road). The piping would continue down Lakeview Avenue; north on Commerce Street; under Davis Brook (Davis Brook is currently piped in this location); continue east along Commerce Street; east under the Metro-North Railroad tracks and the Taconic State Parkway; and connect to the Commerce Street Pumping Station.
- The second route alternative would follow the same path as the first alternative up to the intersection with Route 100. At this point, the paths deviate. The piping would continue north along Route 100 to the Catskill Aqueduct Easement into the Gate of Heaven Cemetery to the east; then east within the City property through Gate of Heaven Cemetery; under David Brook (Davis Brook is currently piped in this location); east under the Metro-North Railroad tracks; east under the Taconic State Parkway; and connect to the Commerce Street Pumping Station.

During Operation of the UV Facility

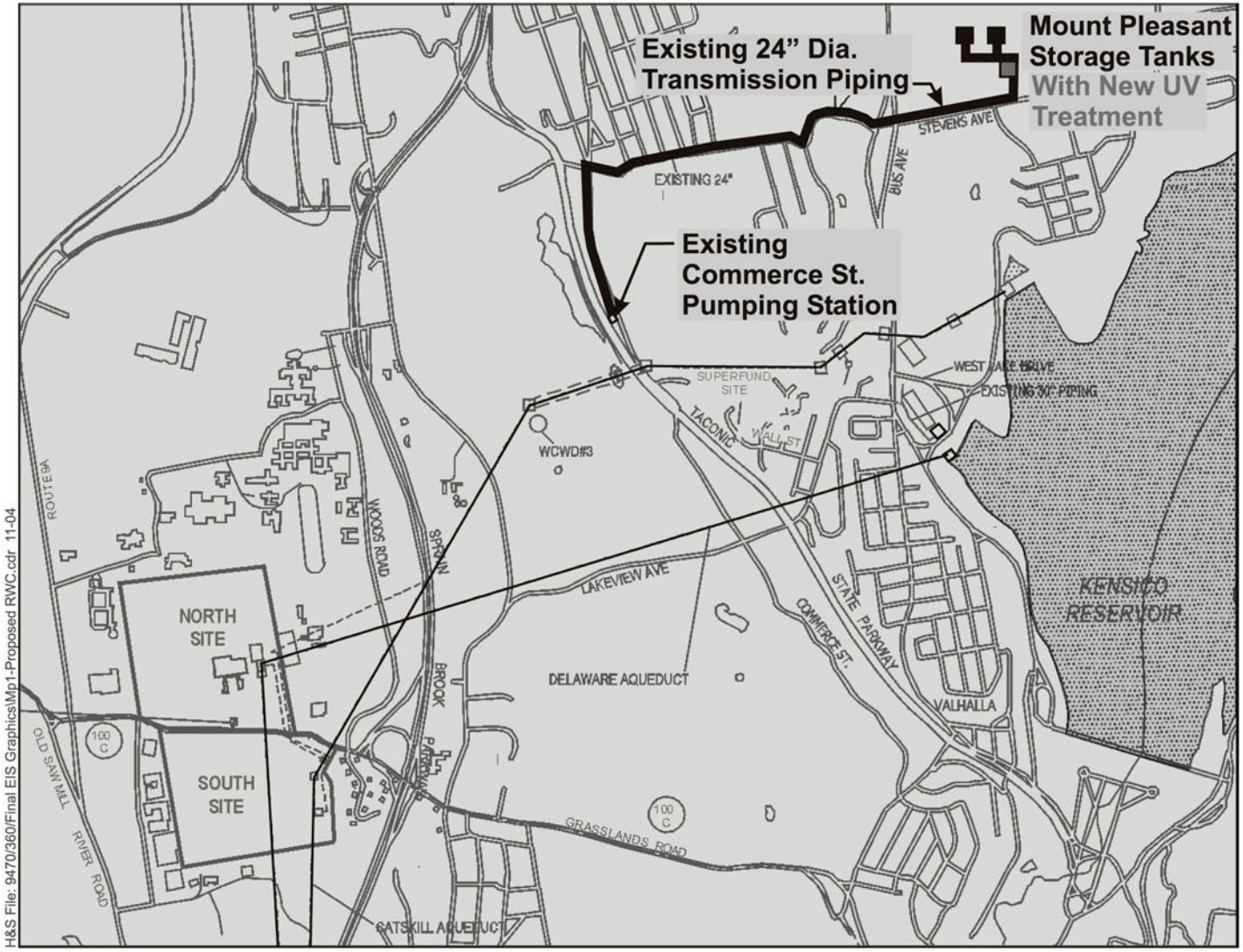
When the proposed UV Facility is placed into operation, the Town of Mount Pleasant would be provided access to UV treated water either through the NYCDEP UV Facility or through a UV building at Mount Pleasant's Stevens Avenue Storage Tanks provided by the NYCDEP ([Figure 6](#)). Although NYCDEP does not have an obligation to provide alternative water supply connections, NYCDEP is committing to providing the Town of Mount Pleasant with facilities for UV treated water to ameliorate the consequences of electing to site the UV Facility at the Eastview Site. The siting of the UV Facility at the Eastview Site would potentially impact the community with several lengthy construction projects (eg. the Catskill Aqueduct Pressurization, the Kensico Dam Reconstruction, and the UV Facility construction), which would result in inconvenience from traffic congestion and other potentially adverse impacts from major construction activities. Two options are being considered for providing a permanent UV treated water supply to the Town.



Town of Mount Pleasant Proposed Raw Water Connection to Pumping Station

Catskill/Delaware UV Facility

Figure 5



H&S File: 9470360/Final EIS Graphics/Mp1-Proposed RWC.cdr 11-04

Separate UV Treatment System for Mount Pleasant

Catskill/Delaware UV Facility

Figure 6

One option is to construct a separate UV building in the Town of Mount Pleasant at the existing Stevens Avenue Storage Tanks, which are supplied from the existing Commerce Street Pump Station. The UV units would be installed within a new stand-alone building located on Town property, to the southeast of the existing water storage tanks. The footprint of the Mount Pleasant UV building would be approximately 30 feet by 40 feet. The building would be located on a cleared area that is part of the Town's property. The Town would have the ability to draw from either the Catskill or Delaware Aqueducts through the existing Commerce Street Pumping Station from either: the Delaware Aqueduct via a 30-inch gravity feed connection from Delaware Shaft No. 18 installed for supplying Delaware Aqueduct water during extended shutdowns of the Catskill Aqueduct for pressurization work, or from the Town's existing connection to the Kensico Siphon of the Catskill Aqueduct. For further details regarding this option, see [Section 5.1, Kensico Reservoir Work Sites](#).

A second option is to construct a permanent pump station, located at the Eastview Site, which would convey water from the UV Facility. If UV treated water is supplied from the proposed UV Facility, a permanent pumping station would be constructed on the edge of the NYCDEP's property to allow easy access by the Town from Route 100C to enable this flow to enter the Town's distribution system. See [Section 7, Alternatives](#), for a detailed discussion of this option.

Coordination of the Shutdowns of the Catskill and New Croton Aqueducts. Under the proposed project, the Catskill Aqueduct would be pressurized because the water entering the Eastview Site via the Catskill Aqueduct is currently at too low of a hydraulic grade. This pressurization work would allow the aqueduct to supply water to Eastview at a hydraulic grade required for UV disinfection. The proposed pressurization work on the aqueduct would result in periodic shutdowns between the Kensico Reservoir and the CCC. These shutdown periods are anticipated to occur during three of the four available shutdown seasons (from September through May) from 2007 to 2011. NYCDEP would coordinate with the Westchester County suppliers to meet their water supply needs. An alternate supply during this period for those suppliers who do not have a backup connection to another aqueduct would be a temporary connection from Shaft No. 19 of the Delaware Aqueduct. Refer to [Section 4.16, Infrastructure and Energy](#), for further details regarding this connection.

In addition, if the Croton project were located on the Eastview Site, it would require shutdowns of the New Croton Aqueduct (NCA). Therefore, NYCDEP would need to coordinate the shutdowns of the Catskill and NCA so that they do not occur at the same time.

While the use of the NCA is necessary for any of the three sites being considered for the Croton project, the work required and ultimate use of each segment of the NCA and associated facilities varies according to the site selection for the Croton project. The work on the NCA involves two major components; general repairs to the NCA and the connection of the NCA to the Croton project. NYCDEP currently anticipates that the majority of the NCA baseline rehabilitation work would be performed over the three available shutdown seasons between October 2004 and April 2007 (2004 to 2005, 2005 to 2006, and 2006 to 2007). For the Croton project at the Eastview Site, the 2008 to 2009 shutdown season would be used for connecting the Croton project to the NCA. For the Croton project located at Mosholu, the 2009 to 2010 shutdown

season would be used for the needed connections between the NCA and the Croton project. The final work to complete the NCA rehabilitation would be performed during the same shutdown season that is needed for the Croton project connections to the NCA, if necessary. If this additional rehabilitation work is needed and cannot be completed during this season, this work would take place after the Croton project is placed on-line. If the Croton project is located at the Eastview Site and the NCA is chosen as the means to convey treated water, the NCA south of the Croton project would have to be pressurized. This pressurization work would take place from 2011 to 2015, after the Croton project is placed in service.

During these shutdowns, NYCDEP would work with the upstate suppliers to meet their water supply needs. Many of these suppliers currently have alternative connections to the City's supply that would be used during certain periods during these shutdowns. The NYCDEP has already initiated coordination with the towns and water utilities served by the NCA and the Catskill Aqueduct to plan for the upcoming out of service periods of each aqueduct for inspection and rehabilitation. Based on this coordination, the City and upstate suppliers would continue to receive water during construction of the Croton project and the proposed UV Facility.

ES.5.1.2.5. Emergency Overflow

In addition to the facility foundation drain, an emergency overflow would be present at the proposed UV Facility to provide a means of alleviating flood conditions that could result from catastrophic failure of process piping or UV equipment inside the building. While the potential for an overflow condition at the proposed UV Facility is considered extremely remote, provision to reduce flooding within the proposed facility would be included as a safety measure for employees working at the facility and as a preventative measure to reduce potential damage to UV equipment. This emergency overflow from the UV Facility would be discharged to Mine Brook just upstream of Route 100C on the Eastview Site. In an emergency scenario due to the catastrophic failure of a process train, a total volume of approximately 1.5 acre-ft with a maximum flow rate of 50,000 gallons per minute (gpm), or 112 cubic feet per second (cfs), could occur. This instantaneous discharge would equate to a peak flow rate generated at the culvert crossing on Route 100C from a 1- to 2-year storm. The total volume discharged (1.5 acre-ft) is 15 percent of the runoff generated at the culvert crossing on Route 100C from a 3-month storm. These peak flows and volumes, which could be discharged in an emergency condition, would not have a significant impact on the existing stream corridor of Mine Brook.

ES.6. CONSTRUCTION SCHEDULES AND COST ESTIMATES

Based on the agreement with USEPA, the City must meet the following schedule for the study design and construction of the proposed UV Facility:

- On or before December 31, 2001 – Complete UV Disinfection Feasibility Study
- On or before May 31, 2002 – Complete UV Disinfection Facility Conceptual Design
- On or before August 31, 2002 – Initiate UV Disinfection Facility Final Design
- On or before May 31, 2004 – Complete Draft Environmental Impact Statement

- On or before November 30, 2004 – Complete Final Environmental Impact Statement
- On or before May 31, 2005 – Complete UV Disinfection Facility Final Design
- On or before August 31, 2009 – UV Disinfection Facility in Operation

The estimated total capital and construction cost for the proposed project is \$597,000,000, in 2004 dollars. Annual operation and maintenance costs are estimated at \$6,700,000. The operation and maintenance cost includes the property taxes/PILOTs. In addition, there would be a patent fee of approximately \$7 million each year for the first nine years of operation for the UV technology.

ES.7. SUMMARY OF POTENTIAL SIGNIFICANT OR TEMPORARY ADVERSE IMPACTS OF THE PROPOSED ACTION, MITIGATION AND UNAVOIDABLE IMPACTS

ES.7.1. Introduction

The following section summarizes the potential significant or temporary adverse impacts of the proposed action, along with potential mitigation measures that would lessen or eliminate such predicted impacts. The NYCDEP would continue to work with the Towns of Mount Pleasant and Greenburgh and any agencies that would be involved in approving such measures such as the New York State Department of Transportation (NYSDOT) and the U.S. Army Corps of Engineers (USACOE), in order to determine the suitability and feasibility of implementing the proposed mitigation measures. However, should the potential significant or temporary adverse impacts predicted in this assessment be realized and the mitigation measures not be approved or implementable, the impacts would remain unmitigated.

In one of the No Action assessments, the Croton project is assumed to be located on the Eastview Site as well, although NYCDEP recently selected the Mosholu Site in the Bronx as the preferred alternative for the Croton project, after the Draft EIS for the proposed UV Facility was published. Nonetheless, the impacts of the proposed action are assessed under two potential future scenarios: one in which the UV Facility is located on the Eastview Site without the Croton project, and one in which the UV Facility is located on the Eastview Site with the Croton project. By the peak construction year of the proposed action (2008), another NYCDEP project the Police Precinct, which was recently approved by the Town of Mount Pleasant, will be located in the southwest corner of the north parcel of the Eastview Site. In addition, an Administration/Laboratory building(s)⁸ could also be located on the Eastview Site; it is one of several properties currently being considered as a possible site for the Administration/Laboratory building(s), and no siting decision has been made. The potential construction and operational impacts of the Police Precinct and the Administration/Laboratory building(s) would be relatively small in scale compared to the proposed UV Facility and Croton project. In addition to these projects, NYCDEP's KCT may be under construction at the Eastview Site starting in 2009. Therefore, the 2010 analysis year considers the possibility of this project. As there are no

⁸ This depends on the results of a siting evaluation which is currently ongoing. The siting decision will be evaluated and discussed as part of a separate independent environmental review.

detailed designs or commitments to construct the KCT at Eastview at the same time that the proposed project would be constructed, it is too speculative at this point to provide meaningful information for purposes of this environmental review. All of these NYCDEP projects are analyzed in this Final EIS to the extent to which information is available. They are all separate actions from the proposed project and would undergo their own independent environmental reviews.

In addition, pursuant to requests received during the scoping comment period, analyses to address the potential “combined” operational and construction impacts from the major planned NYCDEP’s projects that could occur at the Eastview Site through 2010 were addressed. The “combined” analysis is provided to disclose the effect of both NYCDEP projects when compared with numerical thresholds used to determine significant adverse impacts, in combination with the traditional approach of comparing each project against a future scenario where other projects that are not yet built, but that have been approved, are assumed to exist for purposes of determining future proposed project increments. The “combined” impact analysis, which is included in **Section 4.21, Combined Impacts**, considers the added increments of both the proposed UV Facility and the Croton project together, as compared to a baseline where the Eastview Site is generally left undeveloped (with the exception of the Police Precinct and Administration/Laboratory building(s)). This would inform NYCDEP and other decision makers about additional mitigating measures that might be available to ameliorate the effects of both projects on the surrounding area.

ES.7.2. Potential Significant or Temporary Adverse Impacts of the Proposed Action

The potential significant and temporary adverse impacts of the proposed action that were identified for either the construction or operation of the proposed UV Facility are summarized below in two distinct sections: one for the Eastview Site, where the proposed UV Facility would be constructed and would operate; and another for the off-site facilities, where construction work would be conducted in order to pressurize the Catskill Aqueduct and fill the existing Aerator basins. Potential significant adverse impacts were identified for traffic, historic resources, and natural resources. Potential temporary adverse impacts were identified for traffic, neighborhood character, and noise.

ES.7.2.1. Potential Significant or Temporary Adverse Impacts and Mitigation at the Eastview Site

The potential impacts of the proposed UV Facility at the Eastview Site were assessed for the anticipated peak year of the number of construction trucks (2006), the anticipated peak year of the number of construction workers on the site (2008), and the first full year of operation (2010)⁹. The potential impacts were compared to two different future baselines: one in which the NYCDEP Croton project is not located on the Eastview Site; and another in which the Croton project is located on the site, specifically in the northwest corner of the north parcel.

ES.7.2.1.1. Potential Project Impacts

Without Croton Project at Eastview Site.

Operation of the proposed UV Facility, without the Croton project located on the Eastview Site, is not anticipated to have significant adverse impacts in the areas of: land use, zoning, and public policy; visual character; community facilities; open space; neighborhood character; socioeconomic conditions (including water rates and additional property taxes/PILOTS to the local communities); growth inducement; air quality; noise; archaeological resources; hazardous materials; water resources; infrastructure and energy; electric and magnetic fields and extremely low frequency fields (EMF/ELFs); solid waste; and public health. Potential significant adverse impacts on traffic and historic resources from the proposed project were predicted. In addition, potential significant adverse impacts on natural resources from the operation and construction of the proposed UV Facility are also discussed in this section.

Traffic and Transportation.

As discussed in **Section 3.9, Data Collection and Impact Methodologies, Traffic and Transportation**, the impact criteria for evaluating the potential significant or temporary adverse impacts during operation or construction at signalized and unsignalized locations near the Eastview Site and the Off-Site Facilities followed the thresholds in the *CEQR Technical Manual*.

Operation of the proposed UV Facility would generate 34 vehicle trips during each of the AM and PM peak hours, which would result in predicted significant adverse impacts at two intersections. The specific mitigation measures recommended for each location would reduce delays back to or below “Future No Build” (FNB) conditions. The assessment presented here relies on a combination of new traffic signals, lane striping changes, and traffic signal retiming or phasing changes as the recommended measures. Once the proposed UV Facility is built and operational, the various agencies responsible for maintaining traffic flow and roadways in the

⁹ The operation of the proposed UV Facility would actually begin in late 2009. However, in order to project a consistent set of traffic, air and noise impact analyses for the Final Supplemental EIS for NYCDEP’s Croton Water Treatment Plant that includes assessments of the Croton Water Treatment Plant at the Eastview Site, an analysis year of 2010 was included in the UV Facility EIS. The year 2010 was selected because it is the year that the Croton Water Treatment Plant will be required to start operations, and operational impacts for the UV Facility in 2010 would be comparable to those anticipated in 2009.

study area would conduct field inspections of the operations of the various intersections to determine if the proposed mitigation measures are actually warranted (particularly because traffic from anticipated No Build projects or background growth may be less than analyzed in this report). The significant adverse operational impacts, and the measures proposed to mitigate these impacts are as follows:

- At the signalized intersection of Grasslands Road (Route 100C) and the Sprain Brook Parkway Northbound Ramp, the northbound left/through movement would be significantly impacted during the AM peak hour. The delay would increase from 76.4 seconds (LOS E) to 81.1 seconds (LOS F).
 - *Proposed Mitigation:* A shift of 1 second of green time from the east-west signal phase to the northbound phase would fully mitigate this impact. As a result, the northbound left/through movement would improve to LOS E (73.3 seconds of delay). The northbound right-turn movement would also improve from LOS F to LOS E. All other approaches and lane movements would operate at LOS C or better. NYSDOT would determine if retiming is necessary after the construction of the UV Facility begins, and implement this measure accordingly.

- At the unsignalized intersection of Saw Mill River Road (Route 9A) and Route 100C, the northbound left-turn movement would be significantly impacted during both the AM and PM peak hours. During the AM peak hour the delay would increase from 152.7 seconds (LOS F) to 155.9 seconds (LOS F). During the PM peak hour this movement would continue to operate at LOS F, with its delay of greater than 240.0 seconds increasing further. Thereby, the NYCDEP project would worsen an already overburdened movement at this intersection.
 - *Proposed Mitigation:* The installation of a traffic signal at this location would fully mitigate these impacts. As a result, during the AM peak hour, the northbound left-turn would improve to LOS C (30.4 seconds of delay), and all of the other traffic movements and approaches would operate at LOS C or better. Similar to the AM peak hour, this PM impact could be fully mitigated with the installation of a traffic signal at this location. As a result, the northbound left-turn movement would improve to LOS C (30.1 seconds of delay), and all of the other movements and approaches would operate at LOS C or better.

It should be noted that the traffic analyses conducted for this area indicate that conditions at this location are already operating unacceptably under existing conditions, and are anticipated to deteriorate further in the future, even without the proposed UV Facility's additional traffic. This intersection also meets volume warrants under existing and No Build conditions, therefore; the installation of a traffic signal at this intersection appears to be warranted even without the proposed UV Facility, to improve the operation of this intersection. NYCDEP would propose for a traffic signal to be installed at this

location before operations start in 2010. Additional discussions would be held with NYSDOT to determine the suitability of a new signal at this location in order to coordinate the new signal with the long-term traffic management efforts/plans for this corridor.

For locations where the installation of a new traffic signal has been recommended as a mitigation measure, if requested by the agency(s) with jurisdiction over the particular intersection roadways involved, formal Signal Warrant Studies would be performed and submitted for review by the appropriate agency; in most cases NYSDOT.

With respect to proposed signal re-timings or re-phasings, many of the traffic signals at the intersections included in the analyses (and at locations where signal timing improvements are suggested under “mitigation”) have “actuated” signals. Instead of computing the re-optimization of the signal via the actuation process (which is a typical analysis approach for projects undertaking comparable studies in Westchester County), the NYCDEP applied a rigorous methodology that did not take benefit of the natural, re-optimizing of the signal in the “With the Project” scenarios, and only demonstrated such benefits in the mitigation section.

All of the mitigation measures suggested above would serve to eliminate the significant adverse operational impacts of the proposed project. If the mitigation identified is not applied, the predicted significant adverse operational traffic impacts identified would remain unmitigated. In the absence of implementing the mitigation measures proposed above, NYCDEP would consider other traffic management techniques (e.g., the use of traffic control officers, traffic cones, variable message signs, etc.) if approved by the governing roadway entity, to offset these significant adverse impacts, and ensure the smooth and safe operation of traffic.

There would be no significant adverse impacts on parking, safety, or transit.

Historic Resources.

The Hammond House, a historic resource located on the Eastview Site, is listed on the State and National Registers of Historic Places and is also on the Westchester County Inventory of Historic Places. As noted in [Section 4.12, Historic and Archaeological Resources](#), NYCDEP may choose in the future to relocate the Hammond House from the Eastview Site to another location as part of the proposed UV Facility project due to security concerns associated with a private residence being located on the same site as critical components of the City’s water system. As shown in [Figure 7-8 in Section 7, Alternatives](#), which shows the NYCDEP’s comprehensive long-term plan for the Eastview Site, the Hammond House would be an isolated residential use surrounded by NYCDEP’s water supply facilities.

If the Hammond House remains on the Eastview Site, it is not anticipated that the proposed project would have any adverse visual or contextual impacts on the historic resource during its operation. The Eastview Site is large and the proposed facility would only develop a small percentage of the total site area with above ground facilities, the closest of which would be located at least 600 ft. to the northeast of the Hammond House. The portion of the Eastview Site

on which the Hammond House is located would be left wooded, and there would be no project construction within approximately 400 ft. of the historic structure.

However, the possible relocation of the Hammond House, if pursued by NYCDEP as part of the proposed project, could have potential significant adverse physical and contextual impacts on the resource. To avoid or minimize such impacts, NYCDEP would develop a relocation and preservation plan in consultation with the New York State Office of Parks, Recreation and Historic Preservation (serving as the State Historic Preservation Office [SHPO]), and other applicable agencies in accordance with Section 106 of the National Historic Preservation Act of 1966. A Memorandum of Agreement between NYCDEP and SHPO, and the federal Advisory Council on Historic Preservation if necessary, would stipulate items to be addressed in the plan. It is anticipated that plan components would include the selection of an appropriate site for the Hammond House, preparation of Historic American Buildings Survey (HABS) documentation of the house and current site, preparation of a structural analysis of the house and a detailed relocation protocol, and provisions for future maintenance and preservation.

Natural Resources.

The development of the proposed UV Facility would result in significant adverse impacts on natural resources related to the clearing of the site and dewatering during construction.

As per CEQR Guidelines, avoidance and minimization of impacts to natural resources were employed early on in the design phase of the proposed projects. As such, the mature upland forest that occurs in the northeast portion of the north parcel and the majority of wetland forests associated with Mine Brook in both the north and south parcels were left undisturbed by the proposed project. The majority of the oak-tulip tree forest in the south parcel would remain undisturbed as well. Rigorous sediment erosion control specifications would be included in each construction contract in an effort to minimize potential adverse effects from construction activity. The proposed UV Facility calls for the installation and maintenance of a stormwater pretreatment best management practice (BMP) system on-site. The proposed BMP, consisting of a pretreatment forebay, enhanced wetland, and a newly created stream channel, would mitigate the adverse impacts of the untreated stormwater runoff by attenuating peak flows and reducing pollutant loads to downstream reaches.

CEQR requirements stipulate that if a significant impact on natural resources is identified, then mitigation measures should be identified. Mitigation measures fall under five general categories: avoidance, minimization, restoration, reduction, and compensation. Compensation should be used as a last resort to compensate for the unavoidable impacts remaining after the first four types of mitigation are investigated to the extent practicable. To the extent practicable, avoidance and minimization of natural resource impacts have been incorporated by the design of the proposed project. Restoration, reduction and compensation of the significant impacts to natural resources would be accomplished to the maximum extent practicable.

In general, the Towns of Mount Pleasant and Greenburgh and the USACOE require similar mitigation measures as those described in the CEQR Technical Manual. In addition, the Town of Mount Pleasant also has a tree preservation ordinance with formulas to determine the number

of trees required to be re-planted based on the loss of trees from the proposed project. The Town of Greenburgh does not have a specific tree replacement formula but leaves tree replacement decisions up to the Town Forester.

Approximately 28 acres of upland forested habitat and 34 acres of successional shrubland and old field habitat would be lost on the north and south parcels. In addition, approximately 3.1 acres of wetland habitat would be impacted or lost as a result of the construction of the proposed UV Facility project. A detailed breakdown of habitat acreage impacted due to the proposed project is provided below.

Approximately 3.8 acres of oak-tulip tree forest, 20.3 acres of successional southern hardwood forest, 1.2 acres of floodplain forest wetland, 1.9 acres of isolated shrub swamp wetland, 28.5 acres of successional shrub land, and 4.7 acres of successional old field on the north parcel would be lost as a result of the construction of the proposed UV Facility project. On the south parcel, Up to 1.3 acres of oak-tulip tree forest, 2.7 acres of successional southern hardwood forest, and 0.8 acres of successional shrub land would be cleared on the south parcel for a treated water connection conveyance to the Catskill Aqueduct and the potential raw water pressurization conveyance. In addition, 0.01 acres of floodplain forest wetland on the south parcel would be lost due to the replacement of the culvert under Route 100C. NYCDEP considers that these wooded and wetland losses would result in significant adverse natural resources impacts.

Potentially significant adverse impacts from the construction and operation of the proposed UV Facility at the Eastview Site include the removal of 1,918 trees greater than four inches in diameter at breast height (dbh) in the north parcel that would be cut within the construction impact area of the UV Facility. For the Catskill Aqueduct treated water connection conveyance, there are 456 trees greater than four inches at diameter at breast height (dbh) that would be cut within the construction area in the south parcel. For the potential raw water pressurization conveyance, there are 246 trees greater than four inches at diameter at breast height (dbh) that would be cut within the construction area in the south parcel.

Specific off-site and on-site upland and wetland mitigation options were identified to provide an ecologically diverse and functional mitigation for the impacts associated with the UV Facility. In the time period between the issuance of the Draft and Final EIS, NYCDEP refined its proposed natural area restoration and mitigation program to include more comprehensive off-site and on-site mitigation. The mitigation measures presented include reforestation (canopy, sub-canopy, and herbaceous layers) and upland habitat replacement, wetland enhancement and creation, and construction mitigation.

The reforestation plan of canopy, sub-canopy, and herbaceous layers for impacts associated with the site development scenarios would include plant communities indigenous to the area and of a size that would provide for the long-term success of the reforestation efforts. An appropriate ecological mixture of trees and shrubs would be chosen that would replicate and improve the type of forest habitat lost by re-introducing ecologically important indigenous species. The proposed reforestation plan would be designed to produce a forest type with a vertically stratified vegetative composition with well-defined herbaceous, shrub/understory and canopy layers. Dominant canopy trees could include northern red oak, tulip tree, American beech, American

elm, black birch, red maple, black oak, and white oak. In addition to these tree species, an ecologically appropriate mix of understory, shrub, and herbaceous species would be planted as well. Such species as flowering dogwood, witch hazel, sassafras, maple leaf viburnum, northern blackberry, and blueberry could be part of the subcanopy stratum. Typical groundcover could include white wood aster, New York fern, Virginia creeper, jack-in-the-pulpit, Solomon's Seal and false Solomon's Seal. The growth and development of the reforested area(s) would increase habitat complexity, by selecting from an appropriate mix of indigenous plant material and designing the site to be restored to encourage a diverse habitat for wildlife. Such a mitigation plan would provide an overall benefit to local and regional wildlife populations by supplying increased foraging and cover opportunities.

In addition to on-site mitigation, the NYCDEP has identified an off-site reforestation and wetland restoration area that would provide mitigation for the significant impacts that have been predicted to occur on the project site. The off-site mitigation area is described below.

- NYCDEP property within the Town of North Castle: This area presents an opportunity for a forested wetland restoration. Parcel A (the north parcel) of this NYCDEP property presents the opportunity to create a forested wetland similar to the surrounding habitat. Parcel B (the south parcel) of this property consists of a former freshwater wetland area eliminated by extensive fill. Existing site hydrology remains in the form of Bear Gutter Creek and drainage channels conveying runoff to this low-lying area. Permanent open water within the creek and linear drainage channels border this property on all four sides, suggesting that the entire parcel could be excavated to successfully restore forested and emergent wetland habitats. NWI-mapped wetlands here consist of Riverine, upper perennial, unconsolidated bottom, permanently flooded, excavated (R3UBHx); Palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded (PSS1C); and, Palustrine, unconsolidated bottom, permanently flooded, excavated (PUBHx).

This mitigation site would allow for the creation/enhancement of approximately 4.2 acres of forested habitat of which 0.6 acres is upland forested habitat and 3.6 acres is forested wetland. The remaining 1.9 acres would be available for the creation of emergent and open water wetland habitat. This site offers the greatest potential for restoring a more diverse natural resource to the ones that the proposed project would eliminate at the project site. The opportunity to design a restoration plan that would be sizable and viable to achieve the habitat value that is predicted to be lost at the project site makes this site the best choice for implementing a natural resource restoration plan as mitigation for the proposed project. This site provides an opportunity to mitigate for the anticipated natural resource losses at the project site and it is in public ownership within the Kensico Watershed, increasing the likelihood that it would be preserved. Because of the proximity of this site to a larger contiguous forest and existing stream, the restoration of the site with additional forest and wetlands will provide a greater overall ecological value, promoting vegetative and wildlife diversity. This proposed mitigation provides a comprehensive restoration of several sub-ecosystems, and meets the NYCDEP's mitigation objective.

With respect to the anticipated loss of successional shrubland and successional old field on-site, the creation of approximately 38 acres of shrubland/grassland and indigenous meadow grass habitat on the north parcel is proposed under the proposed UV Facility at the Eastview Site. Mitigation with shrubland/grassland and indigenous meadow grass habitat would provide an improved and more diverse habitat value over the successional shrubland dominated with multiflora rose and other invasive plant species (e.g., Bush Honeysuckle and Mugwort) that currently exists on-site.

Mitigation for the wetlands to be disturbed under the proposed UV Facility at the Eastview Site would be accomplished through on-site and off-site mitigation scenarios. It is anticipated that a total of 3.1 acres of wetlands, currently not contiguous on the project site would be eliminated to construct the proposed project. NYCDEP is proposing a wetland mitigation plan that would double the area of wetlands lost to compensate for the habitat value of the on-site wetland losses. It is not anticipated that wetland losses on the project site would result in any significant stormwater or flood control changes. NYCDEP would implement best management practices, including a series of designed stormwater control techniques that would be put in place during construction and would be features of the proposed operational plans for the facility. NYCDEP proposes to implement 7.5 acres of on-site and 5.5 acres of off-site wetland enhancement/creation.

The on-site wetland mitigation would include the following:

- Expand the floodplain forest wetland north of 100C to the west towards Hammond House. This would be done in conjunction with the proposed 1.4 acre wetland enhancement for stormwater flow attenuation, which includes the creation of 0.2 acres of floodplain forest wetland within existing successional shrubland habitat. Successional shrubland habitat has a New York State Natural Heritage Program (NYSNHP) element rank of S4 indicating that this community is apparently secure throughout New York State. Floodplain forest wetland habitat has a NYSNHP element rank of S2 (demonstrably vulnerable in New York State) and S3 (limited acreage or miles of stream in New York State). Therefore, replacing successional shrubland habitat with floodplain forest would constitute a beneficial replacement of a more secure habitat with a less secure habitat.
- Expand and make contiguous the forested and scrub/shrub wetlands along Mine Brook in the south parcel (Town of Greenburgh). A 6.1 acre area has been identified in the southeastern portion of the south parcel that appears to provide the necessary criteria to create a functioning wetland ecosystem. This portion of the property is predominantly successional southern hardwood forest (3.5 acres) to the east of Mine Brook and oak-tulip tree forest (3.0 acres) to the west of Mine Brook. It is anticipated that by excavating portions of these areas and utilizing surface water flows from the two adjacent streams, 6.1 acres of floodplain forest, wet meadow and emergent wetlands could be created to offset the loss of the functions and values of the wetlands disturbed to accommodate the proposed UV Facility and Croton project.

The off-site wetland mitigation would include the following:

- NYCDEP property within the Town of North Castle: As described above, this mitigation site consists of Parcel A (the north parcel) and Parcel B (the south parcel) both of which are located off Route 22 in the Town of North Castle on land owned by the NYCDEP. Of all the potential wetland mitigation sites, this site offers the greatest potential benefit to restore a wetland of considerable size because it consists of a former wetland area eliminated by extensive construction-fill derived soils.

Parcel A contains an early successional habitat characterized by mounds of fill and rubble interspersed with less disturbed wetland areas. The disturbed fill areas contain such species as multiflora rose and pussy willow, with the less disturbed, wetter areas dominated by tussock sedge and red maple. With the removal of existing fill/rubble, roughly half of the northern area presents an opportunity to create a forested wetland similar to the surrounding habitat. Proposed mitigation on Parcel A includes 2.2 acres of forested wetland.

Within Parcel B such species as Ironwood (*Ostrya virginiana*), and Gray Birch (*Betula populifolia*) were noted, as well as invasive shrubs. However, the central fill area, representing the majority of the parcel, is primarily low-wildlife habitat maintained lawn. Existing site hydrology suggests that this entire area could be excavated to successfully restore a forested or emergent wetland. Proposed mitigation on Parcel B includes 1.6 acres of wet meadow, 1.4 acres of forested wetland, and 0.3 acres of open water.

NYCDEP's proposed natural area restoration and mitigation plan would include a comprehensive on-site and off-site mitigation program. The proposed 13.0 acres of on-site and off-site wetland enhancement/creation would exceed the desired 2:1 mitigation requirement for the loss of 3.1 acres of shrub swamp and floodplain forest wetlands on the Eastview Site. The approximate 38 acres of shrubland/grassland and indigenous meadow grass habitat creation on the north parcel under the UV Facility only scenario would more than fully mitigate the 34 acres of successional shrubland and successional old field habitat lost due to the UV Facility project. Due to the possible future development of the Eastview Site with the Catskill/Delaware Filtration Plant or other NYCDEP facilities and for security reasons, mitigation of tree and forested habitat loss associated with the project would be accomplished through reforestation of the off-site locations to provide both upland and wetland forested habitat as described above. The mitigation potential provided by the off-site location would mitigate for the tree and forested habitat loss associated with the proposed UV Facility. In conjunction with the on-site mitigation, the NYCDEP would accomplish its mitigation goal of providing a more diverse habitat replacement to the regional ecology.

With Croton Project at Eastview Site.

Operation of the proposed UV Facility, with the Croton project also located on the Eastview Site, is not anticipated to have significant adverse impacts in the areas of: land use, zoning, and public policy; visual character; community facilities; open space; neighborhood

character; socioeconomic conditions (including water rates and additional property taxes/PILOTS to the local communities); growth inducement; air quality; noise; historic and archaeological resources; hazardous materials; water resources; infrastructure and energy; electric and magnetic fields and extremely low frequency fields (EMF/ELFs); solid waste; and public health. However, potential significant adverse traffic and natural resources impacts are predicted under this scenario.

Traffic and Transportation.

Assuming the Croton project is built on the Eastview Site in the future independent of the proposed project, the addition of the 34 vehicle trips from the proposed UV Facility would result in predicted significant adverse traffic impacts at two intersections. The specific mitigation measures recommended for each location would reduce delays back to or below FNB conditions. The assessment presented here relies on a combination of new traffic signals and traffic signal retiming or phasing changes as the recommended measures. Once the UV Facility is built and operational, the various agencies responsible for maintaining traffic flow and roadways in the study area would conduct field inspections of the operations of the various intersections to determine if the proposed mitigation measures are actually warranted (particularly because traffic from anticipated No Build projects or background growth may be less than analyzed in this report). The significant adverse operational impacts and the proposed measures recommended to mitigate these impacts are as follows:

- At the signalized intersection of Grasslands Road (Route 100C) and the Sprain Brook Parkway Northbound Ramp, the northbound left/through movement would be significantly impacted during the AM peak hour. The delay would increase from 83.8 seconds (LOS F) to 89.0 seconds (LOS F).
 - *Proposed Mitigation:* A shift of 1 second of green time from the east-west signal phase to the northbound phase would fully mitigate this impact. As a result, the northbound left/through movement would improve to LOS F (80.3 seconds of delay), and the northbound right-turn movement would improve from LOS F to LOS E. All other approaches and lane movements would operate at LOS C or better. NYSDOT would determine if retiming is necessary after the construction of the UV Facility begins, and implement this measure accordingly.
- Unsignalized: At the intersection of Saw Mill River Road (Route 9A) and Grasslands Road (Route 100C), the northbound left-turn movement would be significantly impacted during the PM peak hour. This movement would continue to operate at LOS F, with its delay of greater than 240 seconds, increasing further..
 - *Proposed Mitigation:* This impact could be fully mitigated with the installation of a traffic signal at this location. As a result, the northbound left-turn movement would improve to LOS C (30.1 seconds of delay), and all of the other movements and approaches would operate at LOS C or better. Although traffic from the proposed UV Facility would not result in a

significant adverse impact at this location during the AM peak hour, operations were evaluated with the new traffic signal. The analysis shows that delays would improve substantially with the installation of the traffic signal required as mitigation for the PM peak hour impact, resulting in all movements and approaches operating at LOS C or better, during the AM peak hour.

It should be noted that the traffic analyses conducted for this area indicate that conditions at this location are already operating unacceptably under existing conditions, and are anticipated to deteriorate further in the future, even without the proposed UV Facility's additional traffic. Therefore, the installation of a traffic signal at this intersection may be warranted even without the proposed UV Facility, to improve the operation of this intersection. NYCDEP would propose for a traffic signal to be installed at this location before operations start in 2010. Additional discussions would be held with NYSDOT to determine the suitability of a new signal at this location in order to coordinate the new signal with the long-term traffic management efforts/plans for this corridor.

For locations where the installation of a new traffic signal has been recommended as a mitigation measure, formal Signal Warrant Studies would be performed, if requested by the agency(s) with jurisdiction over the particular intersection roadways involved.

All of the mitigation measures suggested above would serve to eliminate the predicted significant adverse operational impacts of the proposed project. If the mitigation identified is not applied, the predicted significant adverse operational traffic impacts identified would remain unmitigated. In the absence of implementing the mitigation measures proposed above, NYCDEP would consider other traffic management techniques, if approved by the governing roadway entity, to offset these significant adverse impacts, and ensure the smooth and safe operation of traffic.

There would be no significant adverse impacts on parking, safety, or transit.

Natural Resources.

Potential significant adverse impacts on natural resources and proposed mitigation for such impacts would be greater at the Eastview Site in the future when both projects would be assumed to be built at this site, because the opportunity for restoring some plant communities in staging or lay down areas after construction is complete, as assumed for the UV Facility alone is not possible when space is needed to site both projects.

With the Croton project, construction of the UV Facility would result in an additional loss of approximately 18 acres of upland forested habitat on the north parcel for a total loss of 24 acres of upland forest habitat at the Eastview Site and an additional loss of 11 acres of successional shrubland and old field habitat on the north parcel for a total loss of 33 acres of successional shrubland and old field habitat on the Eastview Site. Approximately 3.0 acres of additional

wetland habitat on the north parcel would be impacted or lost as a result of the construction of the proposed UV Facility project with Croton project for a total loss of 3.2 acres of wetlands at the Eastview Site (see [Section 4.14, Natural Resources](#)).

The potential loss of natural resources attributable to the proposed UV Facility would be less under this scenario than those reported for the Future Without the Croton project at the Eastview Site, because with the Croton project on site, the UV Facility would disturb less area on the site.

ES.7.2.1.2. Potential Construction Impacts

Without Croton Project at Eastview Site

Construction of the proposed UV Facility, without the Croton project located on the Eastview Site, is not anticipated to have adverse impacts in the areas of: land use, zoning, and public policy; visual character; community facilities; open space; neighborhood character; socioeconomic conditions (including water rates and additional property taxes/PILOTS to the local communities); growth inducement; air quality; historic and archaeological resources; hazardous materials; water resources; infrastructure and energy; electric and magnetic fields and extremely low frequency fields (EMF/ELFs); solid waste; and public health. However, potential temporary adverse impacts on traffic and noise, and significant adverse natural resources impacts are predicted under this scenario.

Traffic and Transportation.

Construction of the proposed UV Facility would generate 428 passenger car equivalents (PCEs) during each of the AM and PM peak hours, which would result in a total of 15 temporary adverse impacts at intersections in the primary study area under 2008 Construction conditions (6 at signalized intersections, 3 during AM peak hour and 3 during the PM peak hour; and 9 at unsignalized intersections, 3 during the AM peak hour and 6 during the PM peak hour).

Table 1 summarizes the intersections that would be predicted to experience temporary adverse construction-related impacts under 2008 Construction Conditions during the AM and/or PM peak hours.

TABLE 1: 2008 TEMPORARY ADVERSE CONSTRUCTION-RELATED IMPACTS (WITHOUT THE CROTON PROJECT)

Intersection	Signalized Intersection	Unsignalized Intersection
Saw Mill River Road (Route 9A)/Tarrytown-White Plains Road (Route 119)	X	
Old Saw Mill River Road (Route 9A)/ Saw Mill River Parkway Southbound Ramp	X	
Grasslands Road (Route 100C)/Sprain Brook Parkway Northbound Ramp	X	
Virginia Road/Bronx River Parkway	X	
Saw Mill River Road (Route 9A)/Ramada Inn/Broadway Plaza		X

**TABLE 1: 2008 TEMPORARY ADVERSE CONSTRUCTION-RELATED IMPACTS
(WITHOUT THE CROTON PROJECT)**

Intersection	Signalized Intersection	Unsignalized Intersection
Saw Mill River Road(Route 9A)/Grasslands Road (Route 100C)		X
Grasslands Road(Route 100)/Virginia Road		X
Grasslands Road(Route 100)/Legion Drive		X

Tables showing the results of applying the mitigation measures, also indicate the specific measures recommended for each location (see [Section 6.1.2, Mitigation of Potential Significant or Temporary Adverse Impacts, Eastview Site, Traffic and Transportation](#)). For many of the locations, more than one measure was identified that could be implemented that would reduce delays back to or below FNB conditions. The assessment relies on a combination of new traffic signals, lane striping changes, and traffic signal retiming or phasing changes as the recommended measures. Once the construction of the UV Facility has commenced, the various agencies responsible for maintaining traffic flow and roadways in the study area would conduct field inspections of the operations of the various intersections to determine if the proposed mitigation measures are actually warranted (particularly because traffic from anticipated No Build projects or background growth may be less than analyzed in this report).

It should be noted that the traffic analyses conducted for this area indicate that conditions at these unsignalized intersection locations, where temporary adverse construction-related impacts have been predicted, are already operating unacceptably under existing conditions, and are anticipated to deteriorate further in the future, even without the proposed UV Facility’s additional traffic. Therefore, the installation of a new traffic signal at these intersections may be warranted even without the proposed UV Facility, to improve the operation of these intersections.

For locations where the installation of a new traffic signal has been recommended as a mitigation measure, if requested by the agency(s) with jurisdiction over the particular intersection roadways involved, formal Signal Warrant Studies would be performed and submitted for review by the appropriate agency; in most cases NYSDOT

All of the mitigation measures suggested would serve to eliminate or reduce the predicted adverse construction impacts of the proposed project. If the mitigation identified is not applied, the predicted temporary adverse construction traffic impacts identified would remain unmitigated. In the absence of implementing the mitigation measures proposed above, NYCDEP would consider other traffic management techniques, if approved by the governing roadway entity, to offset these temporary adverse impacts, and ensure the smooth and safe operation of traffic.

The project-generated increase in traffic at the intersection of Bradhurst Avenue (Route 100), Grasslands Road (Route 100C), and Knollwood Road (Route 100A) is anticipated to translate to less than one additional accident per year and less than one additional accident over the entire construction period.

There would be no significant adverse impacts on parking or transit; all of the parking would be accommodated on the project site and the construction is not anticipated to generate any considerable transit ridership. In addition, there would be no significant adverse impacts on pavement infrastructure.

Noise.

Temporary adverse noise impacts were predicted to occur at several receptors sporadically during the early stages of construction, when site preparation is undertaken, involving outdoor activities such as clearing, excavation, and foundation work. Measures to ensure compliance with the Town of Mount Pleasant Code could include the installation of temporary noise barriers, fitting of air compressors and cranes with silencers, or the use of walled enclosures around noisy construction activities.

Natural Resources.

Potential mitigation measures to address significant natural resources impacts are discussed and presented above, under the mitigation measures to address potential project impacts from the UV Facility Without the Croton project at Eastview Site.

With Croton Project at Eastview Site

Construction of the proposed UV Facility with the Croton project located on the Eastview Site is not anticipated to have significant adverse impacts in the areas of: land use, zoning, and public policy; visual character; historic and archaeological resources; community facilities; open space; socioeconomic conditions (including water rates and additional property taxes/PILOTS to the local communities); growth inducement; air quality; hazardous materials; water resources; infrastructure and energy; electric and magnetic fields and extremely low frequency fields (EMF/ELFs); solid waste; and public health. However, potential significant adverse traffic impacts and significant natural resources impacts are predicted under this scenario. Also, potential temporary adverse noise and neighborhood character impacts from construction were identified.

Neighborhood Character.

Although direct neighborhood character effects may be felt as a result of both the proposed UV Facility and the Croton project being constructed at the same time, these effects would be temporary, and measures would be taken to reduce the effects on neighborhood character if necessary. Impacts from the simultaneous construction of both the proposed UV Facility and the Croton project may be more noticeable off-site in terms of the traffic and noise that would be generated by construction worker vehicles and trucks. The introduction of the UV Facility to the site would result in construction truck trips greater than the number of the truck trips generated if the Croton project were under construction alone, because of the reduction of staging area available for the UV Facility with both projects under construction. As a result, significant adverse traffic and temporary adverse noise impacts could occur at numerous intersections and road segments, throughout the study area. Due to constraints involving road

geometry, mitigation of these construction-period traffic impacts may not be feasible. Therefore, during construction, temporary adverse impacts to neighborhood character, due to traffic congestion and elevated noise levels, would occur. Traffic impacts during construction would result in widespread congestion in the regional area, resulting in potential temporary inconvenience to commercial, institutional, retail and residential uses, within the surrounding area. Potential traffic mitigation measures would continue to be pursued by the NYCDEP to minimize traffic impacts on the community and thus reduce temporary adverse impacts on neighborhood character in the future with the Croton project scenario.

Traffic and Transportation.

With both the Croton project and the proposed UV Facility under construction at the Eastview Site at the same time, there would not be enough space on-site for all of the workers for both projects to park, as most of the available land area would either be under construction, or in use as construction lay-down or staging areas. Therefore, the construction analysis examines four different construction worker parking Options (A, B, C, and D).

These construction worker parking Options have been selected for analysis purposes, as representative of the types of routings that worker vehicles would use for off-site parking. Each of the four construction worker parking options also includes an additional assignment for shuttle buses that would transport the workers between the Eastview Site and the parking areas. It is important to note that under these 2008 Construction conditions, not only are the workers associated with the UV Facility's construction routed to one or more off-site locations, but the construction workers associated with the Croton project have also been routed to one or more of the same off-site parking locations as the UV Facility's workers.

It is important to note that these 2008 Construction (Options A through D) conditions reflect the maximum number of worker trips that would be anticipated at the peak of the concurrent construction of the UV Facility and the Croton project. During other times of the five-year construction period, the number of total workers traveling to and from the Eastview Site would be substantially lower than for peak conditions in 2008. During these times with fewer workers, the impacts would be less than those discussed below, and would be likely to occur at locations similar to conditions outlined for Option A, because the workers would be able to park at the Eastview Site, and the routing of those trips would be very similar to the routing examined for Option A.

The four construction worker parking Options are described below:

- *Option A:* All of the construction workers for both the UV Facility and the Croton project would park at the Landmark at Eastview Office Park (Landmark property), west of the project site, and would be shuttled to the site in buses or vans.
- *Option B:* All of the construction workers for both the UV Facility and the Croton project would park at the Westchester Community College (WCC) Campus, east of the project site, and would be shuttled to the site in buses or vans.

- *Option C:* Parking for all of the construction workers for both the UV Facility and the Croton project would be split evenly between the Landmark property and WCC, and workers would be shuttled to the site in buses or vans.
- *Option D:* All of the construction workers for the Croton project would park at the Landmark property, west of the project site, and all of the construction workers for the UV Facility would park at the new Home Depot off Dana Road, just northwest of the Eastview Site. Rather than simply splitting the workers between the two sites, workers from the UV Facility were assigned to the Home Depot site because the property owner indicated that they anticipated that available parking would be just enough to accommodate the projected number of UV Facility construction worker vehicles, but would not be sufficient to accommodate the projected number of Croton project worker vehicles. All workers for either project would be shuttled to the site from their respective parking areas in buses or vans.

Under Option A, it was found that traffic from the construction of the proposed UV Facility would be anticipated to result in a total of 26 potential significant adverse traffic impacts, (11 at signalized intersections, 4 during the AM peak hour and 7 during the PM peak hour, and 15 at unsignalized intersections, 6 during the AM peak hour and 9 during the PM peak hour).

Under Option B, it was found that traffic from the construction of the proposed UV Facility would be anticipated to result in a total of 33 potential significant adverse impacts at intersections in the primary study area in 2008 (17 at signalized intersections, 8 during the AM peak hour and 9 during the PM peak hour, and 16 at unsignalized intersections, 8 during the AM peak hour and 8 during the PM peak hour).

Under Option C, it was found that traffic from the construction of the proposed UV Facility would be anticipated to result in a total of 27 potential significant adverse impacts at intersections in the primary study area in 2008 (12 at signalized intersections, 5 during the AM peak hour and 7 during the PM peak hour, and 15 at unsignalized intersections, 7 during the AM peak hour and 8 during the PM peak hour).

Under Option D, it was found that traffic from the construction of the proposed UV Facility would be anticipated to result in a total of 24 potential significant adverse impacts at intersections in the primary study area (11 at signalized intersections, 4 during the AM peak hour and 7 during the PM peak hour, and 13 at unsignalized intersections, 6 during the AM peak hour and 7 during the PM peak hour).

[Table 2](#) summarizes the intersections that would be predicted to experience significant adverse construction-related impacts in 2008, under each parking Option during the AM and/or PM peak hours.

**TABLE 2. SIGNIFICANT ADVERSE CONSTRUCTION-RELATED IMPACTS
UNDER THE PARKING OPTIONS**

Intersection	Option A	Option B	Option C	Option D
<i>Signalized Intersections</i>				
Saw Mill River Road (Route 9A)/Tarrytown-White Plains Road (Route 119)	X	X	X	X
Saw Mill River Road (Route 9A)/Dana Road				X
Old Saw Mill River Road/Saw Mill River Parkway Southbound Off-Ramp	X	X	X	X
Grasslands Road (Route 100C)/Clearbrook Road/Walker Road	X	X		
Grasslands Road (Route 100C)/Sprain Brook Parkway Southbound Ramp	X	X		X
Grasslands Road (Route 100C)/Sprain Brook Parkway Northbound Ramp	X	X	X	X
Virginia Road/Bronx River Parkway	X	X	X	X
Grasslands Road (Route 100C)/Bradhurst Avenue		X	X	
Old Saw Mill River Road/Landmark West Driveway	X			
Grasslands Road (Route 100)/Westchester Community College (WCC) East Gate		X	X	
<i>Unsignalized Intersections</i>				
Saw Mill River Road (Route 9A)/Ramada Inn/Broadway Plaza	X	X	X	X
Saw Mill River Road (Route 9A)/Grasslands Road (Route 100C)	X	X	X	X
Grasslands Road (Route 100C)/Saw Mill River Road (Route 9A) Northbound Ramp	X	X	X	X
Grasslands Road (Route 100)/Virginia Road	X	X	X	X
Grasslands Road (Route 100)/Legion Drive	X	X	X	X

**TABLE 2. SIGNIFICANT ADVERSE CONSTRUCTION-RELATED IMPACTS
UNDER THE PARKING OPTIONS**

Intersection	Option A	Option B	Option C	Option D
Old Saw Mill River Road/Landmark at Eastview East Driveway	X	X	X	X
Grasslands Road (Route 100)/WCC West Gate		X	X	

Tables showing the results of applying the mitigation measures for each of the parking Options also indicate the specific measures recommended for each location (see [Section 6.1.2, Mitigation of Potential Significant or Temporary Adverse Impacts, Eastview Site, Traffic and Transportation](#)). For many of the locations, more than one measure was identified that could be implemented that would reduce delays back to or below FNB conditions. The assessment presented in this Final EIS relies mostly on a combination of new traffic signals, lane striping changes, and traffic signal retiming or phasing changes as the recommended mitigation measures. A number of maintenance and protection of traffic (MPT) measures that would not involve physical improvements or changes have been investigated as measures to mitigate the construction period impacts. The various MPT measures could be used singly or in combination, to establish MPT plans for individual intersections, or overall traffic systems.

For locations where the installation of a new traffic signal has been recommended as a mitigation measure, if requested by the agency(s) with jurisdiction over the particular intersection roadways involved, formal Signal Warrant Studies would be performed and submitted for review by the appropriate agency. In most cases, this agency is NYSDOT.

All of the mitigation measures suggested in [Section 6, Mitigation of Potential Significant or Temporary Adverse Impacts](#), would serve to eliminate or reduce the predicted temporary significant adverse impacts of the proposed project. If the mitigation identified is not applied, the predicted significant adverse impacts identified would remain unmitigated. In the absence of implementing the mitigation measures proposed below, NYCDEP would consider other traffic management techniques, if approved by the governing roadway entity, to offset these significant adverse impacts, and ensure the smooth and safe operation of traffic.

Under each option, there would be no adverse impacts on parking, safety, transit, or pavement infrastructure.

Noise.

Temporary adverse noise impacts were predicted to occur at several receptors sporadically during the early stages of construction, when site preparation is undertaken, involving outdoor activities such as clearing, excavation, and foundation work. In addition, noise levels would exceed the Town of Mount Pleasant’s noise limit at three locations (County Laboratory, Penitentiary, and Juvenile Detention Center). Measures to ensure compliance with the Town of Mount Pleasant Code could include the installation of temporary noise barriers,

fitting of air compressors and cranes with silencers, or the use of walled enclosures around noisy construction activities.

Natural Resources

Potential significant adverse impacts on natural resources would be less under this scenario, if the land reserved for lay down area for the UV Facility were instead used for the Croton project. There would be less opportunity for natural resources mitigation than available for the Future Without Croton project at Eastview Site. In this scenario, the construction staging area could be restored to a valuable habitat once construction is completed.

ES.7.2.2. Potential Significant or Temporary Adverse Impacts and Mitigation at the Off-Site Facilities

The proposed construction work at the Off-Site Facilities is not anticipated to have significant adverse impacts in the areas of: land use, zoning, and public policy; visual character; community facilities; open space; neighborhood character; socioeconomic conditions (including water rates and additional property taxes/PILOTS to the local communities); historic and archaeological resources; growth inducement; air quality; hazardous materials; water resources; infrastructure and energy; electric and magnetic fields and extremely low frequency fields (EMF/ELFs); solid waste; natural resources; and public health. However, temporary adverse impacts on traffic and noise are predicted under this scenario.

ES.7.2.2.1. Traffic

Kensico Reservoir Work Sites

This section summarizes the potential temporary adverse traffic impacts associated with the proposed trucking of excavated material from the Eastview Site to the NYCDEP Kensico campus, where the existing Aerators would be filled, graded and landscaped, and the traffic that would be generated by the pressurization of the Catskill Aqueduct and construction of the new screen chamber. Two separate studies were conducted: an analysis of 2006 conditions, when the Delaware Aerator would be completely filled and the Catskill Aerator would be partially filled; and an analysis of 2010, the peak year of construction activity at the Kensico Reservoir work sites, when all three components of the proposed work would be underway (remainder of the filling of the Catskill Aerator, aqueduct pressurization, and construction of new screen chamber). Similar to the analyses undertaken for the Eastview Site, for the 2006 Off-Site Facilities construction conditions, scenarios with and without the Croton project under construction at the Eastview Site were examined. In addition, the 2006 analyses have considered five different truck route Options, resulting in five distinct 2006 Construction conditions (Options A, B, C, D, and E). The five truck route Options that were analyzed are described below:

- *Option A*: 100 percent of the trucks traveling on Lakeview Avenue.
- *Option B*: 100 percent of the trucks traveling on Grasslands Road (Route 100 C) /Commerce Street.

- *Option C*: An even 50/50 percent split between Lakeview Avenue and Grasslands Road (Route 100 C) /Commerce Street.
- *Option D* (the preferred route): 100 percent of the trucks traveling on Lakeview Avenue from the Eastview Site to the Kensico Reservoir, 100 percent of the trucks traveling on Commerce Street from the Kensico Reservoir to the Eastview Site.
- *Option E*: 100 percent of the trucks traveling on Route 9A to Route 141 to Kensico Road to Columbus Avenue.

In responding to comments on the Draft EIS and based on field visits with NYSDOT in the time period between the issuance of the Draft EIS and Final EIS, two additional alternative routes for trucks transporting excavated materials from the Eastview Site to the Kensico Aerators were analyzed. Option D reflects a reasonable direct route that minimizes left turns for trucks crossing at unsignalized intersections. Option D reflects a reasonable direct route that minimizes left turns for trucks crossing at unsignalized intersections. Option E reflects a route that is on State and County roadways, but would require a much longer travel time per trip (when compared to Option D, about 30 minutes longer per truck trip back and forth from the Eastview to the Kensico Reservoir work sites). While the total amount of excavated material transferred to the Kensico campus would remain the same among the five options, Option E would likely require the contractor to employ additional trucks due to the longer trip distances and travel times in comparison to routes for Options A through D. Option E would also likely result in a longer time period for transporting excavated material from the Eastview Site to the Kensico campus, and thus, elongate the time period that the community is subjected to the trucking activities from this component of construction. In consideration of a) on-street safety, b) minimizing the duration of impacts on the local community that are related to the trucking of excavated material to the Kensico campus, and c) Filtration Avoidance Determination (FAD) time restraints for completing construction of the project, NYCDEP has specified a preferred route (Option D), and will direct the contractor to utilize this route, unless circumstances require a temporary alternate route. Mitigation measures that would need to be applied for the preferred route (Option D) and various other routes are also identified in the EIS and the site preparation contract. These mitigation measures would ensure the safety of the general public, including school children, while these activities are underway.

The total filling of the Aerators at the Kensico campus may require approximately 280,000 cubic yards of backfill, most of which would be excavated at the Eastview Site. Approximately 80 percent of the material associated with filling of the Catskill and Delaware Aerators, (approximately 220,000 cubic yards of fill), would be transported to the Kensico campus in the peak construction year 2006, when the Delaware Aerator filling and the bulk of the Catskill Aerator filling would occur. The remainder of the Catskill Aerator filling activity would occur concurrently with the construction for the new Screen Chamber and the proposed Catskill pressurization in the peak construction year 2010. These additional construction activities would be of a much smaller scale than the proposed filling of the Aerators. Due to the considerably lesser volume of fill being transported from the Eastview Site to the Kensico campus in the construction year 2010, the potential impacts (on traffic, noise and air quality) are conservatively estimated to be equal to or less than the impacts projected for 2006 and to last for a shorter duration.

2006 Construction Conditions, Without Croton Project at Eastview Site

This analysis scenario compared a “pure” FNB condition in 2006 (i.e., without the proposed Aerator filling at the Kensico campus, and without construction of the Croton project at the Eastview Site), to construction conditions in 2006 (with the proposed filling of the Aerators).

Under 2006 Construction Option A conditions, it was found that traffic from the trucks and the construction of the proposed UV Facility would be anticipated to result in 17 potential temporary adverse traffic impacts (7 during the AM peak hour, 3 during the midday peak hour, and 7 during the PM peak hour).

Under 2006 Construction Option B conditions, it was found that traffic from the trucks and the construction of the proposed UV Facility would be anticipated to result in 20 potential temporary adverse traffic impacts (8 during the AM peak hour, 2 during the midday peak hour, and 10 during the PM peak hour).

Under 2006 Construction Option C conditions, it was found that traffic from the trucks and the construction of the proposed UV Facility would be anticipated to result in 23 potential temporary adverse traffic impacts (10 during the AM peak hour, 3 during the midday peak hour, and 10 during the PM peak hour).

Under 2006 Construction Option D conditions, it was found that traffic from the trucks and the construction of the proposed UV Facility would be anticipated to result in 15 potential temporary adverse traffic impacts (6 during the AM peak hour, 1 during the midday peak hour, and 8 during the PM peak hour).

Under 2006 Construction Option E conditions, it was found that traffic from the trucks and the construction of the proposed UV Facility would be anticipated to result in 7 potential temporary adverse traffic impacts (2 during the AM peak hour, 2 during the midday peak hour, and 3 during the PM peak hour).

Table 3 summarizes the intersections that would be predicted to experience temporary adverse impacts under each truck route Option during the AM and/or PM peak hours.

TABLE 3. POTENTIAL SIGNIFICANT ADVERSE CONSTRUCTION-RELATED IMPACTS FROM THE TRUCK ROUTE OPTIONS (WITHOUT CROTON PROJECT)

Intersection	Option A	Option B	Option C	Option D	Option E
<i>Signalized Intersections</i>					
Grasslands Road (Route 100 C)/Bradhurst Avenue	X	X	X	X	
Grasslands Road (Route 100C)/Clearbrook Road/Walker Road	X	X	X	X	
Taconic State Parkway/Lakeview Avenue	X	X	X	X	

TABLE 3. POTENTIAL SIGNIFICANT ADVERSE CONSTRUCTION-RELATED IMPACTS FROM THE TRUCK ROUTE OPTIONS (WITHOUT CROTON PROJECT)

Intersection	Option A	Option B	Option C	Option D	Option E
Grasslands Road (Route 100 C)/Sprain Brook Parkway Northbound Ramp	X	X	X	X	
Saw Mill River Road (Route 9A)/Saw Mill River Parkway Northbound Ramp					X
Saw Mill River Road (Route 9A)/Dana Road					X
Broadway (Route 141)/Bradhurst Avenue/Memorial Drive					X
Broadway (Route 141)/Kensico Road/Marble Avenue					X
<i>Unsignalized Intersections</i>					
Bradhurst Avenue(Route 100)/Lakeview Avenue	X		X		
Grasslands Road(Route 100)/Legion Drive	X	X	X	X	
Columbus Avenue/West Lake Drive	X	X	X	X	X
Grasslands Road (Route 100 C) / WCC West Gate		X	X	X	
Commerce Street/Legion Drive		X	X		

Tables showing the results of applying the mitigation measures for each of the truck route Options without the Croton project, also indicate the specific measures recommended for each location (see [Section 6.2.2, Mitigation of Potential Significant Temporary or Adverse Impacts, Off-Site Facilities, Traffic and Transportation](#)). For many of the locations, more than one measure was identified that could be implemented that would reduce delays back to or below FNB conditions. The assessment presented in this Final EIS relies on a combination of new traffic signals, lane striping changes, and traffic signal retiming or phasing changes as the recommended measures. However, some of the measures that were investigated were more extraordinary, involving additional lane construction or street widening, to give a complete range of potential measures that could eliminate impacts. Once the construction of the UV Facility has commenced, the various agencies responsible for maintaining traffic flow and roadways in the study area would conduct field inspections of the operations of the various intersections to determine if the proposed mitigation measures are actually warranted (particularly because traffic from anticipated No Build projects or background growth may be less than analyzed in this report).

For locations where the installation of a new traffic signal has been recommended as a mitigation measure, if requested by the agency(s) with jurisdiction over the particular intersection roadways

involved, formal Signal Warrant Studies would be performed and submitted for review by the appropriate agency; in most cases NYSDOT.

All of the mitigation measures suggested would serve to eliminate or reduce the predicted temporary adverse impacts of the proposed project. If the mitigation identified is not applied, the predicted temporary adverse impacts identified would remain unmitigated. In the absence of implementing the mitigation measures proposed, NYCDEP would consider other traffic management techniques, if approved by the governing roadway entity, to offset these significant or temporary adverse impacts, and ensure the smooth and safe operation of traffic.

Under each truck route option without the Croton project, there would be no adverse impacts on parking, safety, transit, or pavement infrastructure.

2006 Construction Conditions, With Croton Project at Eastview Site

This analysis scenario compared a “pure” FNB condition in 2006 (i.e., without the proposed Aerator filling at the Kensico campus, and without construction of the Croton project at the Eastview Site) to construction conditions in 2006 (with the proposed Aerator filling and Croton-related construction trips).

Under 2006 Construction Option A conditions, it was found that traffic from the trucks and the construction of the proposed UV Facility would be anticipated to result in 19 potential temporary adverse traffic impacts (7 during the AM peak hour, 3 during the midday peak hour, and 9 during the PM peak hour).

Under 2006 Construction Option B conditions, it was found that traffic from the trucks and the construction of the proposed UV Facility would be anticipated to result in 21 potential temporary adverse traffic impacts (8 during the AM peak hour, 2 during the midday peak hour, and 11 during the PM peak hour).

Under 2006 Construction Option C conditions, it was found that traffic from the trucks and the construction of the proposed UV Facility would be anticipated to result in 25 potential temporary adverse traffic impacts (10 during the AM peak hour, 3 during the midday peak hour, and 12 during the PM peak hour).

Under 2006 Construction Option D conditions, it was estimated that traffic from the trucks and the construction of the proposed UV Facility would result in the same number of impacts that were determined for Option D in the Without the Croton project scenario. This would result in 15 potential temporary adverse traffic impacts (some lane groups/approaches are impacted for multiple time periods) potential temporary adverse traffic impacts, (6 during the AM peak hour, 1 during the midday peak hour, and 8 during the PM peak hour).

Under 2006 Construction Option E conditions, it was estimated that traffic from the trucks and the construction of the proposed UV Facility would result in the same number of impacts that were determined for Option E in the Without the Croton project scenario. This would result in 15 potential temporary adverse traffic impacts 7 (some lane groups/approaches are impacted for

multiple time periods) potential temporary adverse traffic impacts, (2 during the AM peak hour, 2 during the midday peak hour, and 3 during the PM peak hour).

Table 4 summarizes the intersections that would be predicted to experience temporary adverse impacts under each truck route Option during the AM and/or PM peak hours. These are the same intersections that were predicted to be adversely impacts for the comparable Future without the Croton project scenario (see Table 3).

TABLE 4. POTENTIAL SIGNIFICANT ADVERSE CONSTRUCTION-RELATED IMPACTS FROM THE TRUCK ROUTE OPTIONS (WITH CROTON PROJECT)

Intersection	Option A	Option B	Option C	Option D	Option E
<i>Signalized Intersections</i>					
Grasslands Road (Route 100 C)/Bradhurst Avenue	X	X	X	X	
Grasslands Road (Route 100C)/Clearbrook Road/Walker Road	X	X	X	X	
Taconic State Parkway/Lakeview Avenue	X	X	X	X	
Grasslands Road (Route 100 C)/Sprain Brook Parkway Northbound Ramp	X	X	X	X	
Saw Mill River Road (Route 9A)/Saw Mill River Parkway Northbound Ramp					X
Saw Mill River Road (Route 9A)/Dana Road					X
Broadway (Route 141)/Bradhurst Avenue/Memorial Drive					X
Broadway (Route 141)/Kensico Road/Marble Avenue					X
<i>Unsignalized Intersections</i>					
Bradhurst Avenue(Route 100)/Lakeview Avenue	X		X		
Grasslands Road(Route 100)/Legion Drive	X	X	X	X	
Columbus Avenue/West Lake Drive	X	X	X	X	X
Grasslands Road (Route 100 C) / WCC West Gate		X	X	X	
Commerce Street/Legion Drive		X	X		

Tables showing the results of applying the mitigation measures for each of the truck route Options with the Croton project, also indicate the specific measures recommended for each location (see [Section 6.2.2, Mitigation of Potential Significant or Temporary Adverse Impacts, Off-Site Facilities, Traffic and Transportation](#)). For many of the locations, more than one measure was identified that could be implemented that would reduce delays back to or below FNB conditions. The assessment presented in this Final EIS relies on a combination of new traffic signals, lane striping changes, and traffic signal retiming or phasing changes as the recommended measures. However, some of the measures that were investigated were more extraordinary, involving additional lane construction or street widening, to give a complete range of potential measures that could eliminate impacts. Once the construction of the UV Facility has commenced, the various agencies responsible for maintaining traffic flow and roadways in the study area would conduct field inspections of the operations of the various intersections to determine if the proposed mitigation measures are actually warranted (particularly because traffic from anticipated No Build projects or background growth may be less than analyzed in this report).

For locations where the installation of a new traffic signal has been recommended as a mitigation measure, if requested by the agency(s) with jurisdiction over the particular intersection roadways involved, formal Signal Warrant Studies would be performed and submitted for review by the appropriate agency; in most cases NYSDOT.

All of the mitigation measures suggested would serve to eliminate or reduce the predicted temporary adverse impacts of the proposed project. If the mitigation identified is not applied, the predicted temporary adverse impacts identified would remain unmitigated. In the absence of implementing the mitigation measures proposed, NYCDEP would consider other traffic management techniques, if approved by the governing roadway entity, to offset these significant or temporary adverse impacts, and ensure the smooth and safe operation of traffic.

Under each truck route Option with the Croton project, there would be no adverse impacts on parking, safety, transit, or pavement infrastructure.

2010 Future Conditions with the Off-Site Work

The traffic analyses for this scenario compared the 2010 Future Without the Project (i.e., without construction at the Kensico Reservoir work sites) against the 2010 Future With the Project, which would include the balance of the filling of the Catskill Aerator, construction of the new screen chamber, and rehabilitation work associated with the Catskill Aqueduct pressurization. Three time periods were examined for this analysis of 2010 construction (both auto and truck related) activities (6:30 – 7:30 AM; 8:00 – 9:00 AM; and 3:30 – 4:30 PM), which focused on key intersections along Columbus Avenue near the Kensico campus (e.g., Columbus Avenue at Lakeview Avenue, West Lake Drive, and Stevens Avenue).

Under these conditions in 2010, it was found that traffic associated with the Kensico Reservoir work sites would be anticipated to result in three potential temporary adverse traffic impacts; one during the late AM peak hour and two during the PM peak hour, plus the those impacts identified above for the 2006 Future With the Project scenario. (The filling of the two Aerators—Delaware

and Catskill Aerators in 2006 and the balance of the filling/grading of the Catskill Aerator in 2010—would have similar effects on the road network, resulting in ten temporary adverse impacts, with the preferred truck route option. As noted above, potential impacts (on traffic, noise and air quality) for the construction year 2010 are conservatively estimated to be equal to or less than the impacts projected for 2006 and to last for a shorter duration.

Table 5 summarizes the intersections that would be predicted to experience temporary adverse impacts under these conditions in 2010.

TABLE 5. TEMPORARY ADVERSE CONSTRUCTION-RELATED IMPACTS FROM THE 2010 OFF-SITE WORK

Intersection*	6:30-7:30 AM Peak	8:00-9:00 AM Peak	3:30-4:40 PM Peak
<i>Signalized Intersections</i>			
Columbus Avenue (Southbound)/Stevens Avenue			X
<i>Unsignalized Intersections</i>			
Columbus Avenue/West Lake Drive		X	X

*In addition to these intersections, the 2010 Future With The Project would result in temporary adverse impacts at the intersections listed above for the 2006 scenario.

Tables showing the results of applying the mitigation measures for the 2010 Future With the Project conditions, also indicate the specific measures recommended for each location (see [Section 6.2.2, Mitigation of Potential Significant or Temporary Adverse Impacts, Off-Site Facilities, Traffic and Transportation](#)). For many of the locations, more than one measure was identified that could be implemented that would reduce delays back to or below FNB conditions. The assessment presented in this Final EIS relies on a combination of new traffic signals, lane striping changes, and traffic signal retiming or phasing changes as the recommended measures. However, some of the measures that were investigated were more extraordinary, involving additional lane construction or street widening, to give a complete range of potential measures that could eliminate impacts. Once the construction of the proposed UV Facility has commenced, the various agencies responsible for maintaining traffic flow and roadways in the study area would conduct field inspections of the operations of the various intersections to determine if the proposed mitigation measures are actually warranted (particularly because traffic from anticipated No Build projects or background growth may be less than analyzed in this report).

For locations where the installation of a new traffic signal has been recommended as a mitigation measure, if requested by the agency(s) with jurisdiction over the particular intersection roadways involved, formal Signal Warrant Studies would be performed and submitted for review by the appropriate agency; in most cases NYSDOT.

All of the mitigation measures suggested would serve to eliminate or reduce the predicted temporary adverse impacts of the proposed project. If the mitigation identified is not applied, the predicted temporary adverse impacts identified would remain unmitigated. In the absence of implementing the mitigation measures proposed, NYCDEP would consider other traffic management techniques, if approved by the governing roadway entity, to offset these significant or temporary adverse impacts, and ensure the smooth and safe operation of traffic.

Under these 2010 Future With the Project conditions, there would be no adverse impacts on parking, safety, transit, or pavement infrastructure.

Taconic State Parkway Work Sites

The proposed construction work at the Taconic State Parkway sites is not anticipated to have any adverse environmental impacts, given the relatively short duration and relatively low levels of construction activity. The work would take place from October 2007 to April 2008 and would involve a maximum of 40 workers and 2 truck deliveries per day. Furthermore, most of the proposed work would be conducted inside existing NYCDEP buildings and inside the subsurface aqueduct. Impacts related to traffic and transportation would be further avoided by shuttling workers to the Taconic State Parkway work sites from Kensico Reservoir, where they would park on land owned by NYCDEP. Therefore, the interior roads of the adjacent cemeteries would not be affected.

In general, the work would be confined to land owned by NYCDEP—outside of the cemetery properties—with the exception of the Taconic State Parkway. One of the southbound lanes of the Taconic State Parkway may need to be closed temporarily, but this type of arrangement has been employed recently, as part of the on-going aqueduct inspections and NYSDOT has approved the lane closure. Therefore, given this precedent, the proposed work is not anticipated to have any adverse impacts.

ES.7.2.2.2. Noise

Kensico Reservoir Work Sites

As a result of the proposed trucking of excavated material from the Eastview Site to the NYCDEP Kensico campus, temporary adverse noise impacts were predicted at noise-sensitive uses along the corridors where trucks may traverse. The temporary adverse noise increases are predicted to be greater than 3 dBA, over the predicted 2006 Future without the Project noise levels. However, these off-site noise impacts would be temporary, since the transport of such materials in 2006 is estimated to last approximately six months.

The potential noise impacts would occur along any of the five routes considered for transporting the material to the Kensico campus. The predicted temporary adverse impacts would be similar for both 2006 Future with the Project scenarios (i.e., with and without the Croton project at Eastview).

In the 2010 construction conditions, comparable or smaller incremental noise impacts are anticipated from the final phases of filling/grading the Catskill Aerator. As discussed above, peak construction activity in 2010 is estimated to last for a shorter duration than 2006 peak construction activity.

ES.7.3. Potential Combined Impacts of Proposed Action and Croton Project at the Eastview Site

In response to public comments, this section examines the potential operational and construction impacts that could result from the potential impacts when added together with the major NYCDEP projects planned for the Eastview Site.

ES.7.3.1. Potential Operational Project Impacts

The analysis year for potential operational or “project” impacts is 2010. While the proposed UV Facility would be placed into operation by September 2009, the year 2010 represents the first full year of operation for the facility and it also represents the year when the Croton project would be placed into operation (in September) if the Eastview Site is selected for that project.

The only technical area anticipated to have greater predicted total significant adverse impacts under this examination of combined impacts would be Traffic and Transportation. No other technical areas would have greater significant adverse impacts when looking at the combined impacts, than those already identified for the UV Facility with the Croton project in the No Build Scenario above.

ES.7.3.1.1. Traffic and Transportation

2010 Potential Combined Operational Impacts

The following is a summary of potential 2010 Combined Build condition significant adverse impacts associated with the concurrent operation of the proposed UV Facility and Croton project at the Eastview Site. All increases in delay described below are given in comparison to the “pure” 2010 Future Without the Project conditions.

- *Grasslands Road (Route 100C) and the Sprain Brook Parkway Northbound Ramp:* The northbound left/through movement at this signalized intersection would be significantly impacted during the AM peak hour. The delay would increase from 76.4 seconds (LOS E) to 89.0 seconds (LOS F).
 - *Proposed Mitigation:* The transfer of 2 seconds of green time from the east-west signal phase to the northbound phase would fully mitigate this impact. As a result of this mitigation, the northbound left-turn and through movement would improve compared to FNB conditions, to LOS E as would the northbound right-turn. All of the other movements at this location would continue to operate at LOS C or better. NYSDOT would determine if retiming is necessary, after construction of these projects begins, and would implement the measure accordingly.
- *Saw Mill River Road (Route 9A) and Grasslands Road (Route 100C):* The northbound left-turn movement at this unsignalized intersection would be significantly impacted during both the AM and PM peak hours. During the AM peak hour, the delay would increase from 152.7

seconds (LOS F) to 159.2 seconds (LOS F). During the PM peak hour, this movement would continue operating at LOS F, with delays greater than 240.0 seconds, increasing further.

- *Proposed Mitigation:* This location could be fully mitigated with the installation of a traffic signal. As a result of this mitigation compared to FNB conditions, all movements and intersection approaches would operate at LOS C or better in both the AM and PM peak hours. The predicted significant adverse impact at this intersection is largely due to estimated peak construction worker trips. NYCDEP would propose a traffic signal to be installed at this location before peak construction worker activities occur in 2008. NYCDEP would submit the proposed traffic signal plan to the appropriate agency for approval. The approving agency may determine that an MPT is more suited for this location.
- *Saw Mill River Road (Route 9A) and Ramada Inn/Broadway Plaza:* The eastbound through movement at this unsignalized intersection would be significantly impacted during the PM peak hour, where the delay would increase from 102.0 seconds (LOS F) to 107.5 seconds (LOS F).
 - *Proposed Mitigation:* The installation of a traffic signal at this location would fully mitigate this impact such that the eastbound through movement would improve compared to FNB conditions, to LOS C with 20.9 seconds of delay. All other movements and approaches this location would also operate at LOS C or better. The predicted significant adverse impact at this intersection is largely due to estimated peak construction worker trips. NYCDEP would propose a traffic signal to be installed at this location before peak construction worker activities occur in 2008. NYCDEP would submit the proposed traffic signal plan to the appropriate agency for approval. The approving agency may determine that an MPT is more suited for this location.

No significant adverse impacts on parking, safety, or transit are anticipated as a result of the combined operation of the UV Facility and Croton project.

ES.7.3.2. Potential Construction Impacts

ES.7.3.2.1. Traffic and Transportation

2008 Potential Combined Construction Impacts

The peak period of construction for both projects is anticipated to coincide in 2008, when approximately 1,000 construction workers could be working at the Eastview Site.

As mentioned above, four different construction worker parking options (A, B, C and D) have been considered. This is because with the Croton project and the proposed UV Facility under construction at the Eastview Site concurrently, there would likely not be enough space on-site for all of the workers for both projects to park, as most of the on-site land area would be either under construction or for construction staging/storage of equipment.

Under Option A conditions, it was found that traffic from the combined construction of the UV Facility and the Croton project would be anticipated to result in a total of 31 potential significant adverse impacts at intersections in the primary study area under 2008 Combined Construction Option A conditions (15 at signalized intersections, 4 during the AM peak hour and 11 during the PM peak hour, and 16 at unsignalized intersections, 6 during the AM peak hour and 10 during the PM peak hour).

Under Option B conditions, it was found that traffic from the combined construction of the UV Facility and the Croton project would be anticipated to result in a total of 39 potential significant adverse impacts at intersections in the primary study area under 2008 Combined Construction Option B conditions (21 at signalized intersections, 9 during the AM peak hour and 12 during the PM peak hour, and 18 at unsignalized intersections, 9 during the AM peak hour and 9 during the PM peak hour).

Under Option C conditions, it was found that traffic from the combined construction of the UV Facility and the Croton project would be anticipated to result in a total of 33 potential significant adverse impacts at intersections in the primary study area under 2008 Combined Construction Option C conditions (15 at signalized intersections, 5 during the AM peak hour and 10 during the PM peak hour, and 18 at unsignalized intersections, 9 during the AM peak hour and 9 during the PM peak hour).

Under Option D conditions, it was found that traffic from the combined construction of the UV Facility and the Croton project would be anticipated to result in a total of 32 potential significant adverse impacts at intersections in the primary study area under 2008 Combined Construction Option D conditions (16 at signalized intersections, 4 during the AM peak hour and 12 during the PM peak hour, and 16 at unsignalized intersections, 6 during the AM peak hour and 10 during the PM peak hour).

Table 6 summarizes the intersections that would be predicted to experience significant adverse construction-related impacts in 2008, under each parking Option during the AM and/or PM peak hours.

TABLE 6. TEMPORARY SIGNIFICANT ADVERSE COMBINED CONSTRUCTION-RELATED IMPACTS UNDER THE PARKING OPTIONS

Intersection	Option A	Option B	Option C	Option D
<i>Signalized Intersections</i>				
Saw Mill River Road (Route 9A)/Saw Mill River Parkway Ramp	X	X	X	X
Knollwood Road/Cross Westchester Expressway Westbound Ramp	X	X	X	X
Saw Mill River Road (Route 9A)/Tarrytown-White Plains Road (Route 119)	X	X	X	X
Saw Mill River Road (Route 9A)/Dana Road				X

TABLE 6. TEMPORARY SIGNIFICANT ADVERSE COMBINED CONSTRUCTION-RELATED IMPACTS UNDER THE PARKING OPTIONS

Intersection	Option A	Option B	Option C	Option D
Old Saw Mill River Road/Saw Mill River Parkway Southbound Off-Ramp	X	X	X	X
Grasslands Road (Route 100C)/Clearbrook Road/Walker Road	X	X	X	X
Grasslands Road(Route 100C)/Sprain Brook Parkway Southbound Ramp	X	X		X
Grasslands Road(Route 100C)/Sprain Brook Parkway Northbound Ramp	X	X	X	X
Virginia Road/Bronx River Parkway	X	X	X	X
Grasslands Road (Route 100C)/Bradhurst Avenue (Route 100)	X	X	X	X
Old Saw Mill River Road/Landmark West Driveway	X			
Grasslands Road (Route 100C) / WCC East Gate		X	X	
<i>Unsignalized Intersections</i>				
Saw Mill River Road (Route 9A)/Stevens Avenue North		X	X	
Saw Mill River Road (Route 9A)/Ramada Inn/Broadway Plaza	X	X	X	X
Saw Mill River Road/Grasslands Road (Route 100C)	X	X	X	X
Grasslands Road(Route 100C)/Saw Mill River Road Northbound Ramp	X	X	X	X
Grasslands Road(Route 100)/Virginia Road	X	X	X	X
Grasslands Road/Legion Drive	X	X	X	X
Old Saw Mill River Road/Landmark at Eastview East Driveway	X	X	X	X
Grasslands Road(Route 100C)/WCC West Gate		X	X	

Tables showing the results of applying the mitigation measures under combined construction conditions for each of the parking Options, also indicate the specific measures recommended for each location (see [Section 4.21.4, Combined Impacts, Mitigation](#)). For many of the locations, more than one measure was identified that could be implemented that would reduce delays back to or below FNB conditions. The assessment presented in this Final EIS relies on a combination of new traffic signals, lane striping changes, and traffic signal retiming or phasing changes as the recommended measures. However, some of the measures that were investigated were more extraordinary, involving additional lane construction or street widening, to give a complete range of potential measures that could eliminate impacts. Once the construction of the UV Facility and Croton project has commenced, the various agencies responsible for maintaining traffic flow and roadways in the study area would conduct field inspections of the operations of the various

intersections to determine if the proposed mitigation measures are actually warranted (particularly because traffic from anticipated No Build projects or background growth may be less than analyzed in this report).

It should be noted that the traffic analyses conducted for this area indicate that conditions at the unsignalized intersection locations, where significant adverse construction-related impacts have been predicted for the various parking Options, are already operating unacceptably under existing conditions, and are anticipated to deteriorate further in the future, even without the additional traffic from the combined construction activities. Therefore, the installation of a new traffic signal at these intersections may be warranted even without the construction activities, to improve the operation of these intersections.

For locations where the installation of a new traffic signal has been recommended as a mitigation measure, formal Signal Warrant Studies would be performed, if requested by the agency(s) with jurisdiction over the particular intersection roadways involved.

All of the mitigation measures suggested, under each of the parking Options, would serve to eliminate or reduce the temporary significant adverse construction-related impacts of the combined construction of the proposed UV Facility and Croton project. If the mitigation identified is not applied, the predicted significant adverse construction-related traffic impacts identified would not be mitigated. In the absence of implementing the mitigation measures proposed, NYCDEP would consider other traffic management techniques (e.g., the use of traffic control officers, traffic cones, variable message signs, etc.) if approved by the governing roadway entity, to offset these significant adverse impacts, and ensure the smooth and safe operation of traffic.

No significant adverse impacts on parking, safety, or transit are anticipated from the combined construction of the proposed UV Facility and Croton project.

ES.7.3.2.2. Noise

The potential for combined construction-related impacts from the UV Facility and the Croton project may result in temporary adverse impacts to the Hammond House as well as mobile noise impacts to receptors routes utilized during construction. Measures to ensure compliance with the Town of Mount Pleasant Code under this scenario could include temporary noise barriers, fit air compressors, and cranes with silencers, or the use of walled enclosures around noisy construction activities.

ES.8. POSSIBLE MAJOR DISCRETIONARY APPROVALS AND PERMITS

The following table provides a list of anticipated ministerial and discretionary approvals/permits required for the proposed UV Facility at the Eastview Site. The approvals/permits required for each project component would be confirmed as part of the development of the Final EIS.

TABLE 7. POSSIBLE DISCRETIONARY PERMITS AND APPROVALS REQUIRED FOR THE PROPOSED UV FACILITY

U.S. FEDERAL GOVERNMENT
Army Corps of Engineers
<ul style="list-style-type: none"> Dredge and Fill Permit/ Freshwater Wetlands (Clean Water Act, Section 404)
Advisory Council on Historic Preservation
<ul style="list-style-type: none"> Memorandum of Agreement (Section 106 of the National Historic Preservation Act of 1966)
NEW YORK STATE
Department of Environmental Conservation
<ul style="list-style-type: none"> State Pollution Discharge Elimination System (SPDES); SPDES General Permit (GP-02-01) for Stormwater Discharge from Construction Activity (Environmental Conservation Law, Article 17, Title 8; 6 NYCRR Parts 750 through 757) Water Quality Certification (Clean Water Act, Section 401) Protection of Waters Permit (Environmental Conservation Law, Article 15, Title 15; 6 NYCRR Part 608) Air Permit (Environmental Conservation Law, Article 19; 6 NYCRR 200-317) Water Supply Permit (Environmental Conservation Law, Article 15, Title 15; 6 NYCRR Part 601) Chemical Bulk Storage (Title 6 NYCRR Parts 595 – 599) Stream Disturbance Permit (Environmental Conservation Law, Article 15, Title 15; 6 NYCRR Part 608)
Department of Parks, Recreation, and Historic Preservation/State Historic Preservation Office
<ul style="list-style-type: none"> Memorandum of Agreement (National Historic Preservation Act of 1966 and the New York State Historic Preservation Act of 1980)
Department of Health
<ul style="list-style-type: none"> State Environmental Review Certification for New York Revolving Fund Program (Public Health Law, Sections 1161 and 1162; 21 NYCRR Part 2604) Approval of Plans for Water Supply Improvements (NYCRR Title 10 Part 5-1.22) Permit to Construct and Operate Potable Water Works (NYCRR Title 10 Part 5-1.22)
Department of Transportation
<ul style="list-style-type: none"> Highway Work Permit (Title 17, Part 126 of NYCRR) Traffic Enhancement Permits (Title 17, Part 126 of NYCRR)
WESTCHESTER COUNTY
Department of Health
<ul style="list-style-type: none"> Approval of Treatment Process and Plant Design (County Sanitary Code, Sec. 873.707) Approval of Completed Works (County Sanitary Code, Sec. 873.707) Approval to Construct & Operate Air Contaminant Source (County Sanitary Code, Sec. 873.1303; 873.1306)

TABLE 7. POSSIBLE DISCRETIONARY PERMITS AND APPROVALS REQUIRED FOR THE PROPOSED UV FACILITY

<ul style="list-style-type: none"> • Petroleum Bulk Storage Registration (County Sanitary Code, Sec. 873.2513)
Department of Public Works
<ul style="list-style-type: none"> • Approval for the use of Mercury Lamps (County Consumer Protection Code, Sec. 863.703)
<ul style="list-style-type: none"> • Building Approval (General Municipal Law, Sec. 239-f)
<ul style="list-style-type: none"> • Westchester County Road Opening Permit (Westchester County Administrative Code)
<ul style="list-style-type: none"> • Approval of County Road Access (Westchester County Administrative Code)
Department of Environmental Facilities
<ul style="list-style-type: none"> • Permit to Connect to County Sewer System (Westchester County Code, Chapter 824)
<ul style="list-style-type: none"> • Permit to Connect to County Water Distribution System (County Sanitary Code, Sec. 873.712)
<ul style="list-style-type: none"> • Industrial User’s Permit 6 (Westchester County Code, Article IX of Chapter 824; County Environmental Facilities Sewer Act)
Department of Planning
<ul style="list-style-type: none"> • Planning Board Review (Section 239 L, M, and N of NYS General Municipal Law and Section 277.1 of County Administrative Code)
TOWN OF MOUNT PLEASANT
Planning Board
<ul style="list-style-type: none"> • Freshwater Wetlands Permit (Mount Pleasant Code, Section 111.1)
<ul style="list-style-type: none"> • Site Plan Approval (Mount Pleasant Code, Section 218-97)
Town Board
<ul style="list-style-type: none"> • Special Use Permit: Water Supply Use (Mount Pleasant Code, Section 218-55)
<ul style="list-style-type: none"> • Parking and Loading Spaces (Mount Pleasant Code, Section 218-70)
Building Department
<ul style="list-style-type: none"> • Excavation and Removal of Soil (Mount Pleasant Code, Section 96-5)
<ul style="list-style-type: none"> • Building Permit (Mount Pleasant Code, Section 68-7)
<ul style="list-style-type: none"> • Hazardous Chemicals/Flammable Liquid Storage Permit (Mount Pleasant Code, Section 104-25)
<ul style="list-style-type: none"> • Oil-Burning Equipment Registration (Mount Pleasant Code, Section 104-44)
<ul style="list-style-type: none"> • Blasting Permit (Mount Pleasant Code, Section 104)
<ul style="list-style-type: none"> • Access Plan (Mount Pleasant Code, Section 218-70)
<ul style="list-style-type: none"> • Approval by Fire Marshal (Mount Pleasant Fire Prevention Code, Chapter 17)
Town Highway Department
<ul style="list-style-type: none"> • Curb/Street Cut Access Permit (Mount Pleasant Code, Section 188)
TOWN OF GREENBURGH
Town Board

TABLE 7. POSSIBLE DISCRETIONARY PERMITS AND APPROVALS REQUIRED FOR THE PROPOSED UV FACILITY

• Site Plan Approval (Greenburgh Town Code, Article VIII)
• Tree Removal Permit (Greenburgh Town Code, Section 260-4)
Planning Board
• Freshwater Wetlands Permit (Greenburgh Town Code, Section 280)
• Special Use Permit: Public Utility (Greenburgh Town Code, Section 285-12 (A) (4))
Department of Buildings
• Excavation Permit (Greenburgh Town Code, Section 210-15)
• Building Permit (Greenburgh Town Code, Section 100-5)
• Blasting Permit (Greenburgh Town Code, Section 140-5)
NEW YORK CITY
Art Commission
• Project Approval (Chapter 37, Sections 851-857)

ES.9. SUMMARY OF ALTERNATIVES

An assessment of the following alternatives was performed.

TABLE 8. LIST OF ALTERNATIVES

Alternative	Description
No Action Alternative (The Future Without the Project)	No Action Alternative With No Facilities at the Eastview Site
	No Action Alternative With the Croton Project
<i>Alternatives to Proposed UV Facility</i>	
Site Alternatives	UV Facility at Kensico Reservoir Alternative
	UV Facility at Hillview Reservoir Alternative
Construction Schedule Alternatives	Extended Work Hours Alternative
	Extended Construction Period Alternative
Technology Alternative	UV Lamp Technology Alternative
Layout or Configuration Alternative	Site Layout Alternative
Aerator Alternative	No Eastview Fill at the Kensico Aerators
Hammond House Alternative	Retain Hammond House Alternative on Eastview Site
Mount Pleasant Pumping Station Alternative	Construction of Pumping Stations at the Eastview Site to provide Mount Pleasant with raw and UV treated water
<i>Alternatives for both UV Facility and Croton Project at Eastview Site</i>	

TABLE 8. LIST OF ALTERNATIVES

Alternative	Description
Construction-Period Alternatives (Fill Storage Alternatives)	South Parcel Fill Storage Alternative Walker Road Scenario Controlled Intersection Scenario Overpass/Underpass Scenario

For the proposed UV Facility, the project is subject to the terms of the Filtration Avoidance Determination issued by the USEPA that requires the construction of the UV Facility in order to meet the Filtration Avoidance Criteria and avoid the necessity of building a full filtration or water treatment plant at this time. While there cannot be a No Action Alternative without a violation of this mandate, a No Action Alternative is described for planning purposes.