

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

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7. ALTERNATIVES

7.1. INTRODUCTION AND DESCRIPTION OF ALTERNATIVES

7.1.1. Introduction

The State Environmental Quality Review Act (SEQRA) and the City Environmental Quality Review (CEQR) require an analysis of alternatives as part of the Environmental Impact Statement (EIS) process. This analysis should present alternatives that, in addition to a No Action Alternative, reduce or eliminate project impacts while substantively meeting project goals and objectives; demonstrate a reasonable range of options to the proposed action; and compare potential impacts under alternative approaches for meeting project objectives.

This section provides a brief description of the alternatives to be examined in this chapter. These alternatives are listed in [Table 7-1](#) and described in greater detail below. The following sections further describe and address the anticipated environmental impacts under the **No Action Alternatives**, **Alternatives to Proposed UV Facility**, and **Alternatives for both UV Facility and Croton Water Treatment Plant (Croton Project) at Eastview Site**.

TABLE 7-1. 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>	
Construction-Period Fill Storage Alternatives	South Parcel Fill Storage Alternative Walker Road Scenario Controlled Intersection Scenario Overpass/Underpass Scenario

7.1.2. No Action Alternative

The No Action Alternative describes the environmental conditions that would exist if the proposed UV Facility were not constructed. The No Action Alternative would put the City in violation of the 2002 Filtration Avoidance Determination (FAD) issued by USEPA that requires the City to implement measures that would avoid the necessity of building a water filter plant. If the City does not comply with the 2002 FAD, USEPA could require that the Catskill/Delaware System be filtered. Filtration of the Catskill/Delaware System would require the siting, final design, construction, and operation of a drinking water filtration plant.

Therefore, while there is no No Action Alternative that would meet the 2002 FAD, two No Action Alternatives that meet the requirements of SEQRA/CEQR are presented below, as a theoretical exercise, for illustrative purposes (the **No Action Alternative With No Facilities at the Eastview Site**, which is assessed throughout the Final EIS as the Future Without the Project: Without Croton Project at the Eastview Site and the **No Action Alternative With the Croton Project**, which is assessed throughout the Final EIS as the Future Without the Project: With Croton Project at the Eastview Site). Both of these No Action alternatives have been analyzed in the previous sections of this Final EIS as part of the baseline from which to assess the potential impacts of the proposed action.

7.1.3. Alternatives to Proposed UV Facility

Ten alternatives to the proposed action at Eastview are examined, including two alternative sites for the proposed facility, two alternatives that consider a different construction schedule, one alternative that considers a different UV lamp technology, one alternative that explores the feasibility of locating the proposed UV Facility on a different part of the Eastview Site, one alternative that addresses not filling the Aerators at Kensico with material from the Eastview Site, one alternative that considers maintaining the Hammond House in its present location on the Eastview Site but purchasing the house so there would be no residents living on site near critical water supply facilities, one alternative to provide a water connection to the Town of Mount Pleasant during the Catskill Aqueduct pressurization work that considers the option of installing a temporary pumping station at the Delaware Shaft No. 19 and a water main to the Town of Mount Pleasant's Commerce Street Pumping Station, and a final alternative to provide UV treated water from the proposed UV Facility to the Town of Mount Pleasant via a permanent pumping station that could be installed at the Eastview Site and connect to the water connection utilized to provide water temporarily during construction to the Commerce Street Pumping Station.

The two site alternatives include a **UV Facility at the NYCDEP Kensico Reservoir** in the Town of Mount Pleasant, Westchester County and a **UV Facility at the NYCDEP Hillview Reservoir** in the City of Yonkers, Westchester County.

Two construction schedule alternatives are assessed to address the complexity of the proposed construction. The first of these alternatives—the **Extended Work Hours Alternative**—considers an extended work day during the week and possible construction on Saturdays. The

second of these alternatives—the **Extended Construction Period Alternative**—considers the construction period being extended up to 18 months with completion in the year 2011.

This section also provides a discussion of the **UV Lamp Technology Alternative**. The Conceptual Design for the proposed UV Facility has involved extensive research and evaluation into the advantages and disadvantages of UV disinfection systems (e.g., low and medium pressure). The UV Lamp Technology Alternative considers the Medium Pressure technology (as compared to the Low Pressure/High Output system proposed for the UV Facility).

Another alternative to the proposed action—the **Site Layout Alternative**—examines whether the proposed UV Facility could be located somewhere else on the Eastview Site in order to minimize the impacts on natural resources that have been identified.

A discussion of the **No Eastview Fill at the Kensico Aerators** is also provided in this section. Under this alternative, NYCDEP would not use excavated material from the Eastview Site to fill the Aerators at the Kensico Reservoir. This alternative is provided to address the potential impacts associated with not trucking fill to the Aerators from the Eastview Site.

Lastly, the **Hammond House Alternative** envisions the Hammond House on the Eastview Site in the future but without residents. Under this scenario, NYCDEP would have to purchase the home from its current owners (NYCDEP already owns the land on which it is located).

7.1.4. Alternatives for both UV Facility and Croton Project at Eastview Site

As discussed in this Final EIS, NYCDEP is designing a water filtration plant for its Croton water supply. Should the preferred Mosholu Site be determined not to be viable, the Croton project would move forward at the Eastview Site. If this occurs, both the Croton project and the proposed UV Facility would be under construction at the same time. Potential significant adverse construction-period impacts were identified in the Final EIS if both the proposed UV Facility and the Croton project are constructed on the Eastview Site. Therefore, several alternatives are identified in this section to explore and assess potential measures to eliminate, avoid, or reduce these impacts.

During construction of the proposed UV Facility, several hundred thousand cubic yards of material fill would be excavated and stockpiled for reuse as backfill upon construction of the proposed UV Facility and its related ancillary support structures. In the event that the Croton project is also constructed at the Eastview Site, the north parcel of the site would not be able to accommodate this fill storage, and other means of handling the fill would be required for the proposed UV Facility. Therefore, as analyzed in the Final EIS (Potential Project Impacts: With Croton Project at the Eastview Site), the site preparation contractor for NYCDEP would be required to remove most of the fill as it is generated rather than store the fill on-site. However, because fill would be needed during the later construction period to stabilize structures and again upon completion of the project, NYCDEP's site preparation and general contractors may have to purchase new fill from another source. It is anticipated that during the construction period, approximately 40,000 additional truck trips would be required to move the fill from and to the site if the Croton project is constructed at the same time as the proposed UV Facility. To address

reducing these additional truck trips on the community, the possibility of storing the fill on the south parcel of the Eastview Site was assessed as an alternative. The **South Parcel Fill Storage Alternative** encompasses three different possibilities of transporting the fill between the north and south parcels: the Walker Road Scenario; the Controlled Intersection Scenario; and the Overpass/Underpass Scenario.

7.2. COMPARISON OF POTENTIAL IMPACTS

7.2.1. No Action Alternative

Construction of the proposed UV Facility is a requirement of the 2002 USEPA FAD. If the proposed UV Facility were not to be built, NYCDEP would violate the terms of the 2002 FAD issued by USEPA and could be required to construct a water filtration plant.

Without the proposed UV Facility, the drinking water quality benefits provided by the facility would not occur. The construction of the proposed UV Facility would provide consumers with a disinfection “barrier” that would neutralize the replication capabilities of microorganisms in the water supply, and therefore, significantly enhance the City’s water supply protection program. Without a UV Facility, such enhancements to the water supply and protection of public health would not occur.

As with the proposed action, under the No Action Alternative, there would be no significant adverse impacts on land use, zoning, and public policy; visual character; community facilities; open space; neighborhood character; socioeconomic conditions; growth inducement; air quality; noise; historic and archaeological resources; hazardous materials; water resources; infrastructure and energy; EMF/ELFs; solid waste; and public health.

Under the No Action Alternative, the significant adverse traffic impacts identified during operation of the proposed UV Facility would not occur. Operation of the proposed UV Facility would result in predicted significant traffic impacts at the intersection of Grasslands Road (Route 100C) and the Sprain Brook Parkway Northbound Ramp during the AM peak hour and at the intersection of Saw Mill River Road (Route 9A) and Route 100C, during both the AM and PM peak hours (PM only for Future with Croton Project). However, the EIS proposes mitigation to minimize or avoid these impacts.

Under the No Action Alternative, the temporary adverse traffic and noise, and significant adverse impacts on natural resources impacts identified during construction of the proposed UV Facility would not occur. However, the temporary adverse impacts on traffic and noise are considered temporary in nature and would be mitigated to the extent feasible. The Final EIS also proposes mitigation to fully mitigate the construction impacts on natural resources.

7.2.2. Site Alternatives (UV Facility at Kensico Reservoir Alternative and UV Facility at Hillview Reservoir Alternative)

7.2.2.1. Introduction

As discussed in [Section 1, Introduction and Project Background](#), the NYCDEP selected the Eastview Site for the proposed UV Facility because it was deemed to be the most appropriate site within the context of a long-term comprehensive system improvement program being developed by the NYCDEP. Locating the facility at the Eastview Site would position the facility downstream of a possible future filtration plant should NYCDEP ever be required to construct

one, allowing filtered water to receive UV disinfection treatment prior to being returned to the Catskill and Delaware Aqueducts.

Two alternative sites were considered, and a discussion of the potential effects of siting the proposed UV Facility at these locations is presented below. The two sites identified are the Kensico Reservoir in the Town of Mount Pleasant and the Hillview Reservoir in the City of Yonkers. These two sites, along with the Eastview Site, were subject to a feasibility study prepared by the NYCDEP in December 2001. [Figure 7-1](#) shows the location of each site.

Both the Kensico Reservoir and Hillview Reservoir sites would meet the following conditions:

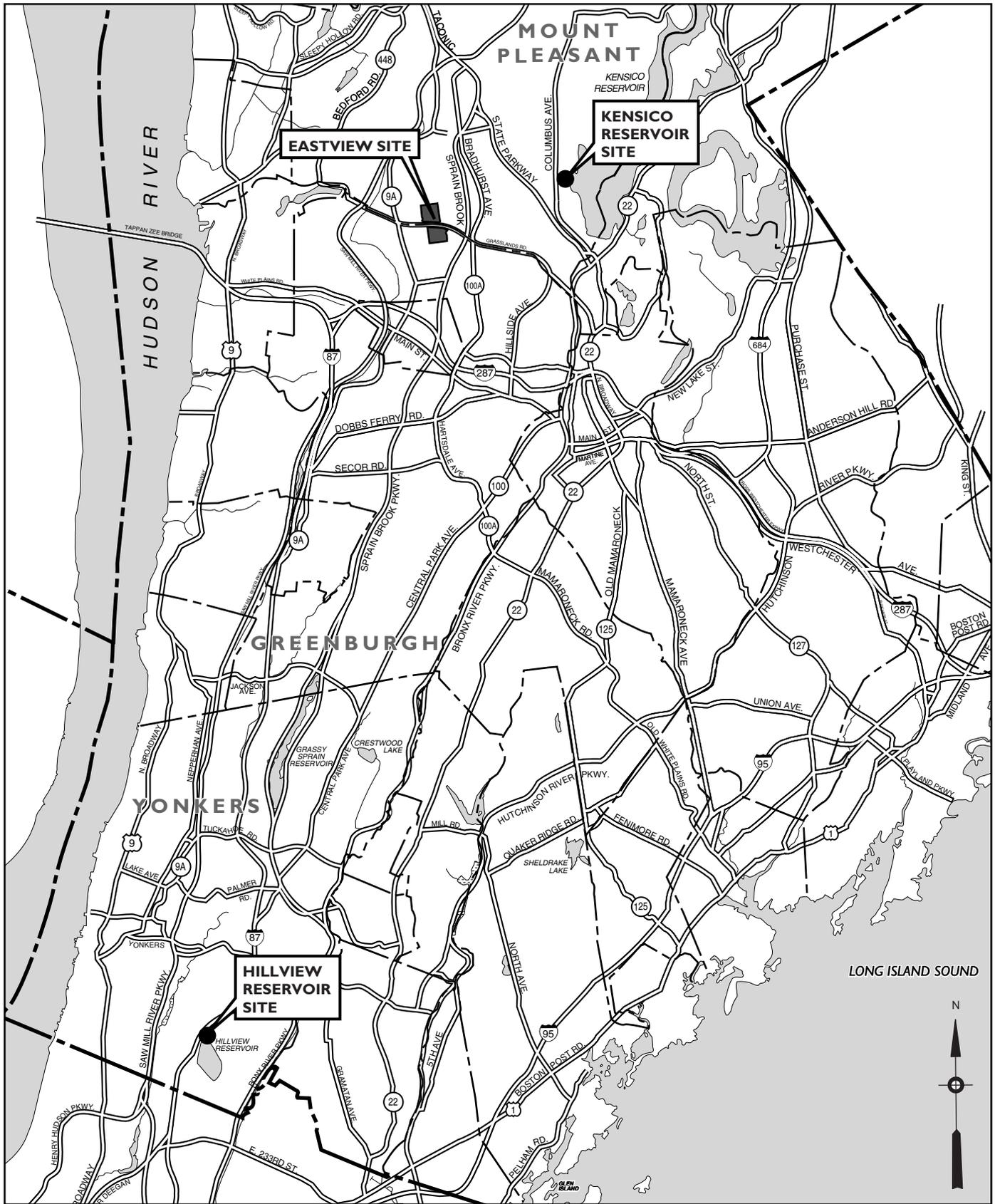
- Adequate space at the site to support the UV Facility for both the Catskill and Delaware systems.
- Hydraulic connections to both Aqueducts possible.
- Location downstream of the watershed, where infiltration of *Cryptosporidium* and *Giardia* is most possible (since these pathogens typically originate from farm animals and wildlife wastes).

7.2.2.2. UV Facility at Kensico Reservoir Alternative

The Kensico Reservoir Site is located in the Town of Mount Pleasant on the southwestern shore of the Kensico Reservoir (see [Figure 7-2](#)). The 31-billion-gallon reservoir is situated approximately 30 miles north of the City in the Towns of Mount Pleasant, North Castle and Harrison. Both the Catskill and Delaware Aqueducts have intakes at the Kensico Reservoir Site. Water enters the Catskill Aqueduct through the Lower Effluent Chamber and the Delaware Aqueduct through Delaware Shaft No. 18. As water leaves the reservoir, it is chlorinated for primary disinfection and fluoridated to help reduce tooth decay.

If the proposed UV Facility were to be located at the Kensico Reservoir Site, water leaving Kensico Reservoir would be taken from either Delaware Shaft No. 18 for the Delaware Aqueduct or from the Lower Effluent Chamber for the Catskill Aqueduct and conveyed to separate dedicated UV facilities that would be used for treatment of the Catskill and Delaware Aqueduct supplies requiring independent operation of the Aqueducts. Each facility would have a capacity equal to that of the respective Aqueduct.

A preliminary hydraulic analysis indicated that because of the headlosses through the UV units and hydraulic connections, the maximum flow through the Delaware Aqueduct would be approximately 1,400 mgd. This flow is predicated on a minimum reservoir level of approximately 351 feet at Kensico Reservoir. If the level of the reservoir drops, the flow through the UV system would be reduced. Since the Catskill Aqueduct operates at an elevation of 311 feet, the maximum flow of approximately 800 mgd through the Catskill Aqueduct would not be affected unless the Kensico Reservoir experienced a significant drop in water elevation.

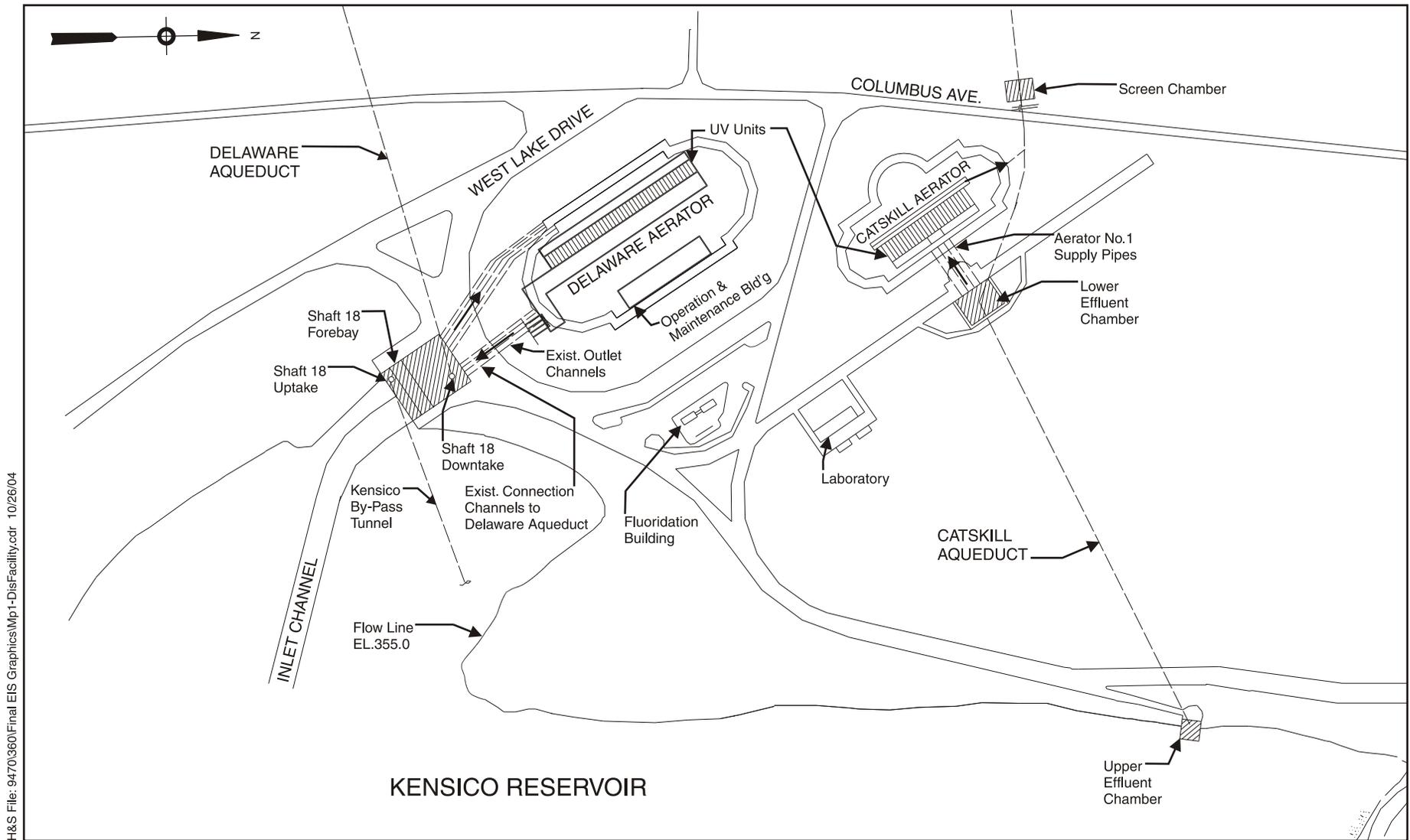


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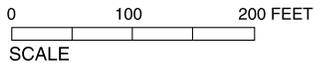
Location of Kensico and Hillview Reservoirs

Catskill/Delaware UV Facility

Figure 7-1



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UV Facility at Kensico Reservoir Alternative

Catskill/Delaware UV Facility

Figure 7-2

Following UV treatment, water would be returned to the appropriate Aqueduct and conveyed to Hillview Reservoir. The incorporation of the planned Kensico City Tunnel (KCT) could be accommodated with additional raw and treated water shafts, chambers, and conduits. While the location of the KCT intake has not been determined, the extent of additional conduits would be dependent on the location of the KCT intake at the Kensico Reservoir.

Both the Catskill and Delaware systems have Aerators located at the Kensico Reservoir Site. The Aerators have been out of service for nearly 40 years and have no current function. Under this alternative they would be built over to accommodate the structures needed to support a UV Facility.

Locating the Catskill UV Facility at the Kensico Reservoir Site would necessitate the replacement of the traveling screens, which are used to trap fish and large debris and are located downstream of the Catskill Lower Effluent Chamber on the opposite side of Columbus Avenue. These screens would have to be replaced upstream of a Catskill UV Facility. The Catskill Lower Effluent Chamber is connected to the Catskill Aerator basin through a series of conduits. The proposed layout of the UV system would utilize the existing Catskill Aerator basin supply conduits from the Lower Effluent Chamber to the UV system. For the Catskill System, a maximum of 800 mgd would be delivered from the forebay of the Lower Effluent Channel via the existing Catskill Aerator inlet conduits. Flow would be screened prior to entering a distribution wet well to supply the UV units. After UV treatment, water would enter a covered channel and travel to the existing Catskill Aerator outlet conduit. Water would be delivered to the Catskill Aqueduct via the existing Aerator's outlet conduit, which connects to the Aqueduct.

The Delaware Aqueduct requires the full head of the Kensico Reservoir (Elevation 355 MSL) to deliver its design maximum flow (1,840 mgd). For a Delaware UV Facility capacity flow of 1,400 mgd, the required elevation at Kensico Reservoir is about Elevation 354 MSL. For the Delaware UV Facility, all Kensico water would be delivered either through the Kensico Bypass to Delaware Shaft No. 18 or through Kensico Reservoir into the south side of Delaware Shaft No. 18. Both the bypass and the channels from the Reservoir to the south side of Delaware Shaft No. 18 lead to a common forebay. Connections between the forebay and the Delaware Shaft No. 18 downtake would be isolated by stop logs. Water would be delivered to the Delaware Aqueduct from the Delaware UV Facility via a downtake structure within Delaware Shaft No. 18.

A total treatment capacity of 2,200 mgd (1,400 mgd + 800 mgd) would be available to match the capacities of the Aqueducts, which exceeds the current combined maximum daily demands of the City. Under this alternative, the Catskill Aqueduct would not need to be pressurized. The capacity of the UV Facility would be sufficient to accommodate flows to the planned KCT.

Overall, the Kensico Reservoir Site is not the preferred site because of the long-term planning considerations for the City's water supply system. As discussed in [Section 4.1, Introduction and Project Description](#), constructing the facility at the Eastview Site would allow NYCDEP the ability to incorporate the facility into a potential filtration plant, if it were to some day be required, for the Catskill/Delaware System. Additionally, the preferred site (Eastview) allows

increasing the system's redundancy in service from the Kensico Reservoir to the City's distribution system.

If the proposed UV Facility was constructed at Kensico Reservoir and a Catskill/Delaware filtration plant were constructed at the Eastview Site at a time in the future, the UV Facility constructed at Kensico Reservoir would likely be abandoned. Alternatively, the proposed UV Facility at the Eastview Site could continue to operate as an additional treatment process following filtration. This would both maximize the efficiency of the treatment operations and benefit public health.

A discussion of how the Kensico Reservoir Alternative compares to the proposed action is provided below. A discussion of open space, community facilities, infrastructure and energy, EMFs and ELF, and solid waste is not provided, as the effects would be similar to the proposed action.

7.2.2.2.1. Land Use, Zoning, and Public Policy

As compared to the proposed action, the UV Facility at Kensico Reservoir Alternative may be less compatible with surrounding land uses since the site is located closer to sensitive uses such as residences, a high school and middle school (the Valhalla High School and Middle School campus), a church (the Valhalla United Methodist Church), firehouse (the Valhalla Fire Department), and soccer field. However, the Kensico campus already contains an active water supply use and while the proposed UV Facility would intensify such use, similar to the proposed action, it is not anticipated to have a significant adverse impact on land use. However, the Kensico Reservoir Site is adjacent to Columbus Avenue, and constructing the proposed UV Facility at this site would result in the City's critical water supply facility being located in close proximity to the public on the immediate neighboring street (Columbus Avenue), thereby raising additional security concerns. It is possible that West Lake Drive, a public roadway that runs between the Aerators, would need to be closed if the proposed UV Facility were located at Kensico Reservoir. This would displace the on-street parking that is currently permitted alongside that roadway.

Like the proposed UV Facility at the Eastview Site, a UV Facility at Kensico Reservoir would require a special use permit from the Town of Mount Pleasant. As discussed in **Section 4.2, Land Use, Zoning, and Public Policy**, watershed and water supply facilities are a "permitted special use" and subject to conformance with additional standards as provided in Article III of the Town zoning ordinance (Chapter 218). However, the Kensico campus is zoned primarily for residential use (R-40 "One Family Residential" zoning), as opposed to the Eastview Site, which is zoned for public utilities and commercial offices (OB-2 "Public Utility/Office Building" zoning). Nonetheless, the UV Facility at Kensico Reservoir Alternative is not anticipated to have any significant adverse impacts on zoning, as long as it conforms to the Town's additional standards for such uses. In addition, like the proposed project, this alternative would not have any effects on public policy.

7.2.2.2.2. Visual Resources

If the proposed UV Facility were built at Kensico Reservoir, two separate UV buildings would be constructed where the Aerators are currently located. The Aerators are basins that extend below grade. Placing new buildings on top of the Aerators would change the views into the Kensico campus from adjacent public roadways and residential neighborhoods. However, the buildings would be constructed to be visually compatible with the existing buildings. The additional buildings would not affect views of the reservoir. Therefore, as with the proposed action, the alternative would not be anticipated to result in significant adverse visual resource impacts.

7.2.2.2.3. Neighborhood Character

As compared to the proposed action, the UV Facility at Kensico Reservoir Alternative could have a greater impact on neighborhood character since the site is located in closer proximity to sensitive land uses such as residences, a high school and middle school, a church, firehouse, and soccer field. However, the new facility would not change the existing use of the site and there would be no potential significant adverse noise or air quality impacts during operation. Similar to the proposed action, potential significant adverse impacts on nearby traffic could occur under this alternative during operation, and temporary adverse impacts on noise and traffic could occur during construction, but could be mitigated. Therefore, as with the proposed action, these facilities would not be anticipated to result in potential significant adverse impacts on neighborhood character.

7.2.2.2.4. Socioeconomic Conditions

According to a feasibility study prepared by NYCDEP in 2001, the UV Facility at Kensico Reservoir Alternative would be less costly to construct at the Kensico Reservoir Site, as compared to both the Eastview and Hillview Reservoir sites. Therefore, the water rate increases as a result of the project would be smaller, somewhat reducing the potential costs borne by water and sewer ratepayers. In addition, payments in lieu of taxes to the Town of Greenburgh would not occur, reducing the fiscal benefits to the Town. However, future costs associated with the potential filtering of Catskill/Delaware water would be reduced with construction of the proposed UV Facility at Eastview. The construction workforce and permanent staff would be the same or similar to the proposed UV Facility at the Eastview Site, with similar socioeconomic effects, but in different geographic areas.

7.2.2.2.5. Traffic and Transportation

Under the Kensico Reservoir Alternative, traffic levels for operation and maintenance of the facility would be similar to those anticipated if the facility were constructed at the Eastview Site, and limited operational period traffic impacts would be anticipated. However, if the facility were constructed at the Kensico Reservoir Site, traffic would use small local streets, including those in downtown Valhalla. This could result in significant adverse traffic impacts on the local network during operation of the project. In addition, unlike the proposed action, a public

roadway may need to be closed if the proposed UV Facility were located at Kensico Reservoir. West Lake Drive, east of Columbus Avenue, could be closed for security reasons since the road runs in between the two Aerators. This would displace the on-street parking that is currently permitted alongside that roadway. However, mitigation measures could likely be developed to mitigate any significant adverse traffic impacts associated with the proposed action.

Similar to the proposed action, traffic generated by construction of the proposed UV Facility at the Kensico Reservoir Site would be anticipated to result in potential temporary adverse impacts at several area locations. Impacts are anticipated to be similar to that of the proposed action with several impacts occurring along the major access/egress routes from the Kensico Reservoir Site (e.g., Lakeview Avenue, Columbus Avenue, Stevens Avenue, Commerce Street, and the Taconic State Parkway). However, measures could likely be developed to mitigate any potential adverse impacts associated with the construction of the proposed action. Trips associated with the filling of Aerators would not occur under this alternative.

It is anticipated that there would be adequate area on the Kensico Reservoir campus for construction and operations worker parking. Therefore, similar to the proposed action, there would be no potential significant adverse parking impacts during construction and operation.

7.2.2.2.6. Air Quality

As compared to the proposed action being located on the Eastview Site, the UV Facility at Kensico Reservoir Alternative may have a greater localized affect on air quality, due to the closer proximity of sensitive land uses and potential for adverse affects on traffic during the construction period. However, no significant adverse impacts from construction or during operation of the facility would be anticipated.

7.2.2.2.7. Noise

The UV Facility at Kensico Reservoir Alternative may also have a greater effect on noise, due to the closer proximity and more numerous sensitive land uses and potential for adverse affects on area traffic during the construction period. Temporary adverse noise impacts during construction could occur; however, no significant adverse impacts from construction or during operation of the facility would be anticipated.

7.2.2.2.8. Historic and Archaeological Resources

As with the proposed action, the proposed UV Facility at Kensico Reservoir Alternative would develop and implement construction protection measures in consultation with the State Historic Preservation Office (SHPO) to avoid adverse construction-related impacts on the LEC from construction of the adjacent UV Facility structure that would be built over the Catskill Aerator.

Similar to the proposed action, it is not anticipated that this alternative would have adverse visual impacts on the above-ground features of the Aqueduct. Building a new structure over the Catskill Aerator would remove from view an original above-grade feature of the Catskill Aqueduct

system, but the Aerator is out of service and in a high state of disrepair. The Delaware Aerator is not an original feature of the Aqueduct. Although the UV Facility structures would block views of the LEC and would obscure the direct visual relationship between the LEC and the existing Screen Chamber, the proposed structures would be designed to be compatible with the surrounding 1915 Renaissance Revival-style structures, and the LEC and Screen Chamber would continue to be individually visible from various vantage points.

7.2.2.2.9. Hazardous Materials

At the Kensico site, construction of the proposed UV Facility could disturb existing water supply structures, such as the two Aerator basins. Unlike the Eastview Site, where most of the site is undeveloped except for the subsurface Aqueduct connection chambers that would be modified as part of the proposed action, the Kensico site alternative contains an active water supply facility and more development and therefore, there would be a greater potential for encountering hazardous materials during construction.

Operation of the proposed UV Facility would be similar among all three sites, employing the same type of UV lamp technology, requiring the same types and amounts of chemicals, and employing the same storage and handling safeguards.

7.2.2.2.10. Natural Resources

Construction of the proposed UV Facility at the Kensico Reservoir would involve considerably less disturbance to natural resources as compared to the proposed UV Facility as the Eastview Site. At the Kensico Reservoir, the facility would replace existing elements of the water supply infrastructure (Aerators) in locations that have been previously disturbed by construction of the water system. While some vegetation has grown within the abandoned Aerators, it does not provide significant habitat value. Therefore, no significant adverse impacts on natural resources are anticipated under this alternative.

7.2.2.2.11. Water Resources

Minimal dewatering for conduit excavation would be required if a UV Facility were to be constructed at the Kensico Reservoir. As with the proposed action there would be no potential significant adverse water quality impacts.

7.2.2.2.12. Public Health

Similar to the proposed action, no significant adverse impacts would be anticipated under this alternative.

7.2.2.3. UV Facility at Hillview Reservoir Alternative

The Hillview Reservoir is situated in the City of Yonkers, approximately 0.5 miles north of the City's border between Yonkers and the Bronx (see [Figure 7-3](#)). The reservoir and surrounding property covers approximately 162 acres. The property is owned by the City of New

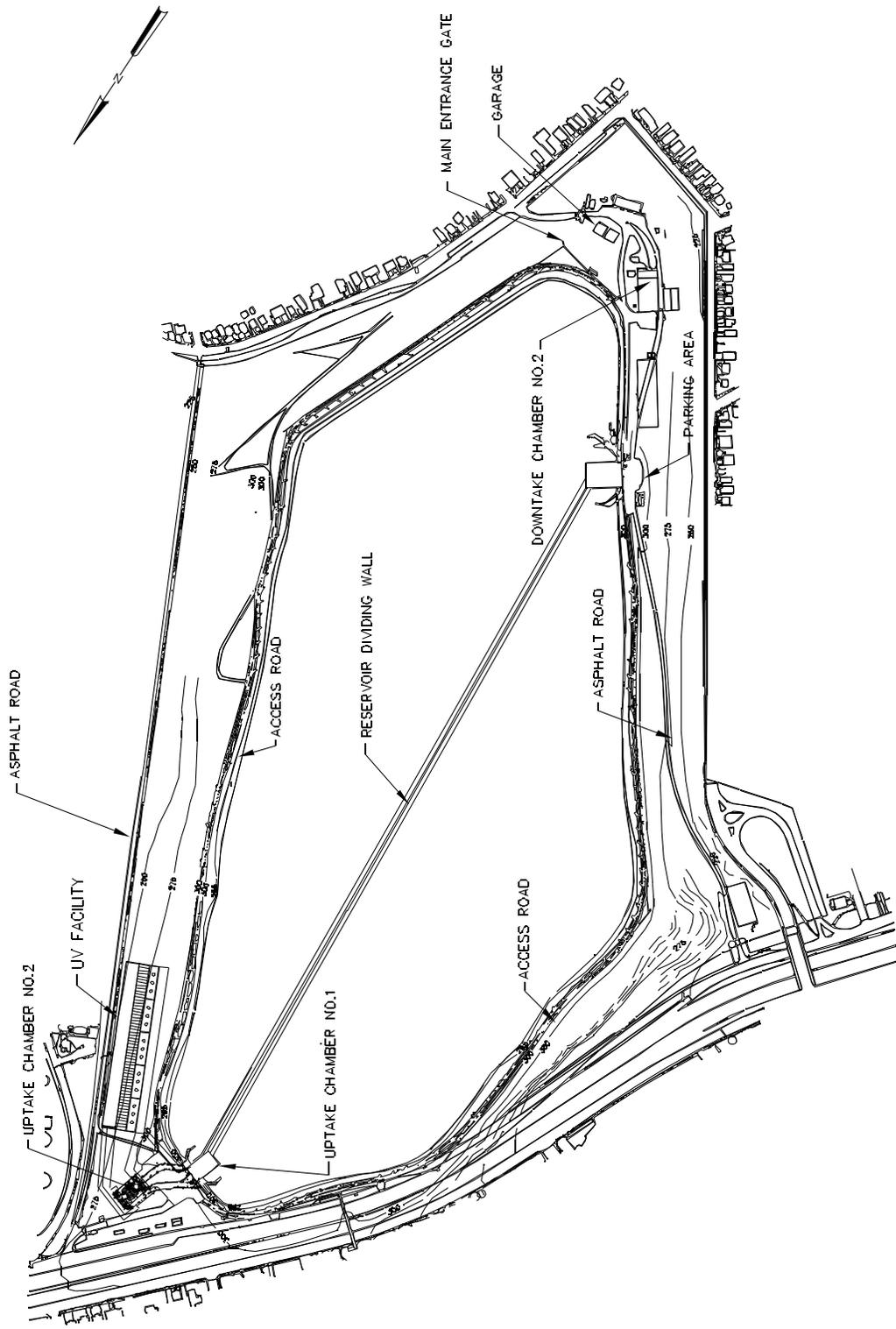
York, and is maintained and operated by NYCDEP. The existing facilities located at the reservoir consist of two Uptake Chambers located on the northwestern portion of the reservoir and two Downtake Chambers located on the southern portion of the reservoir. Both the Catskill and Delaware Aqueducts pass through the site and are connected to the reservoir at the Uptake and Downtake Chambers.

Because the Hillview Reservoir encompasses 90 of the 162 acres at the site, the area available for new facilities is limited without directly impacting the reservoir. Under this alternative, the proposed UV Facility would be located at the northern portion of the site, adjacent to the Uptake Chambers. Because of limited space and other site constraints, only a combined facility to treat both Catskill and Delaware water would be possible at the Hillview Reservoir.

The UV Facility at the Hillview Reservoir would be located in the northeast portion of the reservoir property along the East Basin. Separate inlet channels would connect from each of the existing Uptake Chambers of the Catskill and Delaware Aqueducts to a common inlet wet well at the proposed UV Facility. Both of these Uptake Chambers have provision for connecting to a future treatment facility. After treatment, the disinfected water would be pumped from a common outlet well to separate outlet conduits back to the Catskill and Delaware systems. This is not substantially different than the method to reintroduce water back to the Aqueducts for the proposed action at the Eastview Site.

Fewer Westchester communities would receive the benefit of disinfected water, since the facility would be located downstream of most Westchester communities served by the water supply system. With respect to long-term operational flexibility, the future KCT may include an option to bypass the Hillview Reservoir in order to provide a direct connection to the Bronx. The ability of the KCT to bypass the Hillview Reservoir would be constrained with a UV Facility at the Hillview Reservoir.

A discussion of how the potential environmental impacts from the construction and operation of the Hillview Reservoir Alternative compare to the proposed action is provided below. A discussion of open space, infrastructure and energy, EMFs and ELF, and solid waste is not provided, as the effects would be similar to the proposed action.



UV Facility at Hillview Reservoir Alternative

Catskill/Delaware UV Facility

Figure 7-3

7.2.2.3.1. Land Use, Zoning, and Public Policy

The Hillview Reservoir site is surrounded by open space that is not accessible to the public. Beyond this area to the northeast is the Yonkers Raceway, a private recreational facility (accessible to the public for a fee). To the northwest is the New York State Thruway, and to the south are residential neighborhoods. However, the Hillview Reservoir already contains an active water supply use and while the proposed UV Facility would intensify such use, similar to the proposed action, it is not anticipated to have a significant adverse impact on land use. With respect to zoning, a proposed UV Facility at Hillview Reservoir would require site plan approval, similar to the proposed project. However, unlike the proposed UV Facility at the Eastview Site, this alternative would require an approval for an improvement or intensification of a non-conforming use. (The Hillview Reservoir site is subject to the City of Yonkers' T district zoning, which permits two-family dwellings on 5,000-square-foot lots.) In contrast, the proposed UV Facility at the Eastview Site would be a permitted use in a Public Utility/Office Building (OB-2) zoning district, subject to additional "special use" standards for watershed and water supply facilities.

7.2.2.3.2. Visual Resources

The UV Facility at the Hillview Reservoir would be built on a formerly undeveloped area of the site. The primary views of the site are from the racetrack. While such a facility would be visible to the public, as with the proposed action, no potential significant adverse impacts on visual resources are anticipated.

7.2.2.3.3. Community Facilities

As with the proposed action, no significant adverse impacts on community facilities were identified with the site at the Hillview Reservoir. It is anticipated that the City of Yonkers would be able to meet the demand for community facilities generated by the proposed UV Facility.

7.2.2.3.4. Neighborhood Character

The portion of the site where the proposed UV Facility could be built is near the Yonkers Raceway. The proposed UV Facility would not change the existing use of the site. However, there could likely be temporary adverse impacts on traffic from construction and possible significant adverse impacts from operation of the facility at this location. However, as with the proposed action, the facility would not be anticipated to result in potential significant adverse impacts on neighborhood character.

7.2.2.3.5. Socioeconomic Conditions

Based on a 2001 NYCDEP feasibility study, a UV Facility at Hillview Reservoir would be more costly to construct and operate, as compared to the facility at the Eastview Site. The Hillview Site would require a pumping station with additional costs to operate and maintain it. While likely not a significant adverse impact, the water rate increases as a result of the project

would be larger, somewhat increasing the potential costs borne by water and sewer ratepayers. In addition, the benefits of payments in lieu of taxes would be accrued by the City of Yonkers rather than the Towns of Mount Pleasant and Greenburgh. Since fewer Westchester communities would receive the benefit of disinfected water, because the facility would be located downstream of most Westchester communities served by the water supply system, such communities may be required to construct their own UV facilities at some time in the future, and incur such costs. The construction workforce would be the same or similar to the proposed UV Facility at the Eastview Site, with similar socioeconomic effects, but in different geographic areas. The permanent staff would be slightly larger due to the pumping station, with four additional workers.

7.2.2.3.6. Traffic and Transportation

Major regional access to the site would occur from the nearby New York State Thruway. Under this alternative, potential traffic levels for operation and maintenance of the facility would be similar to those anticipated if the facility were located at the Eastview Site, and limited operational period traffic impacts would be anticipated. Baseline traffic for major access roads near the Hillview Reservoir can be congested during peak and off-peak periods. Therefore, like the proposed action, significant adverse traffic impacts on the local network during operation of the project may occur under this alternative. However, mitigation measures could likely be developed to mitigate such impacts.

Similar to the proposed action, traffic generated by construction of the proposed UV Facility at the Hillview Reservoir Site would be anticipated to result in potential temporary adverse impacts at several locations. However, the construction traffic could be more of a concern under this alternative since the roads connecting the Thruway to the Hillview Reservoir site are small, local streets lined by residential and small-scale retail uses. Nonetheless, measures could likely be developed to mitigate such impacts. Trips associated with the filling of Aerators would not occur under this alternative.

7.2.2.3.7. Air Quality

Given the limited access to the site and the abutting Raceway, the UV Facility at the Hillview Reservoir Alternative would likely have comparable localized air quality impacts as the proposed action at Eastview. No significant adverse impacts from construction or during operation of the facility would be anticipated.

7.2.2.3.8. Noise

While the facility would be buffered by the Raceway and the New York State Thruway, construction activities may have a temporary adverse noise impact on the horses at the Raceway. (Although residential neighborhoods abut part of the Hillview Reservoir property, the proposed UV Facility would be located in the northwest corner of the property, relatively far away from these sensitive uses and closer to the Thruway and Raceway.) However, no significant adverse impacts from construction or during operation of the facility would be anticipated.

7.2.2.3.9. Historic and Archaeological Resources

Construction of the proposed facility could have adverse construction impacts on the Hillview Reservoir facilities, which may meet the eligibility criteria for listing on the National Register as part of the Catskill Aqueduct system. Therefore, similar to the proposed action, the proposed UV Facility at Hillview Reservoir Alternative would develop and implement construction protection measures in consultation with SHPO to avoid adverse construction-related impacts on Hillview Reservoir from construction of the adjacent UV Facility structures that would be built along the East Basin.

7.2.2.3.10. Hazardous Materials

Unlike the Eastview Site, where most of the site is undeveloped except for the subsurface Aqueduct connection chambers that would be modified as part of the proposed action, this alternative also contains an active water supply facility and more development and therefore, there could be a greater potential for encountering hazardous materials during construction.

Operation of the proposed UV Facility would be similar among all three sites, employing the same type of UV lamp technology, requiring the same types and amounts of chemicals, and employing the same storage and handling safeguards.

7.2.2.3.11. Natural Resources

Construction of the proposed UV Facility at the Hillview Reservoir would involve considerably less disturbance to natural resources as compared to the proposed UV Facility as the Eastview Site. However, there are wooded areas north and east of the Reservoir that may need to be disturbed by construction. Therefore, while the extent of disturbance to natural resources would likely be lower for the UV Facility at the Hillview Reservoir, there still could be some potentially significant adverse impacts on trees.

7.2.2.3.12. Water Resources

Because of the proposed UV Facility's proximity to the Hillview Reservoir, construction of the proposed UV Facility would require additional measures to ensure that the reservoir is not affected by construction activities. As with the other sites, a stormwater management plan and soil and erosion control plan would be implemented during and post-construction. As with the proposed action there would be no potential significant adverse water quality impacts.

7.2.2.3.13. Public Health

Similar to the proposed action, no significant adverse impacts would be anticipated under this alternative.

7.2.3. Construction Schedule Alternatives

As stated above, because of the complexity of construction, second or extended shifts may be needed due to various construction conditions, including those outside of the contractors' control, such as periods of inclement weather. Therefore, two construction schedule alternatives are assessed to address the complexity of the proposed construction. The first of these alternatives—the Extended Work Hours Alternative—considers an extended work day during the week and possible construction on Saturdays. The second of these alternatives—the Extended Construction Period Alternative—considers the construction period being extended up to an additional 18 months with completion in the year 2011.

7.2.3.1. *Extended Work Hours Alternative*

The Extended Work Hours Alternative assesses the potential for impacts related to extended or second work shifts during the week and a Saturday work shift.

The Town of Greenburgh allows construction between the hours of 7 AM and 8 PM during the weekdays and between 9 AM and 6 PM on Saturdays. The Town of Mount Pleasant allows construction between the hours of 7 AM and 9 PM.

Extended construction work hours (i.e., work hours extending after 4 PM on weekdays) may be necessary during different stages of construction, including site preparation and construction (skilled trades):

- **Site Preparation.** Site preparation is anticipated to occur between May 2005 and September 2006. During this time, approximately 86 site preparation workers could work a 10 hour day, arriving at work at 6:30 AM (prior to the commuter peak hour) and departing the site during the commuter peak hour of 5 to 6 PM.
- **Construction Skilled Trades.** Double shifts for skilled trades workers could be required at times between September 2006 and September 2009. Workers may need to work double shifts at times during this period, because work for concurrent activities on-site may have limited space for all of the required trades work. Under the double shift conditions, the estimated peak number of total daily construction workers on-site would be the same as that analyzed in the Final EIS analyses for the single shift analyses (approximately 400). Under this alternative, skilled trades would work double shifts, which is defined as two approximately 8-hour shifts. It was estimated that two-thirds of the workers would work the 7 AM to 2 PM shift, and one-third of the workers would work the 2 PM to 9 PM shift. The skilled trades peak period would occur during the February 2008 time period when there would be approximately 400 workers on-site. Therefore, 268 workers would work the 7 AM to 2 PM shift, and 132 workers would complete the 2 PM to 9 PM shift.

In addition, six-day work weeks may be used on an as needed basis during construction of the proposed action. If six-day work weeks are encountered, the average number of workers per day employed on site Monday through Saturday would be total approximately 335 during the peak

construction period (i.e., the total number of workers per week would be the same, but the work would be spread out over six days versus five; thus, there would be less workers per day estimated for weeks when work on Saturdays is performed). For work on Saturdays, construction workers would likely arrive at 6:30 AM and leave before the on-street peak hour PM period.

Overall, the Extended Work Hours Alternative would be anticipated to result in the same or similar impacts as the proposed action in the areas of community facilities, open space, socioeconomic conditions, growth inducement, historic and archaeological resources, hazardous materials, natural resources, water resources, infrastructure, EMFs, solid waste, and public health. The areas where this alternative would differ from the proposed action during the construction period are discussed in more detail, as follows.

7.2.3.1.1. Land Use, Zoning, and Public Policy

While the work day and week may be extended, NYCDEP contractors would adhere to all codes guiding construction, and no significant adverse impacts on land use, zoning, and public policy would occur.

7.2.3.1.2. Visual Resources

Lighting would be provided along the construction access road from Walker Road to the excavation area. Portable construction light stands would be used to illuminate discrete work areas of the excavation. In addition, lighting would be provided for the Temporary Office Trailers (i.e., over doorways). Portable construction light stands would be directed toward the construction work area and away from off-site. 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.

7.2.3.1.3. Neighborhood Character

While adverse impacts on noise and traffic could occur during construction under this alternative, potential adverse traffic and noise impacts under this alternative would be equal to or less than the proposed action, and could also be mitigated. Therefore, as with the proposed action, these facilities would not be anticipated to result in potential significant adverse impacts on neighborhood character.

7.2.3.1.4. Traffic and Transportation

For this alternative, the potential impacts from extended work hours during the skilled trades work, site preparation work or during Saturday work were analyzed.

The analysis of the proposed action addressed the peak construction worker period with up to 400 workers arriving and departing during the 6:30 AM to 7:30 AM and 3:30 PM to 4:30 PM

peak periods. Under the double-shift scenario, fewer workers would arrive and depart during the 6:30 AM to 7:30 AM and 3:30 PM to 4:30 PM periods. Therefore, the predicted traffic impacts for those time periods of the day under double shifts would be less than those projected from the proposed action. In addition, the time periods when fewer workers would arrive and depart for the second shift would occur during time periods when there is less baseline on-street traffic, compared to the 3:30 to 4:30 PM peak. With less project-generated construction traffic and baseline traffic, predicted impacts from construction worker vehicles would be anticipated to be less than that quantified for the 6:30 AM to 7:30 AM and 3:30 PM to 4:30 PM periods in **Section 4.9, Traffic and Transportation**, for the proposed action. Therefore, potential adverse traffic impacts from construction worker trips from double shifts on weekdays during this period would be less than those predicted for the proposed action under the normal working hours

With respect to potential Saturday shifts, the number of workers on-site would be approximately 335 per day during the Monday-through-Saturday work week, as compared to approximately 400 under the peak construction period. With less project-generated construction traffic and baseline traffic for Saturdays, predicted impacts from construction worker vehicles would be anticipated to be less than that quantified in **Section 4.9, Traffic and Transportation**, for the proposed action. Therefore, potential adverse traffic impacts from construction worker trips on Saturdays would be less than those predicted for the proposed action under the normal working hours

Under the alternative where construction workers would work extended hours during the site preparation phase, workers could depart from the Eastview Site at the same time on-street traffic is at its most congested levels during the weekday PM period. The 5 PM to 6 PM peak hour was not analyzed in the traffic chapter of the Final EIS (**Section 4.9, Traffic and Transportation**). Therefore, a quantified analysis of the potential impacts from the site preparation workers during the peak construction months of January and February 2006 was performed for this additional analysis hour. Impacts were assessed for the most sensitive portion of the study area—the Route 100C/Old Saw Mill River Road corridor from Bradhurst Avenue to the Saw Mill Parkway ramps.

Site Preparation Extended Hours Scenario

Existing Conditions.

This section identifies the study area and street system considered in the analyses and describes the operation of the various study area intersections (and their approaches and lane groups) based on their ability to process traffic and calculated using the HCM methodologies, described in **Section 3.9, Data Collection and Impact Methodologies, Traffic and Transportation**. The study area comprises the intersections relevant to the study of the vehicle activity associated with site preparation worker traffic.

For this study, “existing” conditions are an amalgamation of traffic volumes established between 2002 and 2004. Peak future vehicle activity associated with the site preparation work in 2006 (peak year vehicular traffic) was examined. The corridor examined is the Route 100C/Old Saw Mill River Road corridor between the Saw Mill River Parkway Southbound Ramps to the west and Bradhurst Avenue/Knollwood Road to the east.

Traffic Conditions and Analysis

The eleven intersections that most likely could be affected during the PM on-street peak hour in 2006 were identified as:

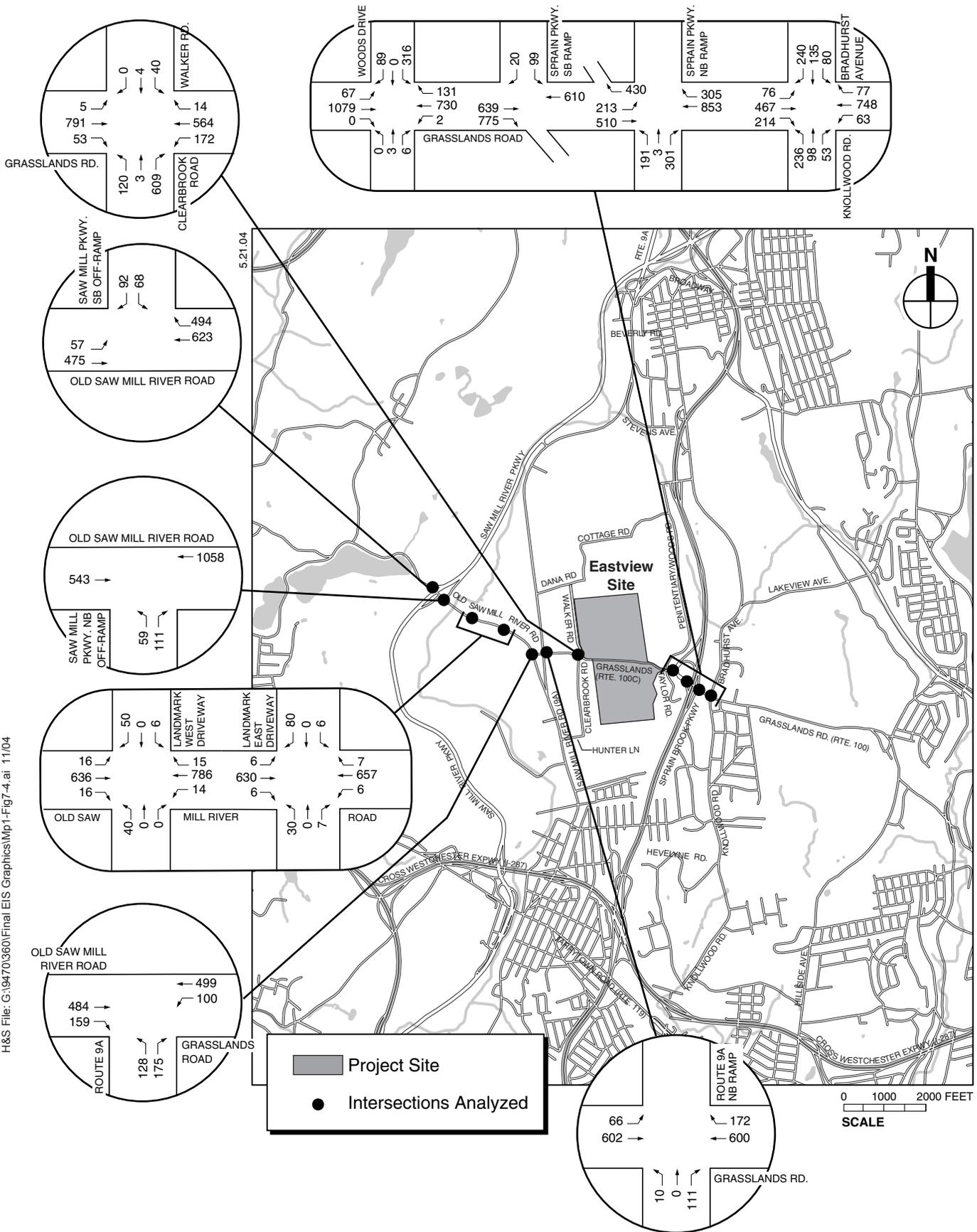
- Grasslands Road (Route 100C) and Bradhurst Avenue (Route 100)/Knollwood Road (Route 100A)
- Route 100C and Saw Mill River Road (Route 9A)
- Route 100C and Route 9A Northbound Ramps
- Old Saw Mill River Road and Saw Mill River Parkway Southbound Ramps
- Old Saw Mill River Road and Saw Mill River Parkway Northbound Off-Ramp
- Old Saw Mill River Road and Landmark at Eastview East Driveway
- Old Saw Mill River Road and Landmark at Eastview West Driveway
- Route 100C and Walker Road
- Route 100C and Woods Road
- Route 100C and the Southbound Sprain Brook Parkway (SBP) ramps
- Route 100C and the Northbound SBP ramps

Existing 5 PM to 6 PM on-street volumes for these intersections were based on data collected at all 11 of the above listed intersections were conducted on mid-weekdays (Tuesday to Thursday) from 2 PM to 6 PM to capture the PM peak hour. The resultant intersection turning movement volumes represent an average mid-weekday volume. Since the study intersections represent only a portion of the roadways in the study area, the turning movement volumes of adjacent intersections may not balance, (i.e., the traffic exiting one study intersection may not equal the traffic entering the adjacent study intersection.) This is due to several possible factors including other intersecting roads and residential and commercial entrances between study intersections, different count days, and counts performed in different months.

The existing condition traffic volumes for the PM peak hour are illustrated in [Figure 7-4](#).

Currently, traffic volumes along Route 100C/Old Saw Mill River Road in the study area range between 532 and 1,224 vehicles per hour (vph) in each direction during the 5 to 6 PM peak hour.

Under existing conditions all signalized intersections (see [Table 7-2](#)) operate with an acceptable overall LOS D or better during the PM peak hour. The exception is the intersection of Route 100C and Clearbrook Road/Walker Road, which operates at unacceptable LOS D with a delay of 45.2 seconds during the PM peak hour.



2002/2003/2004 Existing Traffic Volumes PM Peak Hour (5:00-6:00PM)

**Table 7-2
Level-of-Service Analysis Results for Signalized Intersections:
2002 Existing Traffic Conditions**

Intersection	No.	Approach	Lane Group	2002 Existing Conditions			
				PM Peak Hour			
				v/c Ratio	Delay (sec)	LOS	
Grasslands Road (E-W) @ Bradhurst Avenue	6	Eastbound	L	0.29	17.9	B	
			T	0.62	31.9	C	
			R	0.31	25.4	C	
		Westbound	L	0.33	28.6	C	
			TR	0.57	29.0	C	
			Northbound	L	0.92	75.0	E
		Southbound	TR	0.28	34.1	C	
			L	0.20	23.3	C	
				TR	0.81	54.2	D
		Intersection				37.2	D
Old Saw Mill River Road @ Saw Mill River Pkwy SB Off Ramp	21	Eastbound	LT	0.74	18.4	B	
			TR	0.60	12.1	B	
		Southbound	LR	0.31	25.8	C	
			Intersection				15.2
Old Saw Mill River Road @ Saw Mill River Pkwy NB Off Ramp	22	Eastbound	T	0.32	10.9	B	
			T	0.51	7.8	A	
		Northbound	L	0.16	28.4	C	
			R	0.20	19.6	B	
		Intersection				10.1	B
Grasslands Road (Rt.100C) @ Clearbrook Road/Walker Road	24	Eastbound	L	0.02	16.4	B	
			TR	1.05	69.3	E	
		Westbound	L	0.40	27.6	C	
			TR	0.70	19.6	B	
		Northbound	LT	0.45	31.3	C	
			Southbound	LT	0.17	28.6	C
				R	0.00	13.9	B
		Intersection				45.2	D
Grasslands Road (Rt.100C) @ Woods Drive/Taylor Road	25	Eastbound	L	0.30	15.3	B	
			TR	0.70	20.5	C	
		Westbound	L	0.01	12.4	B	
			TR	0.48	11.4	B	
		Northbound	LTR	0.02	24.7	C	
			Southbound	LT	0.88	52.7	D
				R	0.18	26.1	C
		Intersection				21.6	C

**Table 7-2
Level-of-Service Analysis Results for Signalized Intersections:
2002 Existing Traffic Conditions**

Intersection	No.	Approach	Lane Group	2002 Existing Conditions		
				PM Peak Hour		
				v/c Ratio	Delay (sec)	LOS
Grasslands Road (Rt.100C) @ Sprain Brook Pkwy SB Ramp	26	Eastbound	TR	0.77	19.1	B
		Westbound	T	0.34	11.3	B
		Southbound	L	0.22	28.7	C
			R	0.04	26.3	C
		Intersection				17.3
Grasslands Road (Rt.100C) @ Sprain Brook Pkwy NB Ramp	27 30	Eastbound	L	1.04	98.9	F
			T	0.27	12.0	B
		Westbound	TR	0.79	26.3	C
		Northbound	LT	0.32	24.1	C
			R	0.52	26.6	C
Intersection				29.6	C	
Old Saw Mill River Road @ Landmark West Driveway	46	Eastbound	LTR	0.56	5.8	A
		Westbound	LTR	0.65	7.0	A
		Northbound	LTR	0.21	22.1	C
		Southbound	LTR	0.24	22.1	C
		Intersection				7.5
Grasslands Road (E-W) @ Saw Mill River Road (Route 9A)	19A	Westbound	L	0.13	9.9	A
		Northbound	L	0.83	88.2	F
			R	0.33	14.5	B
Grasslands Road (E-W) @ Saw Mill River Road (Route 9A) NB Ramp	19B	Eastbound	L	0.09	9.9	A
		Northbound	LT	0.04	20.4	C
			TR	0.25	15.1	C
Old Saw Mill River Road @ Landmark East Driveway	47	Eastbound	LTR	0.01	9.2	A
		Westbound	LTR	0.01	9.1	A
		Northbound	LTR	0.44	72.5	F
		Southbound	LTR	0.27	18.9	C

Notes:

L = Left Turn, T = Through, R = Right Turn, Def = Defacto Left Turn; LOS = Level of Service.

At unsignalized intersections (see [Table 7-2](#)) all movements/approaches operate at acceptable LOS D or better with the following exceptions:

- The northbound left-turn movement at the Route 100C and Route 9A intersection operates at LOS F during the PM peak hour.
- The northbound approach at the Old Saw Mill River Road and Landmark East Driveway intersection operates at LOS F during the PM peak hour.

The agencies responsible for these roadways could potentially improve the operation of these locations, by investigating the installation of traffic signals at these intersections, accompanied by signal warrant studies, as appropriate.

Safety

Accident data was obtained for the most recent three-year period at study area intersections and is discussed in [Section 4.9, Traffic and Transportation](#).

2006 Future Without the Project (Without the Site Preparation Worker Traffic).

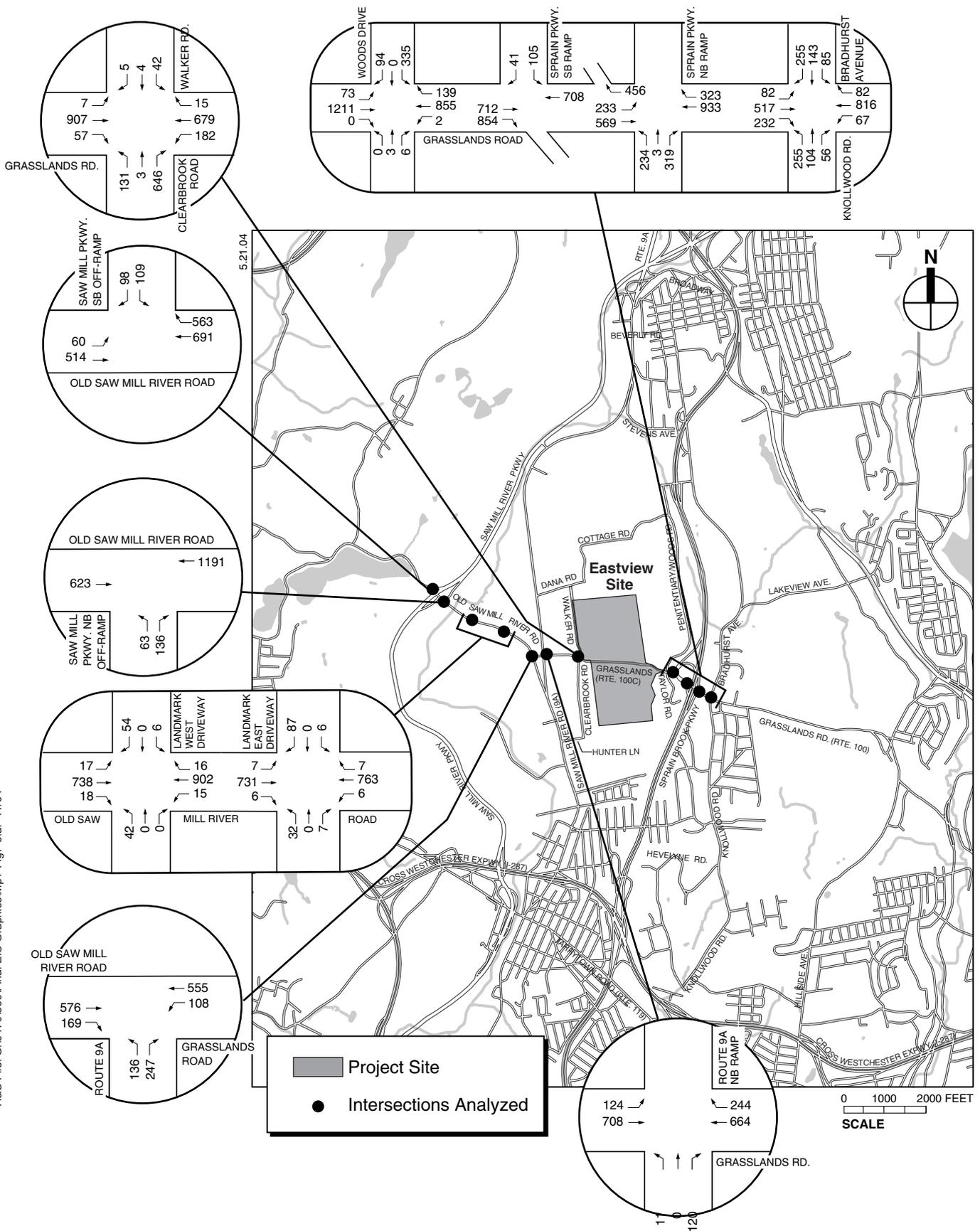
To account for traffic growth that would arise from anticipated site developments as well as from general background growth in the study area, an annual growth rate 1.5 percent per year was applied to the Existing condition traffic volumes for a total of 3.0 percent growth over the current condition to reflect 2006 traffic conditions. In addition, the traffic generated by two specific projects (Avalon Green and Home Depot) during the 5 to 6 PM period was also assigned to the 2006 traffic network. The 2006 Future Condition without the Site Preparation Workers traffic volumes for the PM peak hour are illustrated in [Figure 7-5](#).

The traffic volumes resulting from these proposed site developments, taken together with the projected background growth, would result in increased congestion throughout the project area. A comparison of the HCM analysis results between Existing conditions and the 2006 Future conditions without the Site Preparation Workers is presented in [Table 7-3](#).

For signalized intersections there would be one notable change in LOS:

- The overall LOS at the intersection of Route 100C and Clearbrook Road/Walker Road would drop from LOS D to E during the PM peak hour.

For unsignalized intersections there would be no notable changes in LOS. However, the northbound left-turn movement at the Route 100C and Route 9A intersection and the westbound approach of the Grasslands Road (Route 100) and Virginia Road intersection, which both would continue to operate at LOS F during the PM peak hour, would both experience a notable increase in delay.



2006 Future Conditions without Site Preparation Worker Traffic Volumes PM Peak Hour (5:00-6:00PM)

**Table 7-3
Level-of-Service Analysis Results for Signalized Intersections:
2002 Existing Conditions versus 2006 Future Traffic Conditions without Site Preparation Worker Traffic**

Intersection	No.	Approach	Lane Group	2002 Existing Conditions			2006 (1)			
				PM Peak Hour			PM Peak Hour			
				v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS	
Grasslands Road (E-W) @ Bradhurst Avenue	6	Eastbound	L	0.29	17.9	B	0.34	18.9	B	
			T	0.62	31.9	C	0.69	34.2	C	
		Westbound	R	0.31	25.4	C	0.34	25.9	C	
			L	0.33	28.6	C	0.43	33.4	C	
		Northbound	TR	0.57	29.0	C	0.62	30.2	C	
			L	0.92	75.0	E	1.07	118.0	F	
		Southbound	TR	0.28	34.1	C	0.30	34.4	C	
			L	0.20	23.3	C	0.21	23.4	C	
				TR	0.81	54.2	D	0.87	59.9	E
				Intersection			37.2	D	43.2	D
Old Saw Mill River Road @ Saw Mill River Pkwy SB Off Ramp	21	Eastbound	LT	0.74	18.4	B	0.84	24.6	C	
			TR	0.60	12.1	B	0.68	13.5	B	
		Southbound	LR	0.31	25.8	C	0.40	27.3	C	
			Intersection			15.2	B	18.1	B	
Old Saw Mill River Road @ Saw Mill River Pkwy NB Off Ramp	22	Eastbound	T	0.32	10.9	B	0.36	11.3	B	
			T	0.51	7.8	A	0.58	8.5	A	
		Northbound	L	0.16	28.4	C	0.17	28.5	C	
			R	0.20	19.6	B	0.24	20.0	C	
		Intersection			10.1	B	10.7	B		
Grasslands Road (Rt.100C) @ Clearbrook Road/Walker Road	24	Eastbound	L	0.02	16.4	B	0.03	16.5	B	
			TR	1.05	69.3	E	1.20	126.2	F	
		Westbound	L	0.40	27.6	C	0.43	27.8	C	
			TR	0.70	19.6	B	0.84	26.2	C	
		Northbound	LT	0.45	31.3	C	0.49	31.8	C	
			LT	0.17	28.6	C	0.18	28.6	C	
		Southbound	R	0.00	13.9	B	0.01	13.9	B	
			Intersection			45.2	D	74.1	E	

**Table 7-3
Level-of-Service Analysis Results for Signalized Intersections:
2002 Existing Conditions versus 2006 Future Traffic Conditions without Site Preparation Worker Traffic**

Intersection	No.	Approach	Lane Group	2002 Existing Conditions			2006 (1)		
				PM Peak Hour			PM Peak Hour		
				v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS
Grasslands Road (Rt.100C) @ Woods Drive/Taylor Road	25	Eastbound	L	0.30	15.3	B	0.41	17.1	B
			TR	0.70	20.5	C	0.79	23.0	C
		Westbound	L	0.01	12.4	B	0.01	14.5	B
			TR	0.48	11.4	B	0.56	12.4	B
		Northbound	LTR	0.02	24.7	C	0.02	24.7	C
			LT	0.88	52.7	D	0.94	62.4	E
		Southbound	R	0.18	26.1	C	0.19	26.2	C
			Intersection				21.6	C	
Grasslands Road (Rt.100C) @ Sprain Brook Pkwy SB Ramp	26	Eastbound	TR	0.77	19.1	B	0.86	23.0	C
			T	0.34	11.3	B	0.39	11.9	B
		Westbound	L	0.22	28.7	C	0.24	28.9	C
			R	0.04	26.3	C	0.10	27.0	C
		Intersection				17.3	B		20.0
Grasslands Road (Rt.100C) @ Sprain Brook Pkwy NB Ramp	27 30	Eastbound	L	1.04	98.9	F	1.14	130.9	F
			T	0.27	12.0	B	0.30	12.2	B
		Westbound	TR	0.79	26.3	C	0.86	29.6	C
			LT	0.32	24.1	C	0.39	24.9	C
		Northbound	R	0.52	26.6	C	0.55	27.3	C
			Intersection				29.6	C	
Old Saw Mill River Road @ Landmark West Driveway	46	Eastbound	LTR	0.56	5.8	A	0.65	7.0	A
			LTR	0.65	7.0	A	0.75	9.0	A
		Northbound	LTR	0.21	22.1	C	0.22	22.2	C
			LTR	0.24	22.1	C	0.25	22.2	C
		Intersection				7.5	A		8.9
Grasslands Road (E-W) @ Saw Mill River Road (Route 9A)	19A	Westbound	L	0.13	9.9	A	0.15	10.5	B
			L	0.83	88.2	F	1.16	198.7	F
		Northbound	R	0.33	14.5	B	0.53	20.0	C
Grasslands Road (E-W) @ Saw Mill River Road (Route 9A) NB Ramp	19B	Eastbound	L	0.09	9.9	A	0.18	11.2	B
			LT	0.04	20.4	C	0.07	28.4	D
		Northbound	TR	0.25	15.1	C	0.31	17.7	C
Old Saw Mill River Road @ Landmark East Driveway	47	Eastbound	LTR	0.01	9.2	A	0.01	9.7	A
			LTR	0.01	9.1	A	0.01	9.5	A
		Northbound	LTR	0.44	72.5	F	0.74	165.3	F
			LTR	0.27	18.9	C	0.35	23.8	C

Notes:

L = Left Turn, T = Through, R = Right Turn, Def = Defacto Left Turn; LOS = Level of Service.

(1) 2006 Future Conditions without the Site Preparation Worker Traffic.

2006 Future With the Project (With the Site Preparation Worker Traffic).

Site Preparation Worker Trip Generation

It is anticipated that approximately 86 site preparation workers would depart the site during the 5 PM to 6 PM peak hour. This number was analyzed in the study.

Potential Adverse Impacts.

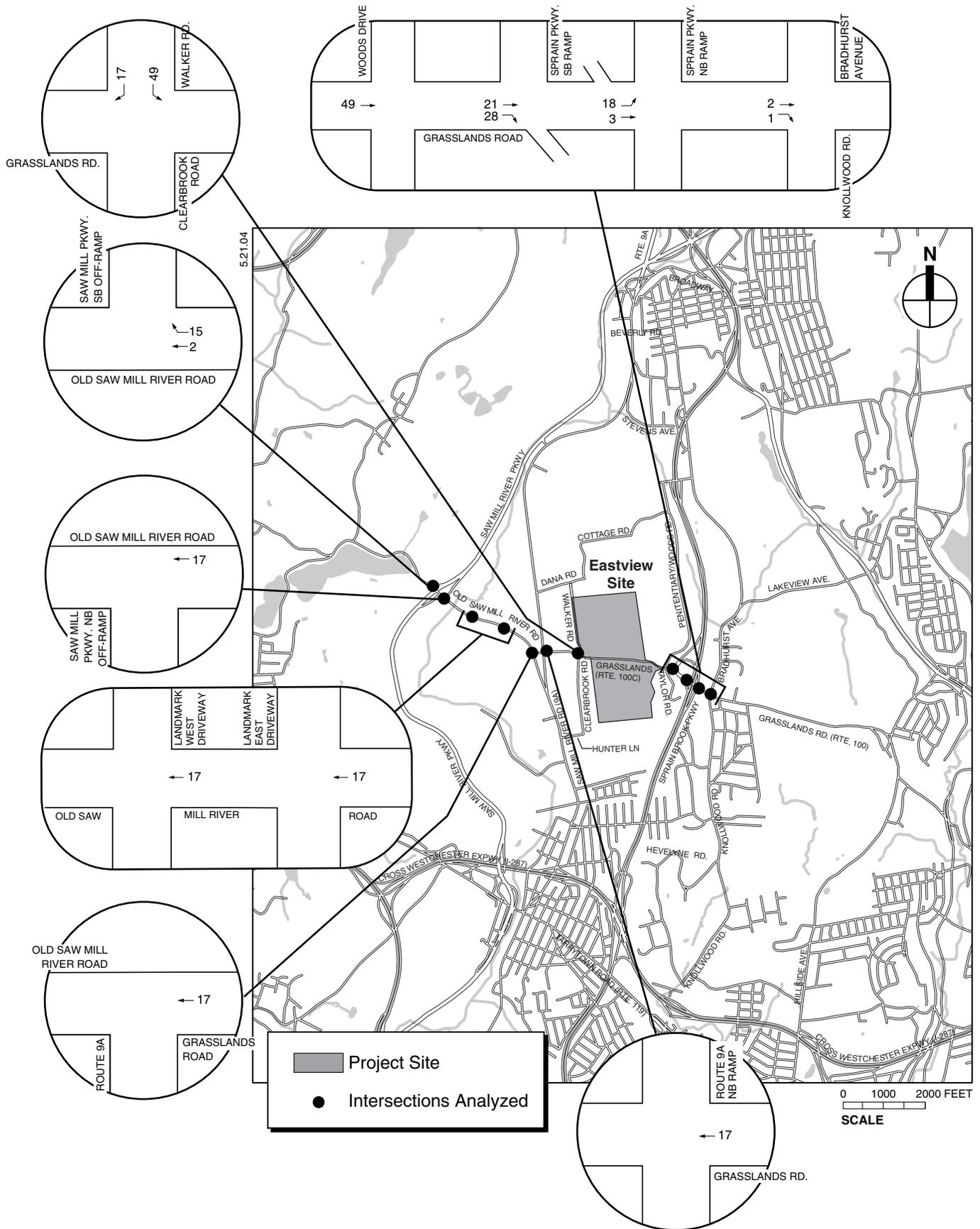
Figure 7-6 shows the vehicle assignments for the site preparation worker traffic during the PM peak hour. Figure 7-7 shows the 2006 Future Conditions with the Site Preparation Workers traffic volumes during the PM peak hour.

Table 7-4 presents a comparison of 2006 Future Conditions without the Site Preparations Worker traffic against 2006 Future Conditions with Site Preparation Worker traffic.

There would be the following potential adverse impacts associated with the 2006 Site Preparation Worker traffic:

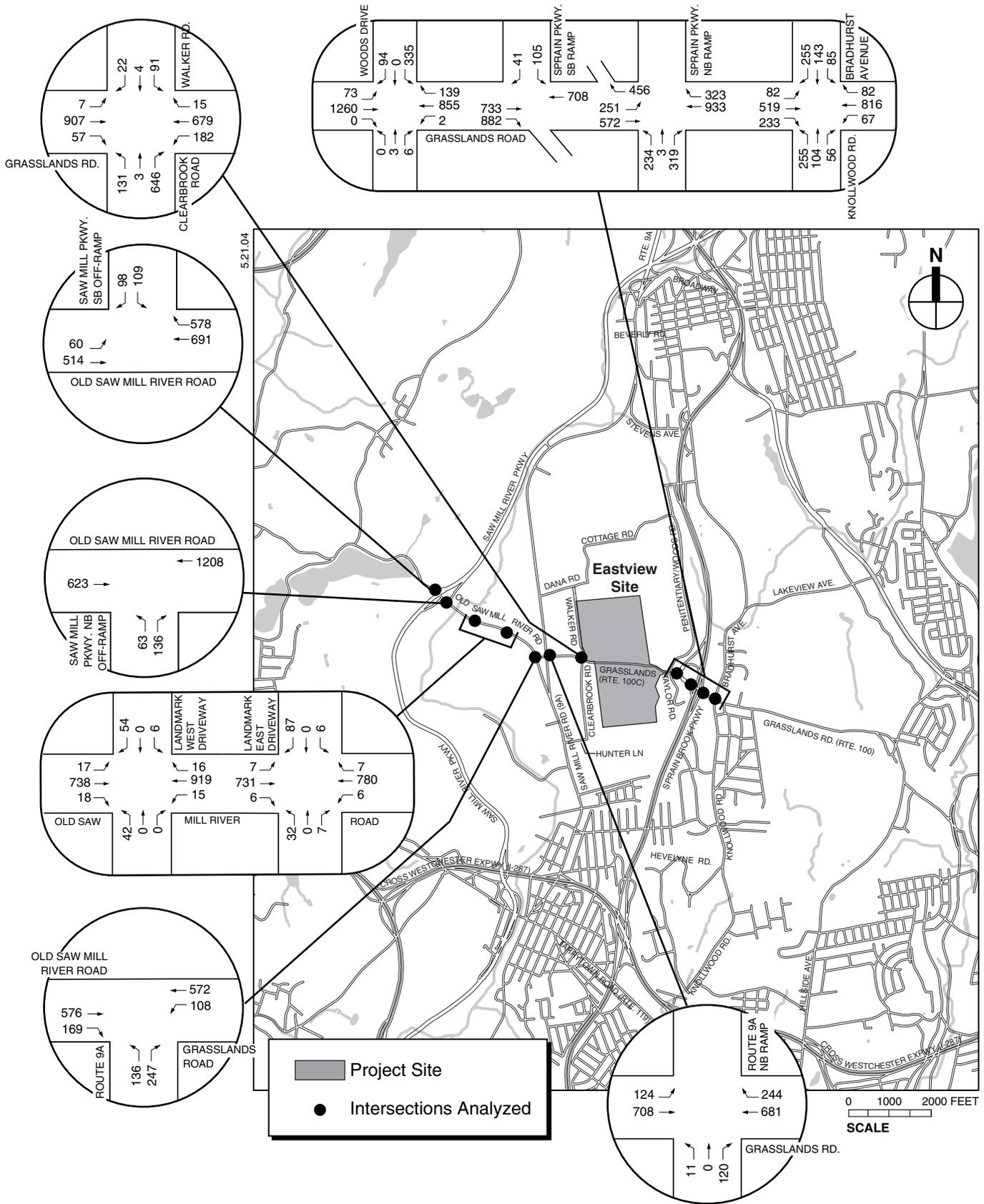
- Signalized Intersections
 - The eastbound left-turn movement at the intersection of Route 100C and the Sprain Brook Parkway would experience a potential adverse impact. The delay would increase from 130.9 seconds (LOS F) to 163.3 seconds (LOS F) during the PM peak hour.
- Unsignalized Intersections
 - The northbound left-turn movement at the intersection of Route 100C and Route 9A would experience a potential adverse impact. The delay would increase from 198.7 seconds (LOS F) to 210.8 seconds (LOS F) during the PM peak hour.
 - The northbound approach at the intersection of Old Saw Mill River Road and the Landmark East Driveway would experience a potential adverse impact. The delay would increase from 165.3 seconds (LOS F) to 176.4 seconds (LOS F) during the PM peak hour.

Mitigation measures for the intersections that would experience potential adverse impacts are discussed below.



2006 Site Preparation Work-Generated Trips PM Peak Hour (5:00-6:00PM)

Figure 7-6



2006 Future Conditions with Site Preparation Worker Traffic Volumes PM Peak Hour (5:00-6:00PM)

**Table 7-4
Level-of-Service Analysis Results for Signalized Intersections:
2006 Future Traffic Conditions without Site Preparation Worker Traffic versus
2006 Future Traffic Conditions with Site Preparation Worker Traffic**

Intersection	No.	Approach	Lane Group	2006 (1)			2006 (2)			
				PM Peak Hour			PM Peak Hour			
				v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS	
Grasslands Road (E-W) @ Bradhurst Avenue	6	Eastbound	L	0.34	18.9	B	0.34	18.9	B	
			T	0.69	34.2	C	0.69	34.3	C	
		Westbound	R	0.34	25.9	C	0.34	25.9	C	
			L	0.43	33.4	C	0.43	33.6	C	
		Northbound	TR	0.62	30.2	C	0.62	30.2	C	
			L	1.07	118.0	F	1.07	118.0	F	
		Southbound	TR	0.30	34.4	C	0.30	34.4	C	
			L	0.21	23.4	C	0.21	23.4	C	
				TR	0.87	59.9	E	0.87	59.9	E
		Intersection				43.2	D		43.2	D
Old Saw Mill River Road @ Saw Mill River Pkwy SB Off Ramp	21	Eastbound	LT	0.84	24.6	C	0.84	25.2	C	
			TR	0.68	13.5	B	0.69	13.7	B	
		Southbound	LR	0.40	27.3	C	0.40	27.3	C	
			Intersection			18.1	B		18.3	B
Old Saw Mill River Road @ Saw Mill River Pkwy NB Off Ramp	22	Eastbound	T	0.36	11.3	B	0.36	11.3	B	
			T	0.58	8.5	A	0.58	8.6	A	
		Northbound	L	0.17	28.5	C	0.17	28.5	C	
			R	0.24	20.0	C	0.24	20.0	C	
		Intersection			10.7	B		10.7	B	
Grasslands Road (Rt.100C) @ Clearbrook Road/Walker Road	24	Eastbound	L	0.03	16.5	B	0.03	16.5	B	
			TR	1.20	126.2	F	1.20	126.2	F	
		Westbound	L	0.43	27.8	C	0.43	27.8	C	
			TR	0.84	26.2	C	0.84	26.2	C	
		Northbound	LT	0.49	31.8	C	0.61	36.0	D	
			LT	0.18	28.6	C	0.37	30.5	C	
		Southbound	R	0.01	13.9	B	0.03	14.1	B	
			Intersection			74.1	E		72.9	E

**Table 7-4
Level-of-Service Analysis Results for Signalized Intersections:
2006 Future Traffic Conditions without Site Preparation Worker Traffic versus
2006 Future Traffic Conditions with Site Preparation Worker Traffic**

Intersection	No.	Approach	Lane Group	2006 (1)			2006 (2)			
				PM Peak Hour			PM Peak Hour			
				v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS	
Grasslands Road (Rt.100C) @ Woods Drive/Taylor Road	25	Eastbound	L	0.41	17.1	B	0.41	17.1	B	
			TR	0.79	23.0	C	0.82	24.2	C	
		Westbound	L	0.01	14.5	B	0.01	15.4	B	
			TR	0.56	12.4	B	0.56	12.4	B	
		Northbound	LTR	0.02	24.7	C	0.02	24.7	C	
			LT	0.94	62.4	E	0.94	62.4	E	
		R	0.19	26.2	C	0.19	26.2	C		
Intersection				23.9	C	24.5	C			
Grasslands Road (Rt.100C) @ Sprain Brook Pkwy SB Ramp	26	Eastbound	TR	0.86	23.0	C	0.89	24.9	C	
			T	0.39	11.9	B	0.39	11.9	B	
		Southbound	L	0.24	28.9	C	0.24	28.9	C	
			R	0.10	27.0	C	0.10	27.0	C	
		Intersection				20.0	B	21.2	C	
Grasslands Road (Rt.100C) @ Sprain Brook Pkwy NB Ramp	27 30	Eastbound	L	1.14	130.9	F	1.23	163.3	+	F
			T	0.30	12.2	B	0.31	12.3	B	
		Westbound	TR	0.86	29.6	C	0.86	29.6	C	
			LT	0.39	24.9	C	0.39	24.9	C	
		Northbound	R	0.55	27.3	C	0.55	27.3	C	
			Intersection				34.2	C	38.0	D
		Old Saw Mill River Road @ Landmark West Driveway	46	Eastbound	LTR	0.65	7.0	A	0.65	7.0
LTR	0.75				9.0	A	0.76	9.4	A	
Northbound	LTR			0.22	22.2	C	0.22	22.2	C	
	LTR			0.25	22.2	C	0.25	22.2	C	
Intersection						8.9	A	9.1	A	
Grasslands Road (E-W) @ Saw Mill River Road (Route 9A)	19A	Westbound	L	0.15	10.5	B	0.15	10.5	B	
			Northbound	L	1.16	198.7	F	1.19	210.8	+
		R	0.53	20.0	C	0.53	20.0	C		
Grasslands Road (E-W) @ Saw Mill River Road (Route 9A) NB Ramp	19B	Eastbound	L	0.18	11.2	B	0.19	11.3	B	
			Northbound	LT	0.07	28.4	D	0.07	29.0	D
		TR	0.31	17.7	C	0.31	17.7	C		
Old Saw Mill River Road @ Landmark East Driveway	47	Eastbound	LTR	0.01	9.7	A	0.01	9.8	A	
			LTR	0.01	9.5	A	0.01	9.5	A	
		Northbound	LTR	0.74	165.3	F	0.76	176.4	+	F
			LTR	0.35	23.8	C	0.36	24.6	C	

Notes:

L = Left Turn, T = Through, R = Right Turn, Def = Defacto Left Turn; LOS = Level of Service. "+" indicates Potential Adverse Impacts.

(1) 2006 Future Conditions without the Site Preparation Worker Traffic.

(2) 2006 Future Conditions with the Site Preparation Worker Traffic.

Mitigation for 2006 Conditions with the Site Preparation Workers.

The traffic analyses compared the proposed UV Facility's 2006 Future Conditions without the Site Preparation Workers against the 2006 Future Conditions with the Site Preparation Workers. Under these conditions in 2006, it was found that traffic from the site preparation workers would be anticipated to result in three potential adverse traffic impacts during the PM peak hour. These impacts could be fully mitigated as described below; the resulting delays and LOS for these intersections, with the proposed mitigation applied, are compared to 2006 Future Conditions with and without the Site Preparation Workers (see [Table 7-5](#)).

- Route 100C and Route 9A. During the PM peak hour, the northbound left-turn movement at this location would continue to operate at LOS F with a 12.1-second increase in delay during the PM peak hour. The installation of a traffic signal at this location could fully mitigate the PM peak hour impacts such that all of the movements would operate at LOS C or better.
- Route 100C and Sprain Brook Parkway Northbound Ramp. The eastbound left-turn movement at this location would continue to operate at LOS F with a 32.4-second increase in delay during the PM peak hour. This impact would be mitigated by transferring 2 seconds of green time from the northbound signal phase to the eastbound leading signal phase. During the PM peak hour, these mitigation measures would result in a decrease in delay on the eastbound left-turn movement of 29.6 seconds as compared to the future conditions without the site preparation worker traffic. The remaining vehicle movements at this location would operate at their 2006 Future Condition without the Site Preparation Workers LOS with no significant changes in their average vehicle delays.
- Old Saw Mill River Road and Landmark East Driveway. During the PM peak hour, the northbound left-turn, through, and right-turn movement at this location would continue to operate at LOS F with an 11.1-second increase in delay during the PM peak hour. The installation of a traffic signal at this location could fully mitigate the PM peak hour impacts such that all of the movements would operate at LOS C or better.

With this alternative, there would also be potential adverse traffic impacts as compared to the proposed action. However, all adverse traffic impacts would be temporary and could be fully mitigated.

**Table 7-5
Level-of-Service Analysis Results for Signalized and Unsignalized Intersections:
2006 Future Traffic Conditions without Site Preparation Worker Traffic,
2006 Future Traffic Conditions with Site Preparation Worker Traffic, and Mitigation Conditions**

Intersection	No.	Approach	Lane Group	PM Peak Hour										Mitigation Measures	
				2006 (1)			2006 (2)			2006 Mitigation					
				v/c	Delay (sec)	LOS	v/c	Delay (sec)	LOS	Lane Group	v/c	Delay (sec)	LOS		
Grasslands Road (E-W) @ Saw Mill River Road (Route 9A)	19A	Eastbound	T								T	0.62	12.2	B	Propose to be signalized
			R						R	0.19	7.8	A			
		Westbound	L	0.15	10.5	B	0.15	10.5	B	L	0.34	9.1	A		
			T						T	0.61	12.0	B			
		Northbound	L	1.16	198.7	F	1.19	210.8 +	F	L	0.30	26.0	C		
R	0.53		20.0	C	0.53	20.0	C	R	0.59	30.2	C				
Intersection			Unsignalized			Unsignalized						15.0	B		
Grasslands Road (Rt.100C) @ Sprain Brook Pkwy NB Ramp	27/30	Eastbound	L	1.14	130.9	F	1.23	163.3 +	F	L	1.06	101.3	F	Shift 2 seconds of green time from eastbound leading phase	
			T	0.30	12.2	B	0.31	12.3	B	T	0.29	11.2	B		
		Westbound	TR	0.86	29.6	C	0.86	29.6	C	TR	0.86	29.6	C		
			LT	0.39	24.9	C	0.39	24.9	C	LT	0.41	26.5	C		
		Northbound	R	0.55	27.3	C	0.55	27.3	C	R	0.58	29.4	C		
Intersection				34.2	C		38.0	D			32.2	C			
Old Saw Mill River Road @ Landmark East Driveway	47	Eastbound	LTR	0.01	9.7	A	0.01	9.8	A	LTR	0.67	12.8	B	Propose to be signalized	
			LTR	0.01	9.5	A	0.01	9.5	A	LT	0.83	19.4	B		
		Northbound	LTR	0.74	165.3	F	0.76	176.4 +	F	LTR	0.10	24.2	C		
			LTR	0.35	23.8	C	0.36	24.6	C	LTR	0.23	25.3	C		
		Intersection			Unsignalized			Unsignalized					16.9		B

Notes:

L = Left Turn, T = Through, R = Right Turn, Def = Defacto Left Turn; LOS = Level of Service. "+" indicates Potential Adverse Impacts.

(1) 2006 Future Conditions without the Site Preparation Worker Traffic.

(2) 2006 Future Conditions with the Site Preparation Worker Traffic.

7.2.3.1.5. Air Quality

With respect to off-site construction-related trips, there would be less worker trips off-site in any hour under the double shift scenario when compared to the quantified analyses performed for the proposed action. With respect to potential off-site impacts from work on Saturday, baseline traffic volumes and construction worker generated traffic for Saturday hours would be less than those subjected to quantified analyses for the proposed action. In addition, the temporary traffic adverse impacts at off-site locations for the 5 to 6 PM from the extended work hours under the site preparation phase would be limited and comparable or less than those addressed in the quantified air quality analyses for the 2008 peak construction period. Based on the analysis above and the results of the quantified air quality off-site analyses prepared for the proposed action, no significant adverse impacts from this alternative are anticipated.

With respect to potential air quality impacts from on-site construction operations, the double shift operations would occur during the time period when air emissions are projected to be substantially less than those encountered during the site preparation construction phase. For the work on Saturdays, this would be less than the peak weekday on-site air quality impact analyses quantified for the proposed action. For extended hours during the site preparation phase, potential air quality emissions would be greater for a 10-hour work day compared to the 8-hour activity work day analyzed for the proposed action. However, even by proportioning the air emissions for equipment that would potentially run for 10-hours versus 8-hours in any given day, based on the on-site air quality modeling performed for the on-site construction impact analysis, no significant adverse air quality impacts would be anticipated under this alternative.

7.2.3.1.6. Noise

With respect to stationary sources of noise for this alternative, the construction noise sources for each extended work hours scenario would be equal to or less than those subjected to quantified noise impact analyses for the proposed action. As discussed in [Section 4.11, Noise](#), the noise analysis for the proposed action was based on the projected maximum amount of daily activity associated with the construction of the proposed UV Facility. Therefore, there would be no additional temporary adverse noise impacts from stationary sources under this alternative.

In order to address the potential mobile source noise impacts of this alternative, a screening analysis was performed by following the same methodology employed to address impacts from the proposed action (see [Section 3.9, Data Collection and Impact Methodologies, Traffic and Transportation](#)), using the traffic estimates for each extended work hours scenario. Based on the noise receptor sites analyzed for the proposed action, a proportional analysis of projected incremental noise impacts was performed. The results of these analyses indicated that there would be additional temporary adverse noise impacts under the skilled trades double shift scenario only (during the midday time period). The analysis for each scenario is summarized below.

Site Preparation Extended Hours Scenario

As discussed above, during site preparation (between May 2005 and September 2006), approximately 86 site preparation workers could work a 10-hour day, arriving at work at 6:30 AM (prior to the commuter peak hour) and departing the site during the commuter peak hour of 5 to 6 PM. The 5 PM to 6 PM peak hour was not analyzed in the noise chapter of the Final EIS ([Section 4.11, Noise](#)). Therefore, the noise analysis below focuses on that hour. Construction of the Croton project would not be a factor during that hour since that project would limit its construction activity to the regular workday (7 AM to 4 PM). In addition, the project-generated traffic would be limited to employee trips during the 5 to 6 PM analysis hour; truck trips would finish around 4 PM. Similar to the traffic analysis presented above, the potential noise impacts were assessed for the most sensitive portion of the study area—the Route 100C/Old Saw Mill River Road corridor from Bradhurst Avenue to the Saw Mill Parkway ramps.

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As shown in [Table 7-6](#), the noise-sensitive route segments analyzed along the portion of the study area would not exceed the 3 to 5 dBA impact threshold under this scenario.

Projected incremental future noise levels from on-site construction noise sources at receptors adjacent to the site under this scenario would be similar to the results discussed in the noise chapter of the Final EIS ([Section 4.11, Noise](#)). For the analyses performed in [Section 4.11, Noise](#), the greatest project noise levels were added to the measured existing weekday noisiest and quietest time periods for comparison to appropriate standards and impact criteria. Based on existing noise levels measured, the noisiest and quietest time periods would likely not occur during the extended hours, and the potential impacts from this scenario would be comparable to the impacts from the project that are reported in [Section 4.11, Noise](#).

Skilled Trades Double Shift Scenario

As discussed above, under this scenario, 268 workers would work the 7 AM to 2 PM shift, and 132 workers would complete the 2 PM to 9 PM shift from September 2006 to September 2009. The 2008 peak construction year was analyzed for potential mobile source noise impacts. The afternoon overlap hours (1 to 2 PM and 2 to 3 PM) and the evening departure hour (9 to 10 PM) were not analyzed in the main noise section ([Section 4.11, Noise](#)). Therefore, the noise analysis below focused on those three hours.

During the two afternoon overlap hours, construction of the Croton project was considered and the traffic estimates included both employee and truck trips. The seven noise receptor sites that would be most sensitive to incremental traffic during these periods were analyzed for the multiple parking alternatives.

During the evening departure hour, construction of the Croton project was not considered, since the Croton project would limit its construction activity to the regular workday and would not

extend past 4 PM. Truck trips for both the proposed UV and the Croton projects would largely be limited to the regular workday as well.

Tables 7-7 through Table 7-10 summarize the results for the Future with the Project without the Croton Project and the Future with the Project with the Croton Project (with multiple parking alternatives). As shown in these tables, there would be incremental noise levels greater than 3 to 5 dBA impact threshold at up to six locations for this alternative, which would indicate potential adverse noise impacts under this alternative. All of these predicted adverse noise impacts would occur during the midday.

TABLE 7-6. COMPARISON OF EXISTING PCES TO ANTICIPATED FUTURE WITH THE PROJECT PCES DURING CONSTRUCTION (2008) WITHOUT CROTON PROJECT (SITE PREPARATION EXTENDED HOUR SCENARIO)

	Route Segment	Period of Analysis (Weekday)	Pure No Build (without Croton) PCEs	Time	New Passenger Car (CatDel)	New Trucks (CatDel)	New PCEs	PCE Ratio	Incremental Change in dBA	Further Analysis Performed?
7	Grasslands Rd. btw Bradhurst and Sprain Brook Pkwy	PM Peak	5488	5:00-6:00	3	0	3	1.00	0.00	No
8	Grasslands Rd. btw Sprain Brook Pkwy and Walker Road	PM Peak	5441	5:00-6:00	49	0	49	1.01	0.04	No
12	Grasslands Rd. btw Saw Mill River Rd (9A) and Walker Rd.	PM Peak	5886	5:00-6:00	17	0	17	1.00	0.01	No

(Future NB 2006)

Notes:

New PCEs = (no. of cars + no. of trucks(47))

PCE ratio = (Existing PCEs + Project generated PCEs) / Existing PCEs

Incremental change in dBA = 10 log (PCE ratio)

TABLE 7-7. COMPARISON OF EXISTING PCES TO ANTICIPATED FUTURE WITH THE PROJECT PCES DURING CONSTRUCTION (2008) WITHOUT CROTON PROJECT (SKILLED TRADES DOUBLE SHIFT SCENARIO)

Route Segment	Period of Analysis (Weekday)	Pure No Build (without Croton) PCES	Time	New Passenger Car (CatDel)	New Trucks (CatDel)	New PCES	PCE Ratio	Incremental Change in dBA	Further Analysis Performed?
6 Bradhurst btw Grasslands and Lakeview	PM Peak	1030	1:00-2:00pm & 2:00-3:00pm	0	48	2256	3.19	5.04	Yes
		1171	3:30-4:30						
		820	9:00-10:00pm	0	0	0	1.00	0.00	No
7 Grasslands Rd. btw Bradhurst and Sprain Brook Pkwy	PM Peak	2157	1:00-2:00pm & 2:00-3:00pm	3	48	2259	2.05	3.11	Yes
		2451	3:30-4:30						
		1716	9:00-10:00pm	3	0	3	1.00	0.01	No
8 Grasslands Rd. btw Sprain Brook Pkwy and Walker Road	PM Peak	2131	1:00-2:00pm & 2:00-3:00pm	47	48	2303	2.08	3.18	Yes
		2422	3:30-4:30						
		1695	9:00-10:00pm	47	0	47	1.03	0.12	No
12 Grasslands Rd. btw Saw Mill River Rd (9A) and Walker Rd.	PM Peak	2131	1:00-2:00pm & 2:00-3:00pm	18	0	18	1.01	0.04	No
		2422	3:30-4:30						
		1695	9:00-10:00pm	18	0	18	1.01	0.05	No
13 Bradhurst Ave. btw Grasslands Rd. and Lakeview Ave.	PM Peak	1030	1:00-2:00pm & 2:00-3:00pm	0	48	2256	3.19	5.04	Yes
		1171	3:30-4:30						
		820	9:00-10:00pm	0	0	0	1.00	0.00	No
14 Lakeview Ave. btw Bradhurst Ave. and Commerce Str.	PM Peak	1030	1:00-2:00pm & 2:00-3:00pm	0	48	2256	3.19	5.04	Yes
		1171	3:30-4:30						
		820	9:00-10:00pm	0	0	0	1.00	0.00	No
15 Lakeview Ave. btw Wall Street and Pamela Lane	PM Peak	1030	1:00-2:00pm & 2:00-3:00pm	0	48	2256	3.19	5.04	Yes
		1171	3:30-4:30						
		820	9:00-10:00pm	0	0	0	1.00	0.00	No

(Future NB 2006)

Notes:

New PCES = (no. of cars + no. of trucks(47))

PCE ratio = (Existing PCES + Project generated PCES) / Existing PCES

Incremental change in dBA = 10 log (PCE ratio)

TABLE 7-8. COMPARISON OF PCES IN THE FUTURE WITH PROJECT DURING CONSTRUCTION (2008) TO PCES IN FUTURE WITHOUT PROJECT WITH THE CROTON PROJECT (CONSTRUCTION WORKER PARKING OPTION A/D) (SKILLED TRADES DOUBLE SHIFT SCENARIO)

Route Segment		Period of Analysis (Weekday)	Pure No Build (without Croton) PCES	Time	New Passenger Car (Croton)	New Trucks (Croton)	New Passenger Car (CatDel)	New Trucks (CatDel)	New PCES	PCE Ratio	Incremental Change in dBA	Further Analysis Performed?
6	Bradhurst btw Grasslands and Lakeview	PM Peak	1030 1171	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	0	0	0	48	2256	3.19	5.04	Yes
7	Grasslands Rd. btw Bradhurst and Sprain Brook Pkwy	PM Peak	2157 2451 1716	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	12	4	3	48	2459	2.14	3.30	Yes
8	Grasslands Rd. btw Sprain Brook Pkwy and Walker Road	PM Peak	2131 2422	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	205	4	47	48	2696	2.26	3.55	Yes
12	Grasslands Rd. btw Saw Mill River Rd (9A) and Walker Rd.	PM Peak	2131 2422	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	75	0	18	0	93	1.04	0.19	No
13	Bradhurst Ave. btw Grasslands Rd. and Lakeview Ave.	PM Peak	1030 1171	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	0	0	0	48	2256	3.19	5.04	Yes
14	Lakeview Ave. btw Bradhurst Ave. and Commerce Str.	PM Peak	1030 1171	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	0	0	0	48	2256	3.19	5.04	Yes
15	Lakeview Ave. btw Wall Street and Pamela Lane	PM Peak	1030 1171	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	0	0	0	48	2256	3.19	5.04	Yes

(Future NB 2006)

Notes:

New PCES = (no. of cars + no. of trucks)(47)

PCE ratio = (Existing PCES + Project generated PCES) / Existing PCES

Incremental change in dBA = 10 log (PCE ratio)

TABLE 7-9. COMPARISON OF PCES IN THE FUTURE WITH PROJECT DURING CONSTRUCTION (2008) TO PCES IN FUTURE WITHOUT THE PROJECT WITH THE CROTON PROJECT (CONSTRUCTION WORKER PARKING OPTION B) (SKILLED TRADES DOUBLE SHIFT SCENARIO)

Route Segment	Period of Analysis (Weekday)	Pure No Build (without Croton) PCes	Time	New Passenger Car (Croton)	New Trucks (Croton)	New Passenger Car (CatDel)	New Trucks (CatDel)	New PCes	PCE Ratio	Incremental Change in dBA	Further Analysis Performed?
6 Bradhurst btw Grasslands and Lakeview	PM Peak	1030 1171	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	0	0	0	0	0	1.00	0.00	No
7 Grasslands Rd. btw Bradhurst and Sprain Brook Pkwy	PM Peak	2157 2451	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	12	4	3	48	2459	2.14	3.30	Yes
8 Grasslands Rd. btw Sprain Brook Pkwy and Walker Road	PM Peak	2131 2422	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	205	4	47	48	2696	2.26	3.55	Yes
12 Grasslands Rd. btw Saw Mill River Rd (9A) and Walker Rd.	PM Peak	2131 2422	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	75	0	18	0	93	1.04	0.19	No
13 Bradhurst Ave. btw Grasslands Rd. and Lakeview Ave.	PM Peak	1030 1171	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	0	0	0	0	0	1.00	0.00	No
14 Lakeview Ave. btw Bradhurst Ave. and Commerce Str.	PM Peak	1030 1171	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	0	0	0	0	0	1.00	0.00	No
15 Lakeview Ave. btw Wall Street and Pamela Lane	PM Peak	1030 1171	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	0	0	0	48	2256	3.19	5.04	Yes

(Future NB 2006)

Notes:

New PCes = (no. of cars + no. of trucks(47))

PCE ratio = (Existing PCes + Project generated PCes) / Existing PCes

Incremental change in dBA = 10 log (PCE ratio)

TABLE 7-10. COMPARISON OF PCES IN FUTURE WITH PROJECT DURING CONSTRUCTION (2008) TO PCES IN FUTURE WITHOUT THE PROJECT WITH THE CROTON PROJECT (CONSTRUCTION WORKER PARKING OPTION C) (SKILLED TRADES DOUBLE SHIFT SCENARIO)

Route Segment		Period of Analysis (Weekday)	Pure No Build (without Croton) PCES	Time	New Passenger Car (Croton)	New Trucks (Croton)	New Passenger Car (CatDel)	New Trucks (CatDel)	New PCES	PCE Ratio	Incremental Change in dBA	Further Analysis Performed?
6	Bradhurst btw Grasslands and Lakeview	PM Peak	1030 1171	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	0	0	0	24	1128	2.09	3.21	Yes
7	Grasslands Rd. btw Bradhurst and Sprain Brook Pkwy	PM Peak	2157 2451	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	12	4	3	48	2459	2.14	3.30	Yes
8	Grasslands Rd. btw Sprain Brook Pkwy and Walker Road	PM Peak	2131 2422	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	205	4	47	48	2696	2.26	3.55	Yes
12	Grasslands Rd. btw Saw Mill River Rd (9A) and Walker Rd.	PM Peak	2131 2422	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	75	0	18	0	93	1.04	0.19	No
13	Bradhurst Ave. btw Grasslands Rd. and Lakeview Ave.	PM Peak	1030 1171	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	0	0	0	24	1128	2.09	3.21	Yes
14	Lakeview Ave. btw Bradhurst Ave. and Commerce Str.	PM Peak	1030 1171	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	0	0	0	24	1128	2.09	3.21	Yes
15	Lakeview Ave. btw Wall Street and Pamela Lane	PM Peak	1030 1171	1:00-2:00pm & 2:00-3:00pm 3:30-4:30	0	0	0	48	2256	3.19	5.04	Yes

(Future NB 2006)

Notes:

New PCES = (no. of cars + no. of trucks(47))
PCE ratio = (Existing PCES + Project generated PCES) / Existing PCES
Incremental change in dBA = 10 log (PCE ratio)

Saturday Work Hours Scenario

As discussed above, if six-day work weeks are required, the average number of workers per day employed on-site, Monday through Saturday, would total approximately 335 during the peak construction period (2006). They would likely arrive at 6:30 AM and leave before the on-street peak hour PM period. Therefore, the noise analysis below focuses on the 6:30 to 7:30 AM and 3:30 to 4:30 PM hours. Construction of the Croton project would not be a factor on Saturdays since that project would likely limit its construction activity to the regular work week. In addition, on Saturdays the project-generated traffic would be limited to employee trips and few, if any, truck trips would occur. Similar to the traffic analysis presented above for the Site Preparation analysis, the potential noise impacts were assessed for the most sensitive portion of the study area—the Route 100C/Old Saw Mill River Road corridor from Bradhurst Avenue to the Saw Mill Parkway ramps.

Future With the Project.

As shown in [Table 7-11](#), the noise-sensitive route segments analyzed along the portion of the study area would not exceed the 3 to 5 dBA impact threshold under this scenario.

Projected incremental future noise levels from on-site construction noise sources at receptors adjacent to the site under this scenario would be similar to or less than the results discussed in the noise chapter of the Final EIS ([Section 4.11, Noise](#)). For the analyses performed in [Section 4.11, Noise](#), the greatest project noise levels were added to the measured existing weekday noisiest and quietest time periods for comparison to appropriate standards and impact criteria. The potential impacts from this scenario would be comparable to or less than the impacts from the project that are reported in [Section 4.11, Noise](#).

TABLE 7-11. COMPARISON OF EXISTING PCES TO ANTICIPATED FUTURE WITH PROJECT PCES DURING CONSTRUCTION (2008) WITHOUT CROTON PROJECT (SATURDAY WORK HOUR SCENARIO)

Route Segment		Period of Analysis (Weekday)	Pure No Build (without Croton) Weekday PCes	Pure No Build (without Croton) Saturday PCes	Time	New Passenger Car (CatDel)	New Trucks (CatDel)	New PCes	PCE Ratio	Incremental Change in dBA	Further Analysis Performed?
6	Bradhurst btw Grasslands and Lakeview	AM Peak	1555	1135	6:30-7:30	0	0	0	1.00	0.00	No
		PM Peak	1171	855	3:30-4:30	0	0	0	1.00	0.00	No
7	Grasslands Rd. btw Bradhurst and Sprain Brook Pkwy	AM Peak	3299	2408	6:30-7:30	0	0	0	1.00	0.00	No
		PM Peak	2451	1789	3:30-4:30	3	0	3	1.00	0.01	No
8	Grasslands Rd. btw Sprain Brook Pkwy and Walker Road	AM Peak	2838	2072	6:30-7:30	0	0	0	1.00	0.00	No
		PM Peak	2422	1768	3:30-4:30	47	0	47	1.02	0.08	No
12	Grasslands Rd. btw Saw Mill River Rd (9A) and Walker Rd.	AM Peak	2838	2072	6:30-7:30	0	0	0	1.00	0.00	No
		PM Peak	2422	1768	3:30-4:30	18	0	18	1.01	0.03	No
13	Bradhurst Ave. btw Grasslands Rd. and Lakeview Ave.	AM Peak	1555	1135	6:30-7:30	0	0	0	1.00	0.00	No
		PM Peak	1171	855	3:30-4:30	0	0	0	1.00	0.00	No
14	Lakeview Ave. btw Bradhurst Ave. and Commerce Str.	AM Peak	1555	1135	6:30-7:30	0	0	0	1.00	0.00	No
		PM Peak	1171	855	3:30-4:30	0	0	0	1.00	0.00	No
15	Lakeview Ave. btw Wall Street and Pamela Lane	AM Peak	1555	1135	6:30-7:30	0	0	0	1.00	0.00	No
		PM Peak	1171	855	3:30-4:30	0	0	0	1.00	0.00	No

(Future NB 2006)

Notes:

New PCes = (no. of cars + no. of trucks(47))

PCE ratio = (Existing PCes + Project generated PCes) / Existing PCes

Incremental change in dBA = 10 log (PCE ratio)

7.2.3.2. *Extended Construction Period Alternative*

If NYCDEP secures an extension of the schedule from USEPA, the construction period may be extended. Because of the complexity of constructing the proposed UV Facility, the Extended Construction Period Alternative assesses the potential effect of extending the construction period up to an additional 18 months. It is anticipated that even with the extended construction period, extra shifts as described in the Extended Work Hours Alternative may be required.

Overall, the Extended Construction Period Alternative would be anticipated to result in the same or similar impacts as the proposed action in the areas of land use, zoning, and public policy, visual character, community facilities, open space, socioeconomic conditions, growth inducement, historic and archaeological resources, hazardous materials, natural resources, water resources, infrastructure, EMFs, solid waste, and public health. Because extended work hours would still likely be employed even with an extension in the construction period, the areas where this alternative would differ from the proposed action would be very similar to the Extended Work Hours Alternative. However, because of the up to 18 additional months, the intensity of construction on the project site would be less than with the proposed action (and the Extended Work Hours Alternative). Therefore, the impacts under this alternative would be somewhat less intense but would be of longer duration than the proposed action.

7.2.4. UV Lamp Technology Alternative

The Conceptual Design for the proposed UV Facility has involved extensive research and evaluation into the advantages and disadvantages of UV disinfection systems (e.g., low and medium pressure). The UV Lamp Technology Alternative compares the potential for impacts between the Low Pressure/High Output (LPHO) system proposed for the UV Facility (and analyzed throughout the Final EIS) and the alternative Medium Pressure (MP) system (the UV Lamp Technology Alternative).

In general, MP systems require greatly reduced numbers of lamps due to their much higher intensity. Equipment costs other than for power consumption equipment are about 20 percent lower than an equivalent LPHO system. However, due to higher power consumption, electrical support facilities, including transformers, switchgear, emergency generators, and UPS systems, are considerably more costly for the MP system than for the LPHO system.

The number of medium pressure lamps required would be significantly less than for a low pressure facility; the overall UV process train piping would be similar to that required for the low pressure lamps; and space requirements for the electrical support systems (i.e. batteries) associated with medium pressure systems would be greater than that of low pressure systems due to the higher intensity of the medium pressure lamps. Overall, the MP system would require a comparable building footprint and similarly sized facility to the proposed LPHO facility. Therefore, it is anticipated that the UV Lamp Technology Alternative would have the same or similar impacts in the following areas: land use, visual character, community facilities, open space, neighborhood character, socioeconomic conditions, growth inducement, traffic, air

quality, noise, historic and archaeological resources, natural resources, water resources, EMFs, and solid waste. The UV Lamp Technology Alternative could differ from the proposed action in the areas of hazardous materials, infrastructure, and public health.

7.2.4.1. Hazardous Materials

The mercury contained in the 56 UV Disinfection Units would be similar regardless of the UV lamp technology selected. The total estimated mercury contained within the UV lamps is approximately 2.5 pounds based upon 56 UV Disinfection Units. Each LPHO Disinfection Unit would house 144 lamps each containing less than 0.15 grams of mercury. Each MP Disinfection Unit would house 10 lamps each containing 2 grams of mercury. The same number of UV Disinfection Units would be included in the design regardless of technology.

MP lamps are more prone to fouling due to their higher operating temperatures and would therefore require more frequent cleaning than LPHO lamps. However, the number of lamps required for the LPHO units would be greater requiring more acid cleaning solution to clean the larger surface area of the lamps. Therefore, the volume of acid required for cleaning the quartz sleeves that encase either the medium pressure or LPHO lamps would likely be similar. Only food grade acids such as citric acid or phosphoric acid would be used for the cleaning solution used to clean UV lamp sleeves would be used. With respect for the potential for breakage, less UV lamps would need to be exchanged per day; however the frequency of cleaning would be greater with MP. Similar to the proposed action, there would be no significant adverse impacts from hazardous materials anticipated under this alternative.

7.2.4.2. Infrastructure

This alternative would require greater power needs than the proposed LPHO, and therefore would have substantially higher demands. However, these demands would not be anticipated to result in significant adverse impacts on the locality demands from utilities or the noise or air quality impacts from the back-up generator operations.

7.2.4.3. Public Health

Similar to the proposed action, no significant adverse impacts would be anticipated under this alternative.

7.2.5. Site Layout Alternative

As discussed in [Section 4.1, Introduction and Project Description](#), the proposed UV Facility is proposed for the northeast portion of the north parcel of the Eastview Site. While this location introduces a number of potential impacts, as described in the Final EIS, it was determined that this location is the preferred site layout as discussed below. The site restrictions below explain why the layouts for the proposed UV Facility are limited by the physical, hydrological and environmental constraints of the site, plus NYCDEP's long-range planning to preserve the site for future potential water supply enhancements.

The proposed UV Facility was located east of Mine Brook on the north parcel to: (1) allow for operational flexibility; (2) allow for connections to the KCT; (3) facilitate connection to a future Catskill/Delaware water treatment plant, if it were ever to be required; and (4) minimize construction costs and environmental impacts. This section explains the site restrictions considered in the UV facility design.

7.2.5.1. Operational Flexibility

Both the Catskill and Delaware Aqueducts are routed through the Eastview Site and are equipped with connection chambers intended for connection to a future water treatment plant. The Delaware Aqueduct enters the site near the east section of the north parcel, and the current Catskill connection is in the east section of the south parcel. Upon completion of ongoing construction at Kensico Reservoir to complete a Flow Modification Structure, up to 1,800 mgd can be conveyed to the proposed UV Facility through the Delaware Aqueduct and an additional 800 to 1,000 mgd through the Catskill Aqueduct. The Catskill Aqueduct is currently an open channel gravity Aqueduct and the Delaware Aqueduct is a pressure tunnel.

By locating the proposed UV Facility at the elevations proposed on the northeast section of the site, Delaware Aqueduct water (up to 1,800 mgd) would be conveyed to the proposed UV Facility without the aid of pumping. Upon completion of Catskill Aqueduct pressurization work, water from the Catskill Aqueduct would also be conveyed to the proposed UV Facility without pumping. Additional operational flexibility may be provided upon construction of the KCT and its connection to the proposed UV Facility.

7.2.5.2. Connection to the KCT

In the future, Catskill/Delaware system water may also be conveyed by the KCT, and would also require disinfection at the proposed UV Facility. Should the KCT shafts be constructed at a location other than the Eastview Site, additional connection shafts and conduits would be required to be constructed at the Eastview Site to convey KCT water to and from the proposed UV Facility and (potentially) a future Catskill/Delaware water treatment plant. Therefore, it is more cost effective to plan for the KCT at the Eastview Site, bearing in mind the long-term possibility of Catskill/Delaware filtration. Since the proposed UV Facility would be best sited on the east side of Mine Brook (for both hydrological and environmental concerns), the KCT shaft locations would likely be in the area of the proposed UV Facility. Potential reasonable locations for the KCT shaft structures and surge tank are depicted in [Figure 7-8](#). Therefore, the proposed action sites the proposed UV Facility as far from Mine Brook as possible, yet still leaving the possibility to construct the KCT shaft structures in the area of the proposed UV Facility and out of as many wetlands as reasonably possible at this planning stage.

7.2.5.3. Construction of a Future Catskill/Delaware Water Treatment Plant

Should a Catskill/Delaware water treatment plant be required in the future, it would likely be positioned on the westernmost section of the north and south parcels in order to minimize impacts on Mine Brook. Therefore, the preferred site for the proposed UV Facility would continue to be on the northeast section of Eastview Site. Under this possible future build

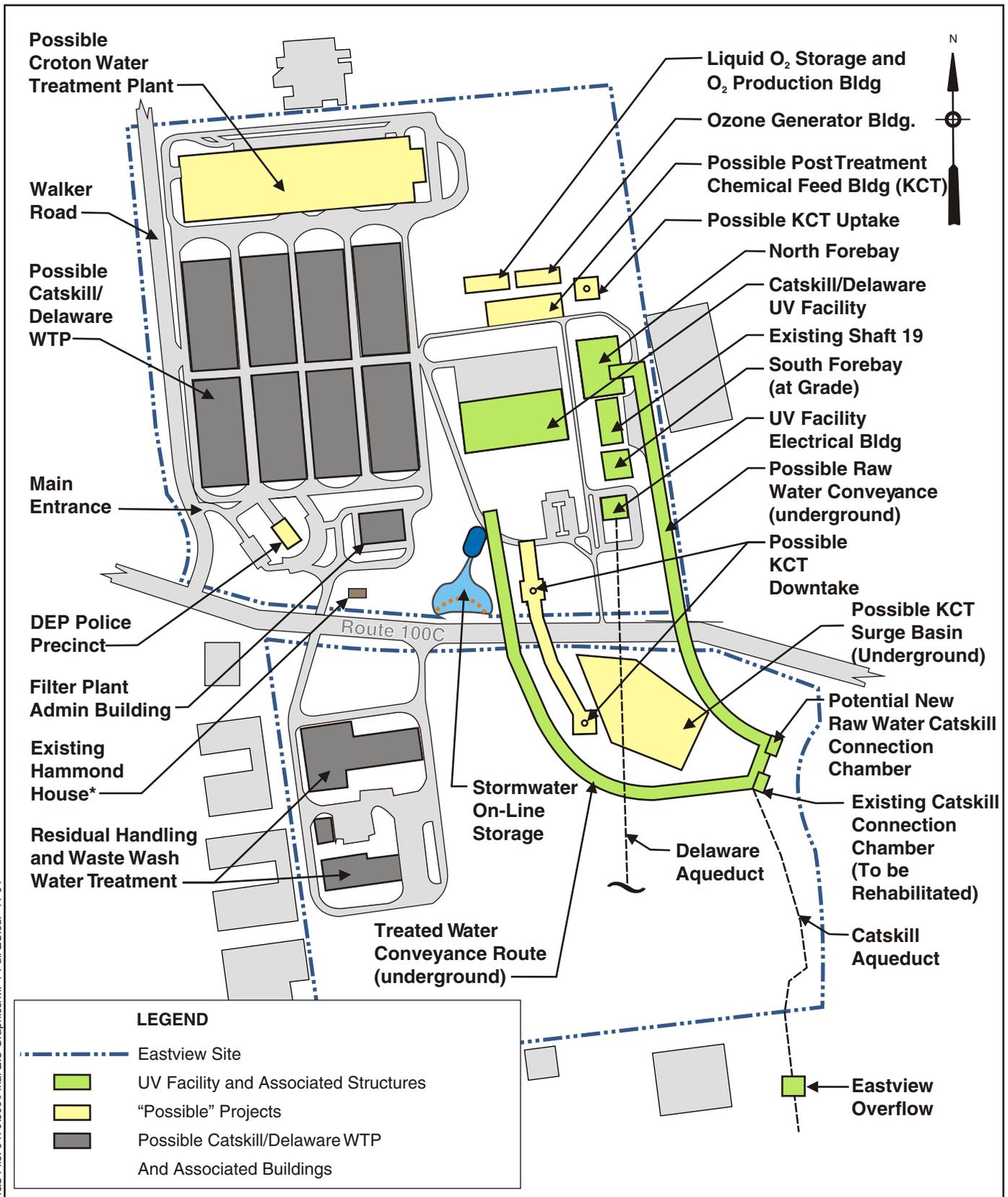
scenario, a Catskill/Delaware water treatment plant would be built at the Eastview Site in the area west of Mine Brook on the north parcel and the proposed UV Facility would continue to be used as the finishing process of the water treatment plant. Thus, siting the proposed UV Facility in the currently proposed portion of the site allows for the potential for both facilities at the site in the future, if necessary. Construction the proposed UV Facility on the west side of Mine Brook could result in the need to demolish and rebuild the facility at some time in the future should a filtration plant be necessary, or additional impacts on Mine Brook from a filtration plant. In addition, the proposed UV Facility would be required to remain in operation during the construction of a filter plant, and a location west of Mine Brook would not allow for this.

7.2.5.4. Environmental Impacts

The location of the proposed UV Facility on the southeast portion of the north parcel of the Eastview Site was selected to minimize the amount of required construction including excavation, the length and cost of connection conduits, truck traffic, and schedule impacts. However, locating on this portion of the site would result in potential significant adverse impacts on both wetlands and vegetation due to clearing, particularly in the northern portion of the site and along Mine Brook. However, these impacts on natural resources would even be larger if the facility was sited within Mine Brook, and the south parcel is more heavily wooded.

Locating the proposed UV Facility on the northeast section of the Eastview Site provides the capability of connecting to both the Catskill and Delaware Aqueducts without crossing Mine Brook. The proposed layout was determined with consideration of existing wetlands and site vegetation, and minimizes the amount of wetlands affected. Measures to reduce environmental impacts on existing wetlands and vegetation from both operational and construction activities were included in the design of the proposed UV Facility.

With the exception of the raw and treated water conveyances from the proposed UV Facility to the Catskill Aqueduct and the rehabilitated Catskill Connection Chamber (CCC), the main UV Facility building and related support structures would be located east of Mine Brook on the north parcel. The area west of Mine Brook on the north parcel is reserved for construction of a future Catskill/Delaware water treatment plant. Locating the proposed UV Facility to the east of Mine Brook allows for the installation of all UV facilities without crossings under Mine Brook and resultant disturbance of Mine Brook and adjoining wetlands.



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* NYCDEP may choose in the future to relocate the Hammond House from the Eastview Site to another location due to security concerns.

Catskill/Delaware UV Facility

Eastview Site Full Buildout

Figure 7-8

7.2.6. No Eastview Fill at the Kensico Aerators

As part of the proposed project, fill from the Eastview Site (either with just the UV Facility or with both the UV Facility and the Croton project) would be trucked to the Kensico Reservoir and would be used to fill the Aerators. **Section, 5.1, Kensico Reservoir Work Sites**, presents an analysis of how truck traffic from the filling of the Aerators at Kensico Reservoir would affect roadways. The analysis was conducted for 2006 (Delaware) and 2010 (Catskill). The number of trucks per day would be approximately 200 (100 arriving and 100 departing). This translates to approximately 26 truck trips per hour (arriving plus departing) over an 8-hour work day. This would result in potential temporary adverse noise and traffic impacts depending on the route selected to transport the fill from Eastview to the Kensico Aerators. This alternative assesses conditions if the Aerators were not to be filled.

If the Aerators were not filled with material excavated from the UV project at the Eastview Site, the fill that would have been used in the Aerators at the Kensico Reservoir would either be stockpiled on the Eastview Site or trucked off-site through the community. The temporary traffic and noise impacts associated with transporting the fill from the Eastview Site to the Aerators at the Kensico Reservoir would also not occur along Lakeview Avenue and to a lesser extent on Route 100C/Route 100 east of the Sprain Brook Parkway (depending on the comparative route for filling the Aerators).

If the material could not be stockpiled on-site, such as the scenario with the Croton project constructed on-site at the same time, there would be an increase in truck traffic along the primary truck routes from the Eastview Site to the regional highway system (I-287). This increase would be approximately an additional 20 truck trips per hour traveling on Route 9A, and an additional 5 truck trips per hour traveling along Knollwood Road. The majority of these trips would be heading south toward I-287 and Route 119. Therefore, the temporary traffic and noise impacts associated with transporting the fill from the Eastview Site to the Aerators at the Kensico Reservoir would not occur at the same locations. However, short-term localized impacts on Route 9A could occur.

Alternatively, the fill that would have been used to fill the Aerators at Kensico could be stockpiled on the south parcel (see discussion below). Under this alternative, the temporary traffic and noise impacts associated with transporting the fill from the Eastview Site to the Aerators at the Kensico Reservoir would not occur. However, the impacts identified with the South Parcel Fill Storage Alternatives would occur (again, see discussion below).

If, at some time later in the future, NYCDEP filled the Aerators with material from other construction (either NYCDEP-related or not), the likely truck routes to the Aerators would be along Columbus Avenue, not Lakeview Avenue. This could result in potential noise and traffic impacts over a longer duration of time on these routes, because it is unlikely that NYCDEP would be able to secure such large amounts of fill material compared to the amounts under excavation at the Eastview Site under such a relatively short time period.

7.2.7. Hammond House Alternative

As discussed in [Section 4.12, Historic and Archaeological Resources](#), the proposed action could have potential adverse physical and contextual impacts on the historic Hammond House, since the 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](#), above, which shows the NYCDEP's comprehensive long-term plan for the site, the Hammond House would be an isolated residential use surrounded by NYCDEP's water supply facilities.

The Hammond House Alternative considers the possibility of leaving the Hammond House on the Eastview Site but no longer using the house as a private residence. Under this alternative, as opposed to relocating the house, the NYCDEP would purchase the house from its current owners and continue to maintain the house on site. The property on which the house is located (just under an acre) is already owned by NYCDEP and the homeowners have an agreement with NYCDEP to use the land. This agreement includes a provision where the homeowners accept the possibility that NYCDEP may need the land in the future. In that case, their house would either need to be relocated off-site or sold. The agreement also stipulates that NYCDEP would have the right of first refusal in the event the house were to be transferred or sold. Under the Hammond House Alternative, any potential adverse physical and contextual impacts on historic resources of relocating the Hammond House would be avoided. However, for security reasons, the house would not be open to the public in the future.

7.2.8. Mount Pleasant Pumping Station Alternative

As discussed in [Section 5.1, Kensico Reservoir Work Sites](#), the section of the existing Catskill Aqueduct between Kensico Reservoir and the Eastview Site must be pressurized in order to convey up to 1,000 mgd of raw (untreated) water to the proposed UV Facility at the correct elevation by gravity such that it can be treated in the proposed UV Facility without construction of a new pumping station. In order to perform the work necessary to pressurize the aqueduct, a series of seasonal shutdowns (September to May) of the Aqueduct are planned.

The Town of Mount Pleasant currently relies on two connections to the City's Catskill Aqueduct: 1) near the Catskill Venturi Meter off of Columbus Avenue (Valhalla Pumping Station), and 2) the Kensico Siphon (Hawthorne Pumping Station) adjacent to the Taconic State Parkway. During the refurbishment/reconstruction of the Catskill Aqueduct, the Aqueduct would be shut down and dewatered so these connections would not be available. Therefore, two options are being considered for providing Delaware Aqueduct water to the Town during the extended shutdowns of the Catskill Aqueduct required for pressurization work: (1) a 30-inch diameter gravity feed connection from the Delaware Shaft No. 18 Flow Control Structure to the Town's existing Commerce Street Pumping Station, or (2) a temporary booster pumping station at the Eastview Site and installation of a 24-inch diameter transmission main to convey water from a temporary bypass pumping station on Delaware Shaft No. 19 to supply users south of the

Eastview Site. See [Section 5.1, Kensico Reservoir Work Sites](#), for a discussion of the gravity feed connection from Delaware Shaft No. 18.

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

- One route option 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 ([Figure 7-9](#)).
- The other route option would follow the same path as the first option 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 ([Figure 7-9](#)).

The installation of a water main to Mount Pleasant's Commerce Street Pumping Station would be similar to a typical utility installation, and would cover approximately 100 linear feet per day. No significant impacts are anticipated in association with the installation of this water main. Prior to construction, a Phase I hazardous material survey would be conducted, and if necessary, a Phase II assessment would be conducted. If necessary, appropriate remediation would be conducted which would, at a minimum, include removal of contaminated soils from the work area and a worker health and safety plan that would ensure the public health and safety of construction workers and adjacent site occupants.

Two options are being considered for providing a permanent UV treated water supply to the Town: (1) a permanent pumping station located at the Eastview Site, which would convey water from the proposed UV Facility ([Figure 7-10](#)), and (2) a separate UV Facility in the Town of Mount Pleasant at the existing Stevens Avenue Storage Tanks, which are supplied from the existing Commerce Street Pumping Station. If a separate UV Facility is provided to the Town and the 30-inch gravity feed connection is established from the Kensico Reservoir Flow Control Structure for supplying Delaware Aqueduct water during extended shutdowns of the Catskill Aqueduct for pressurization work, then the town would have the ability to draw from either the Catskill or Delaware Aqueducts via the existing Commerce Street Pumping Station. (The environmental analysis of this option is contained in [Section 5.1, Kensico Reservoir Work Sites](#).) 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

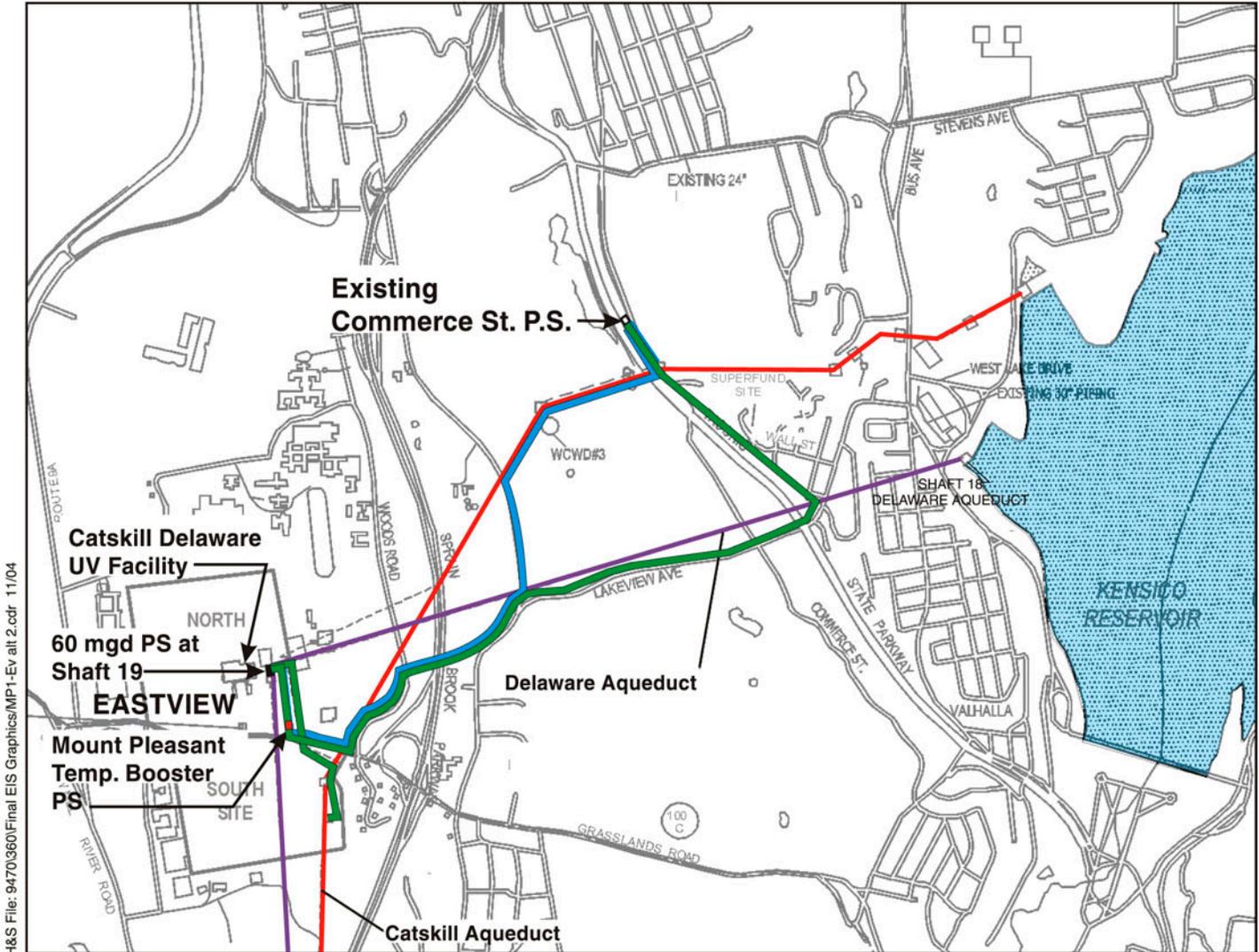
from Route 100C to enable this flow to enter the Town's distribution system. This permanent pumping station would be located on land already disturbed as part of the proposed UV Facility project; therefore, no additional impacts are anticipated with the construction of this permanent pumping station.

7.2.9. Construction-Period Fill Storage Alternatives

As discussed above, NYCDEP is designing a water filtration plant for its Croton water supply. The Eastview Site is one of three potential sites under consideration for the Croton project. If it is determined that the Eastview Site is the preferred location for the Croton project, construction activities for both the proposed UV Facility and the Croton project would occur simultaneously.

During construction of the proposed UV Facility, several hundred thousand cubic yards of fill material would be excavated and stockpiled on the north parcel of the site for reuse as backfill upon construction of the proposed UV Facility and its related ancillary support structures. Some of the fill would be used to fill the Aerators at the Kensico Reservoir. In the event that the Croton project is also constructed at the Eastview Site, the north parcel of the site would not be able to accommodate this fill storage, and other means of handling the fill would be required for the proposed UV Facility. Because storing the fill at an off-site location, such as the Kensico Reservoir Site, would necessitate a substantial number of truck trips through local streets, NYCDEP proposes to sell the fill as it is generated rather than store the fill off-site. This scenario is analyzed in the EIS (Potential Project Impacts With Croton Project at the Eastview Site).

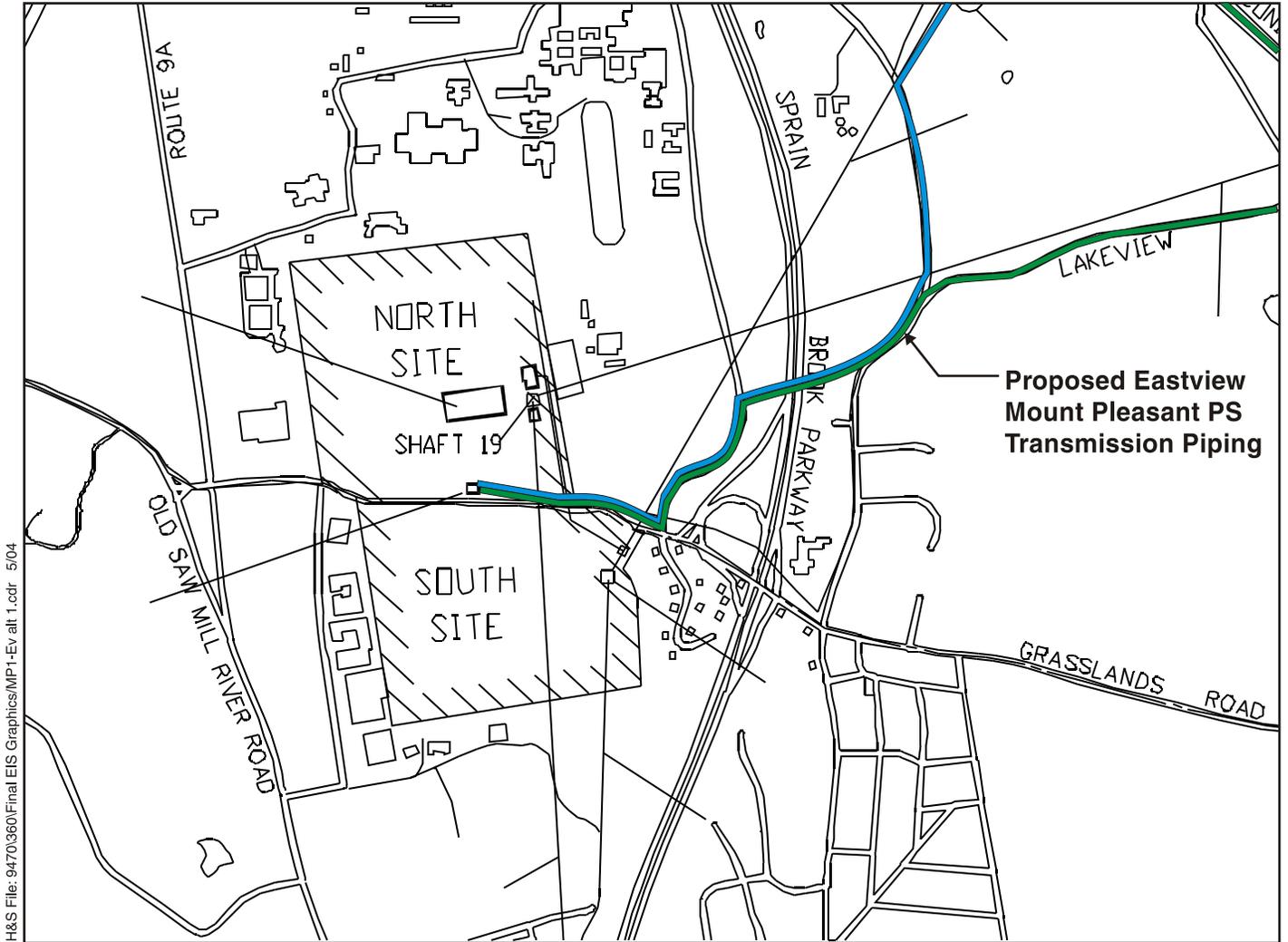
However, because fill would be needed during the construction period to stabilize structures and again upon completion of the project, NYCDEP's contractors would have to purchase new fill from another source. It is anticipated that during the construction period, approximately 40,000 truck trips would be required to move the fill from and to the site. To avoid the selling and purchasing of fill material and generating large numbers of truck trips on the road network for material handling, the possibility of storing the fill on the south parcel is analyzed in this section.



Town of Mount Pleasant Proposed Water Conveyance Options to Commerce St. Pumping Station

Catskill/Delaware UV Facility

Figure 7-9



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LEGEND

- Option 1
- Option 2

**Pumping Station at
Eastview UV Site**

Catskill/Delaware UV Facility

Figure 7-10

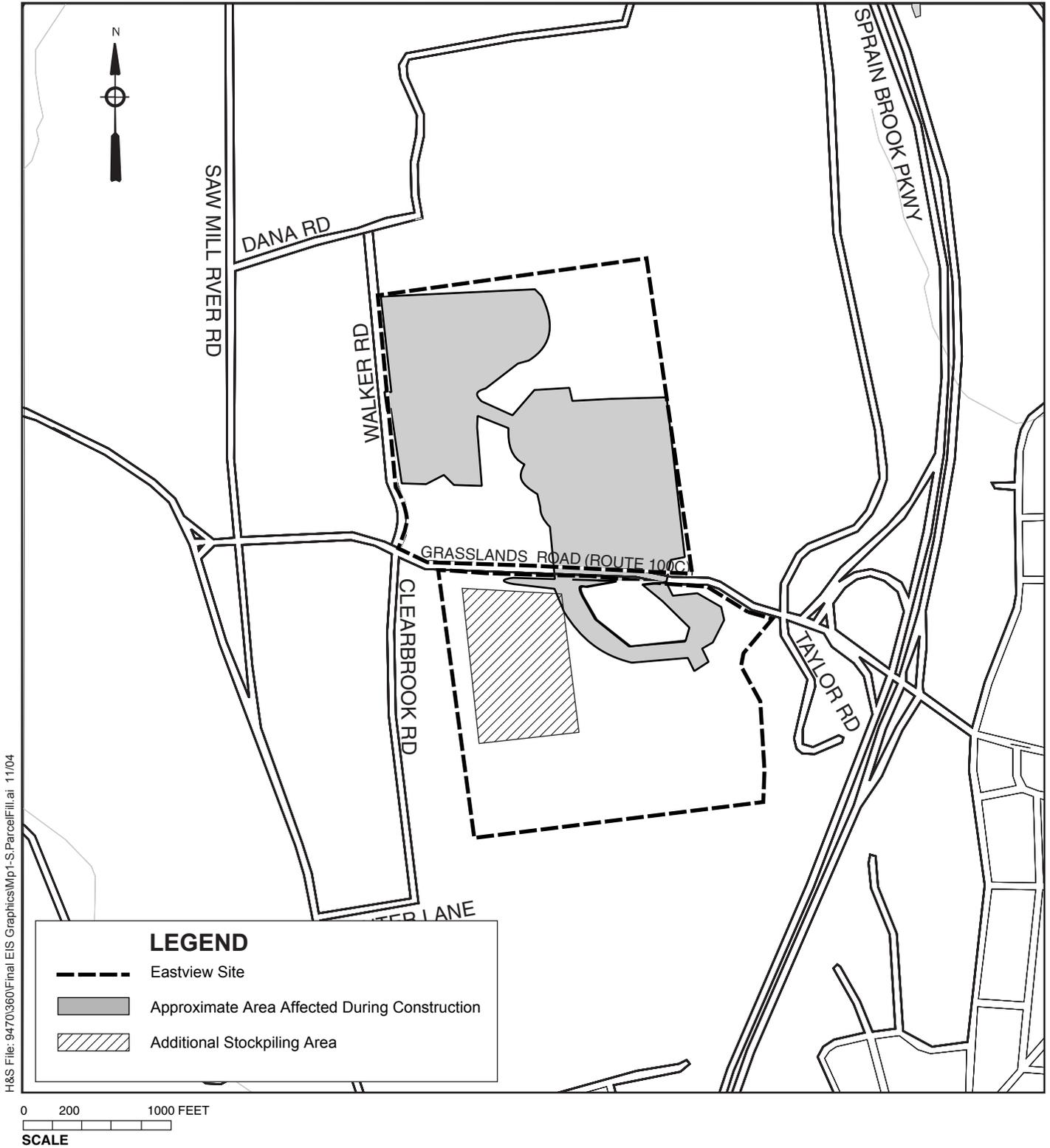
7.2.9.1. South Parcel Fill Storage Alternative (With Both the UV Facility and Croton Project at the Eastview Site)

The South Parcel Fill Storage Alternative considers the possibility of using the south parcel of the project site as an area where fill could be stored during construction (see [Figure 7-11](#)). Several different scenarios are assessed within this alternative that would address how to transport the fill across Route 100C, as follows:

- **Walker Road Scenario.** In this scenario, fill would be trucked from the north parcel of the Eastview Site across Route 100C by way of Walker Road. Construction vehicles would exit the north parcel onto Walker Road and travel south to the existing intersection with Route 100C. Trucks would travel approximately 600 feet east on Route 100C to a temporary construction entrance onto the south parcel. The reverse route would be followed for trucks returning to the site.
- **Controlled Intersection Scenario.** This alternative includes the construction of a temporary controlled intersection/crossing located approximately 600 feet east of the Walker Road intersection to allow trucks to cross Route 100C between the north and south parcels. The intersection would likely be equipped with either a traffic signal and would be synchronized with the existing signaled intersections. At the completion of the work, the traffic signal and equipment would be dismantled and normal traffic patterns restored. Walker Road would likely not be used to transport material across 100C under this scenario.
- **Overpass/Underpass Scenario.** In this scenario, an overpass/underpass would be constructed to allow trucks to cross Route 100C between the north and south parcels.

All three scenarios would result in the same number of truck trips as the proposed action with the Croton project (40,000, consisting of 20,000 trips to stockpile the materials and another 20,000 trips to remove the material over a period of two years beginning in May 2005). However, by using the south parcel to store fill, the truck traffic would be limited to a short segment of the road network. In addition, it is possible that off road vehicles could be used for the South Parcel Fill Storage Alternatives. Because these vehicles are larger and can hold more fill, using off-road vehicles would reduce the number of truck trips by half. The possibility of using these vehicles is discussed below.

With both the proposed action and the alternatives discussed here, fill would be used from the Eastview Site to fill the Aerators at the Kensico Reservoir.



South Parcel Fill Storage Alternative at Eastview Site

Catskill/Delaware UV Facility

Figure 7-11

7.2.9.1.1. Effects Common to All Three Scenarios

Overall, the South Parcel Fill Storage Alternative (all three scenarios) would result in similar impacts to the proposed action in the areas of community facilities, socioeconomic conditions, growth inducement, air quality, noise, historic and archaeological resources, hazardous materials, infrastructure, EMFs, solid waste, and public health. Although a large area of land would be affected—approximately 14 acres—the effects would be temporary and therefore, no potential significant impacts on land use, open space or neighborhood character are anticipated.

Using the south parcel as a storage area for fill raises certain natural and water resources issues, which are common to all three scenarios described above. Approximately 14 acres would be needed to provide an adequate area to stockpile the fill. Because the south parcel is wooded and contains an oak-tulip tree forest, approximately an additional 2,000 trees would be cut on the south parcel to provide this area. Eliminating this number of trees would be a significant adverse impact on natural resources, and mitigation similar to that proposed as part of the project (if both the proposed UV Facility and the Croton project are constructed on the site) would be required. In addition, the elimination of this number of trees would change the wooded nature of the south parcel, and would result in a change in the parcel's visual character.

Stockpiling the soil on the site would also require the development and implementation of a Sediment and Erosion Control Plan to prevent the migration of fill material off-site and into on-site water bodies.

No significant adverse impacts on noise or air quality would be anticipated from these additional land clearing or filling operations under this alternative.

The use of off-road vehicles to transport the fill between the northern and southern parcels would raise several issues related to vibration. Because the off-road vehicles are larger than the trucks proposed as part of the project, they could potentially result in adverse vibration impacts on the nearby Hammond House.

7.2.9.1.2. Walker Road Scenario

As discussed above, in this scenario, fill would be trucked from the northern portion of the Eastview Site across Route 100C by way of Walker Road. A new entrance to the south parcel would need to be created. This would require a curb cut off Route 100C.

7.2.9.1.3. Controlled Intersection Scenario

In this scenario, fill would be trucked from the northern portion of the Eastview Site across Route 100C by way of Hammond House Road. A new traffic signal would be located at Hammond House Road. Like with the Walker Road Scenario, the Controlled Intersection Scenario would require a curb cut off Route 100C.

7.2.9.1.4. Overpass/Underpass Scenario

In this scenario, an overpass/underpass would be constructed across Route 100C. This work would need to be coordinated with and approved by the New York State Department of Transportation (NYSDOT). While this scenario would eliminate all truck trips from Route 100C, the complexity of constructing the overpass/underpass would add a substantial amount of time to the construction period, and may not be feasible to implement in the constrained time period required to construct the proposed UV Facility under the FAD.