
DRAFT ENVIRONMENTAL IMPACT STATEMENT

WESTCHESTER JOINT WATER WORKS RYE LAKE WATER FILTRATION PLANT Purchase Street, Harrison, New York

April 12, 2022

PREPARER



Nelson, Pope & Voorhis, LLC

Valerie Monastra, AICP

Adriana Beltrani, AICP

156 Route 59 Suite C6

Suffern, NY 10901

845-368-1472

vmonastra@nelsonpopevoorhis.com

abeltrani@nelsonpopevoorhis.com

LEAD AGENCY

Westchester Joint Water Works

1625 Mamaroneck Ave

Mamaroneck, NY 10543

(914) 698-3500

PROJECT SPONSOR

Westchester Joint Water Works

Paul Kutzy, P.E. Manager

1625 Mamaroneck Ave

Mamaroneck, NY 10543

914-698-3500 x 612

pkutzy@wjww.com

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PARTICIPATING CONSULTANTS

ENGINEERING

Hazen & Sawyer
Eileen McCarthy Feldman, PE, PMP
498 Seventh Avenue, 11th Floor
New York, NY 10018
732-236-4055
efeldman@hazenandsawyer.com

TRAFFIC

Kimley Horn
John Canning, PE
1 North Lexington Avenue Suite 1575
White Plains, NY 10601
914-368-9188
john.canning@kimley-horn.com

LEGAL ADVISOR

McCarthy Fingar LLP
Lori Lee Dickson
711 Westchester Avenue, Suite 405
White Plains, NY 10604
914-385-1023
ldickson@mccarthyfingar.com

AIR

AKRF
Henry Kearney, PE
440 Park Avenue South
7th Floor
New York, NY 10019
646-388-9796
hkearney@akrf.com

ARCHITECTS

Nexus Creative Design
Johnathan Fry, AIA, LEED AP bd + c
100 White Plans Road
Tarrytown, NY 10591
914-740-4774
johnfry@nexuscreative.design

NOISE

B.Laing Associates
Danna Cuneo
103 Fort Salonga Road Suite 5
Fort Salonga, NY 11768
631-261-7170
dannac@blaingassociates.com

LEGAL ADVISOR

Bryan Cave Leighton Paisner LLP
Philip E. Karmel
1290 Avenue of the Americas
New York, NY 10104
212-541-2311
pekarmel@bclplaw.com

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1. EXECUTIVE SUMMARY

A. DESCRIPTION OF THE PROPOSED ACTION

This Draft Environmental Impact Statement (DEIS) has been prepared pursuant to the standards and requirements of the New York State Environmental Quality Review Act (SEQRA) and its implementing regulations contained in part 617, Title 6 of the New York State Code of Rules and Regulations (6 NYCRR 617).

The Proposed Action (Project) includes the construction and operation of a 30 million gallon per day (MGD) Dissolved Air Flotation/Filtration (DAFF) plant (filtration plant or plant) for the Westchester Joint Water Works' (WJWW) nearby Rye Lake (Kensico Reservoir) water source. The Proposed Action is necessary to maintain the health and safety of WJWW customers and to comply with an United States Environmental Protection Agency (USEPA) Administrative Order, a New York State Supreme Court Order, and the USEPA and New York State Sanitary Code surface water filtration requirements. The filtration plant would use enhanced coagulation to remove disinfection byproduct precursors of total trihalomethanes (TTHM) and haloacetic acids (HAA5). The filtration plant would give WJWW more control over the removal of disinfection byproduct precursors and better ability to routinely comply with the USEPA's Stage 2 Disinfectants and Disinfection Byproducts Rule.

The filtration plant would have the capacity to filter the maximum day water supply demand of WJWW's entire water distribution system. The Proposed Action would include the construction of a filtration plant building, driveway, parking lot, installation of supporting ancillary facilities, utilities including water and sewer, and stormwater management features on 13.4-acres of land (Project Site) currently owned by Westchester County and managed by the Westchester County Airport (**Figure 1-1, Site Location**) The filtration plant building would be less than one (1) acre, and proposed impervious features, including the plant building, a driveway, parking lot, walkways and supporting utilities and ancillary facilities, would total approximately 2.4 acres. The sewer line for the Project would tie into the airport collection system on Westchester County Airport property pursuant to an easement that would be granted by the County. As proposed, the filtration plant would be designed to treat water pumped from the Rye Lake Pump Station (RLPS) and to supply finished water to the Purchase Street Storage Tanks. The Project Site would be accessed from Purchase Street, also known as Route 120.

As part of the Proposed Action, WJWW would acquire the 13.4-acre Project Site, which is currently part of the Westchester County Airport property, from Westchester County. The County has advised WJWW that the best course of action would be a proposed equal land swap to result in no net loss of airport property. The 13.4-acre parcel of land proposed for the filtration plant would be apportioned from the County Airport property and deeded to WJWW in exchange for WJWW deeding a 13.4-acre parcel (Parcel ID 0961.1 or Exchange Parcel) in its ownership to the County for incorporation into the airport property (**Figure 1-2, Land Swap Properties**). The Exchange Parcel is contiguous to the airport.

B. SITE DESCRIPTION

The proposed Project Site is 13.4 acres of undeveloped land composed of trees and vegetation, with access directly from Purchase Street.

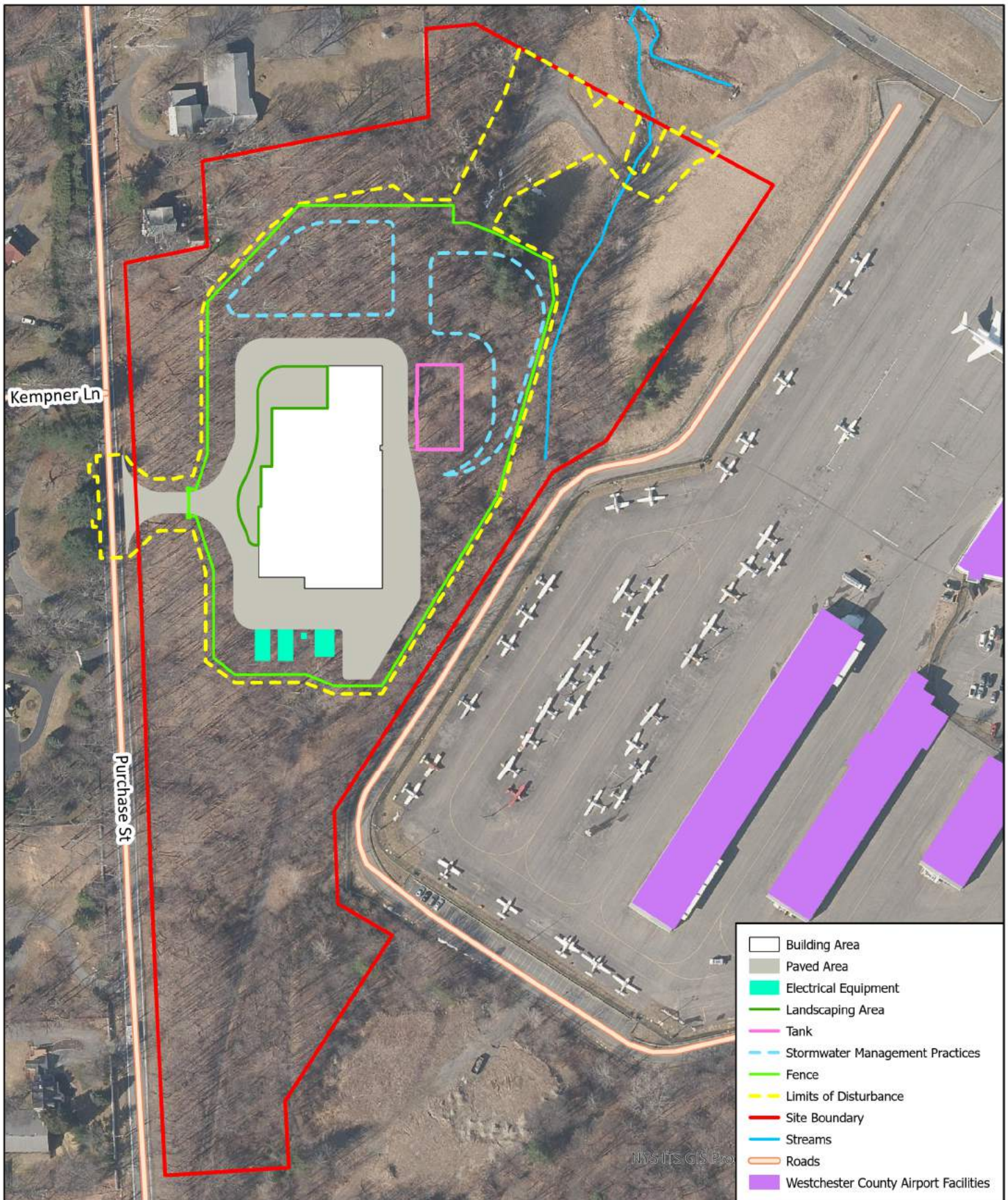
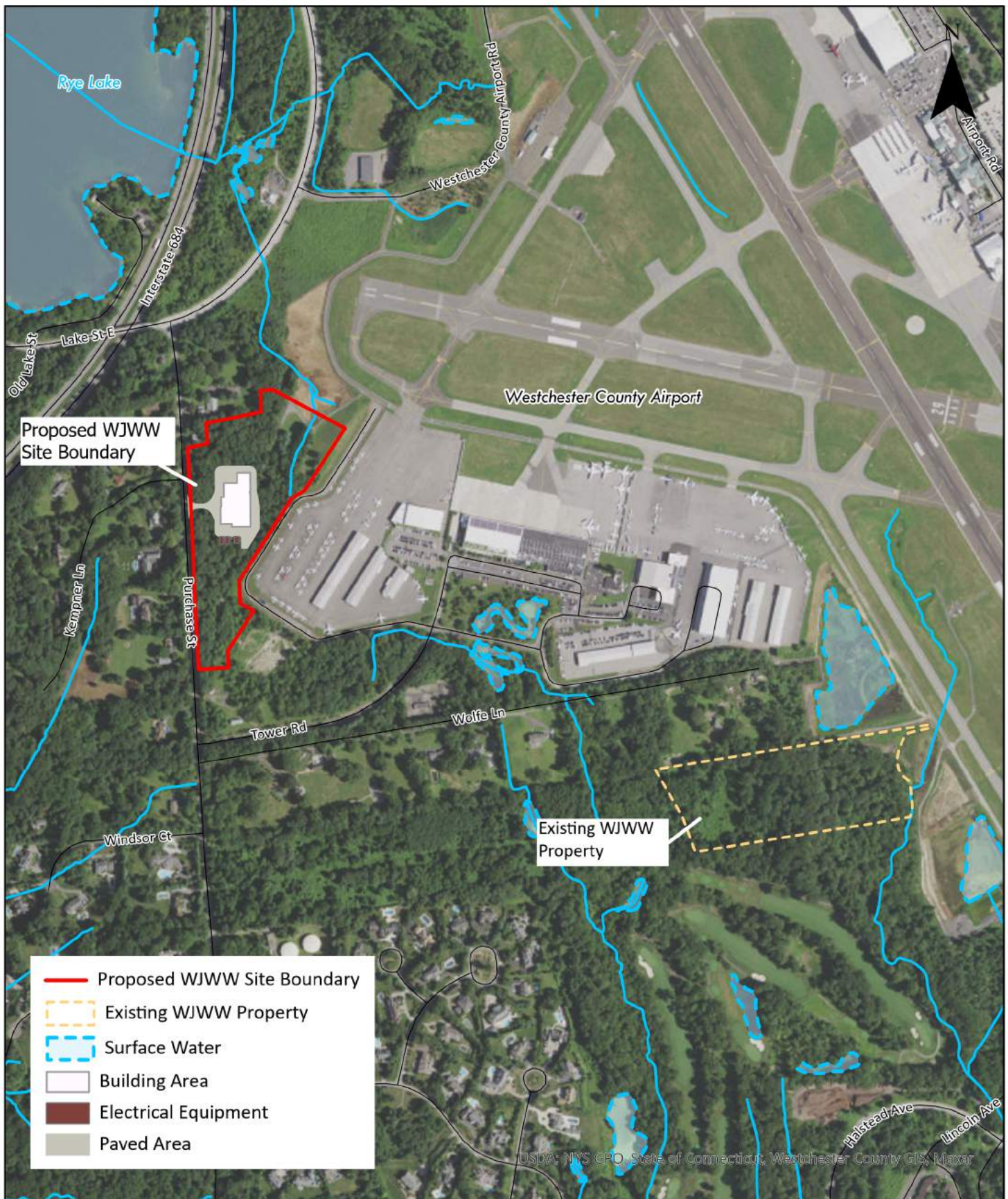


Figure 1-1: Site Location

Sources: Westchester County GIS, 2020
Scale: 1 inch equals 170 feet



Westchester Joint
Water Works
Water Filtration Plant



USDA; NYS GPO, State of Connecticut; Westchester County GIS; Maxar



Figure 1-2: Land Swap Properties

Sources: Westchester County GIS 2020;
Scale: 1 inch equals 700 feet

Westchester Joint
Water Works
Water Filtration Plant

The Project Site adjoins single-family residences to the west, and the Purchase Friends Meeting House and a single-family residence directly to the north along Purchase Street and is surrounded by Westchester County Airport to the south, east, and northeast.

C. PROJECT SITE LAYOUT

The Project Site is located adjacent to the Westchester County Airport. Site access would be obtained from Purchase Street. The proposed building footprint would be less than one (1) acre in area (**Figure 1-3, Site Plan**). The proposed impervious features, including the filtration plant building, a driveway, parking lot, walkways, and supporting utilities and ancillary facilities, would total approximately 2.4 acres. The plant would be set back approximately 155 feet from Purchase Street and 288 feet from its northern neighboring property. The plant would be set back a minimum of 100 feet from the airport property, meeting the local rear and side yard setback zoning requirements. A six (6) foot retaining wall would be located on the southern side of the plant and a 10-foot-high fence, as required by NYSDOH, would surround the filtration plant and separate the plant from the airport property. The approximate location of the fence is depicted on **Figure 1-1, Site Location**. To mitigate any potential negative visual impact of the security fence along Purchase Street, the fence is setback from the property line by approximately 100 feet. Along the northern property boundary facing the Purchase Friends Meeting House property, the fence is setback approximately 80 feet from the property line. Area variances for the height of the fence and encroachment of the access gate into the 100-foot buffer along Purchase Street would need to be obtained from the Town of Harrison Zoning Board of Appeals.

D. PROJECT PURPOSE, NEED, AND BENEFITS

The Proposed Action would address the health concerns posed by disinfection byproducts (DBPs) through the construction and operation of a water filtration plant as well as fulfills legal requirements with the USEPA and the State of New York regarding the construction of a filtration plant.

To address the health risks of DBPs such as haloacetic acids (HAA5) and trihalomethanes (THM), the USEPA adopted the Stage 2 Disinfectants and DBPs Rule on January 4, 2006. The rule requires more stringent regulations to provide for better public health protection against the risks associated with DBPs. The USEPA's Stage 2 Rule is mandatory for public water systems serving between 50,000 and 99,999 retail customers, which includes WJWW. Starting October 1, 2012, WJWW was required to monitor the maximum contaminant levels (MCL) for total THM and HAA5. The results submitted for the first, second, and third quarters of 2019 exceeded these MCLs. In response, the USEPA issued two administrative orders¹, resulting in an obligation for WJWW to commence design of the proposed Rye Lake Filtration Plant and a Corrective Action Plan that outlines provisions to be taken to achieve compliance with MCLs standards.

In addition to the USEPA Administrative Orders, on January 23, 2002, the New York State Supreme Court issued a Court Order requiring WJWW to construct a filtration plant. The Court found WJWW in violation of N.Y.C.R.R. § 5-1.30 "by failing to construct and operate a filtration plant to filter the potable water that it sells to its customers from the Rye Lake System". Upon remand, on June 9, 2004, the Supreme Court issued a Court Order requiring WJWW to construct the filtration plant (Judgment and Order of New York State Supreme Court Index No. 13364-99, Justice Louis A. Barone). The Order was upheld on appeal in 2005. It remains in effect today.

¹ See superseding Administrative Order No. SDWA-02-2020-8001

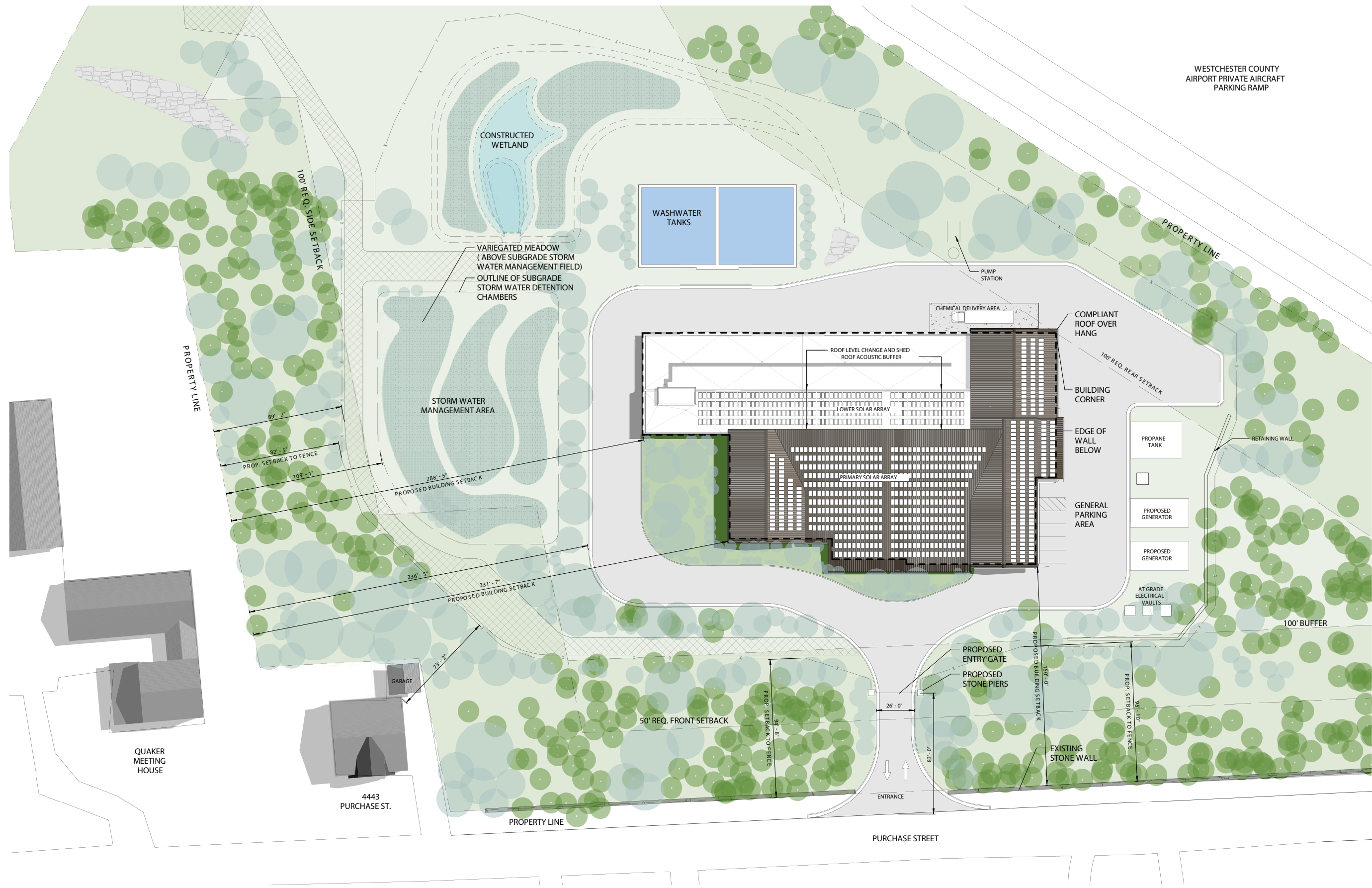


Figure 1-3, Illustrative Site Plan

Construction of the 30-MGD Dissolved Air Flotation/Filtration (DAFF) water filtration plant is designed to comply with these regulations and to satisfy the requirements of the State Court Order and USEPA Administrative Order.

In addition to satisfying existing legal obligations, the Proposed Action is a long-term solution to environmental pressures affecting the WJWW water source at Rye Lake. The construction of a water filtration plant provides a vital safeguard for the Rye Lake WJWW water source and WJWW's nearly 120,000 residents in Westchester County that WJWW serves.

E. REQUIRED APPROVALS AND PERMITS

A number of permits and approvals are required over the course of the Project from the Town/Village of Harrison, Westchester County, New York State, and federal agencies. WJWW would negotiate with Westchester County on the land swap and deed agreements, as well as a sewer easement to install a sewer line and connect it to the airport collection system on County property. The Federal Aviation Administration would need to approve the modification of the airport footprint, and the Westchester County Department of Environmental Facilities would need to approve the required sewer connection. The filtration plant design would require approval of the NYS and Westchester County Department of Health and receipt of a wetland permit from the NYSDEC. In addition, WJWW would continue to coordinate with the State Supreme Court regarding compliance with its final Court Order, and the USEPA regarding compliance with its administrative order. **Table 1-1** shows the anticipated list of permits and approvals that may be required for the Proposed Action:

TABLE 1-1: Permits and Approvals	
Government Entity / Agency	Approval(s) Required
USEPA	Compliance with Administrative Order SDWA-02-2020-8001
USEPA	Water Infrastructure Finance and Innovation Act (WIFIA) Program
United States Fish and Wildlife Service (USFWS)	Section 7 Consultation
Federal Aviation Administration (FAA)	Notice of Proposed Construction or Alteration (FAA Form 7460-1)
NYSDEC	State Pollution Discharge Elimination System (SPDES) General Permit for Construction Activity
NYSDEC	SPDES Industrial Permit (NY-2C) for Process Emergency Overflow
NYSDEC	401 Water Quality Certification
NYSDEC	Freshwater Wetlands
Environmental Facilities Corporation / NYSDOH	Drinking Water State Revolving Fund Program
Environmental Facilities Corporation / NYSDOH	Water Infrastructure Improvement Act (WIIA) Grant Program
NYSDOH	Compliance with Judgment and Order of New York State Supreme Court Index No. 13364-99, Justice Louis A. Barone
NYSDOH	Approval of Plans for Public Water Supply Improvement and Approval of Completed Works
New York State Office of Parks and Historic Preservation (NYSOPRHP)	State Historic Preservation Office (SHPO) Consultation
New York State Department of Transportation (NYSDOT)	Highway Work Permit
New York City Department of Environmental Protection (NYCDEP)	Stormwater Pollution Prevention Plan (SWPPP) review and approval
Westchester County Department of Health (WCDOH)	Approval of Plans for Public Water Supply Improvement and Approval of Completed Works

TABLE 1-1: Permits and Approvals

Government Entity / Agency	Approval(s) Required
Westchester County Board of Legislators	Approvals for obtaining property rights and sewer easements
Westchester Department of Public Works	Building Approvals
Westchester County Department of Environmental Facilities	Approval to Connect to County Sewer System
Westchester County Planning Board	Administrative Review
Town of Mamaroneck Town Board	Approval of Funding for Project
Village of Mamaroneck Town Board	Approval of Funding for Project
Town/Village of Harrison, Town Board	Approval of Funding for Project
Town/Village of Harrison Planning Board	Freshwater Wetlands Permit
Town/Village of Harrison Planning Board	Site Plan and Subdivision Approvals
Town/Village of Harrison Zoning Board of Appeals	Area Variance and Variance for the Fence
Town/Village of Harrison Town Board	Special Exception Use Permit
Town/Village of Harrison Architectural Board of Review	Architecture Approval
Town/Village of Harrison Building Department	Building Development Permits
Town/Village of Harrison Engineer	Land Disturbance Approval

Note: The approvals listed from the Town/Village of Harrison and its Planning Board are without prejudice to any contention that the proposed Filtration Plant is exempt from obtaining such approvals under Village of Munsey Park v. Manhasset-Lakeville Water District, 150 A.D.3d 969 (2d Dep't 2017), and similar cases.

F. INVOLVED AND INTERESTED AGENCIES

INVOLVED AGENCIES

United States Environmental Protection
Agency
SDWA Compliance Section
290 Broadway
New York, NY 10007-1866

United States Fish and Wildlife Service
(USFWS)
300 Westgate Center Drive
Hadley, MA 01035-9589

New York State Department of
Environmental Conservation (NYSDEC)
SPDES and Wetland Permit
21 South Putt Corners Rd.
New Paltz, NY 12561-1620

New York State Department of Health
Bureau of Water Supply Protection
Center for Environmental Health
Corning Tower, Room 1110
Empire State Plaza
Albany, NY 12237

New York State Department of Health
50 North Street, Suite 2
Monticello, NY 12701

New York State Department of
Transportation
Region 8
Eleanor Roosevelt State Office Building
4 Burnett Boulevard
Poughkeepsie, NY 12603

Westchester County Department of Health
25 Moore Avenue
Mt. Kisco, NY 10549

Westchester County Board of Legislators
800 Michaelian Office Building
148 Martine Avenue
White Plains, NY 10601

Westchester County
Department of Public Works and
Transportation
148 Martine Avenue
White Plains, NY 10601

Westchester County
Department of Environmental Facilities
270 North Avenue, 6th Floor
New Rochelle, NY 10801

Westchester County Planning Board
Westchester County Department of
Planning
148 Martine Avenue, Room 432
White Plains, NY 10601-4704

Town of Mamaroneck
740 West Boston Post Road
Town of Mamaroneck, NY 10543

Village of Mamaroneck,
123 Mamaroneck Avenue
Mamaroneck, NY 10543

Town/Village of Harrison
1 Heineman Place
Harrison, NY 10528

Town/Village of Harrison Public Works

1 Heineman Place
Harrison, NY 10528

Town/Village of Harrison Planning Board
1 Heineman Place
Harrison, NY 10528

Town/Village of Harrison Zoning Board of
Appeals
1 Heineman Place
Harrison, NY 10528

Town/Village of Harrison
Architectural Board of Review
1 Heineman Place
Harrison, NY 10528

Town/Village of Harrison Building
Department
1 Heineman Place
Harrison, NY 10528

Town/Village of Harrison Engineer
1 Heineman Place
Harrison, NY 10528

Westchester County Airport
240 Airport Road, Suite 202
White Plains, NY 10604

New York State Historic Preservation Office
Peebles Island Resource Center
1 Delaware Avenue
Cohoes, NY 12180

New York City
Department of Environmental Protection
Bureau of Water Supply
465 Columbus Ave., Valhalla, NY 10595

INTERESTED AGENCIES AND ORGANIZATIONS

Federal Aviation Administration Southwest
Regional Office
Obstruction Evaluation Group
Online Submission

Purchase Quaker Meeting
Clerk for the Board of Trustees
109 North Broadway, Apt. S-2
White Plains, NY 10603

Purchase Environmental Protection
Association
3003 Purchase Street – Box 21
Purchase, NY 10577

Westchester County Airport Advisory Board
240 Airport Road
Suite 202
White Plains, NY 10604

Westchester County Board of Health
145 Huguenot Street, 7th Floor
New Rochelle, NY 10801

G. SUMMARY OF IMPACTS AND PROPOSED MITIGATION MEASURES

I. LAND USE, ZONING AND PUBLIC POLICY

Land Use

Existing Conditions

The Project Site is located on Westchester County Airport land between the existing Rye Lake Pump Station and UV facility, and Purchase Street WJWW Water Storage Tanks located south of the Project Site on Purchase Street. The Project Site is not in use by the Airport and remains undeveloped. The Project Site is bordered to the west by Purchase Street, and residential land uses are found along and to the west of Purchase Street. A residential land use and the Purchase Friends Meeting House (an institutional and public assembly use), border the Project Site directly to the north. The transportation and communication uses associated with the Airport are located south of the Project Site.

Within the ½ mile study area surrounding the Project Site, lands to the south and west are predominantly residential or undeveloped land (including the Exchange Parcel) except for one parcel containing a pump station and water storage tanks, also owned and managed by WJWW. Interstate 684, a major transportation corridor, runs north and southwest, approximately 500 feet from the Project Site. The southern portion of Rye Lake WJWW water source is located in the northwestern portion of the study area, and the Westchester County Airport encompasses the majority of the northeastern portion of the ½ mile study area.

Potential Impacts

Within the ½-mile study area, there are several water supply facilities including the Rye Lake Pump Station and UV facility, and Purchase Street Water Storage Tanks, all owned and managed by WJWW. The Rye Lake WJWW water source is also within the ½ mile study area. Interstate 684, a major transportation corridor, runs north and southwest, approximately 500 feet from the Project Site, and Westchester County Airport, a transportation utility, is contiguous to the Project Site. Therefore, the Proposed Action is consistent with the surrounding utility land uses or land associated with utility land uses, which encompasses 58 percent (432 acres) of the ½ mile study area (735 acres). The Proposed Action would convert land categorized as a transportation utility (Airport) to a water utility use.

The Exchange Parcel, currently vacant and contiguous to the Westchester County Airport, would become part of the Westchester County Airport property. There are no plans by Westchester County to develop this parcel for any land use beyond wetland restoration or stormwater management.

Mitigation Measures

The WJWW Filtration Plant would add a water supply utility use to an area that is currently owned and managed by Westchester County Airport, a transportation utility. Given the consistency of the Project Site's current and proposed utility land use and the non-intrusive operations required for the Proposed Project, no significant adverse impacts are anticipated, and no additional mitigation measures are necessary.

Zoning

Existing Conditions

The Project is located within the Special Business District (SB-O), regulated in Chapter 235, Zoning, of the Town/Village of Harrison Code (Figure 3A-3, Zoning). Lands directly south and west of the Project Site are zoned R-2, One-Family Residence. Remaining lands within ½ mile of the site are zoned R-1 and R-2A, all One-Family Residence districts. Within the SB-O zoning district, a public utility structure is designated a Special Exception Use.

Potential Impacts

The Project would comply with the use and dimensional requirements for the SB-O district, Special Exception Use permit, and special conditions for a utility facility. As the Project Site is bordered to the north and west by a residential district, a front and side yard buffer of 100 feet is observed. The Project would require two variances from the Zoning Board of Appeals for the height of the security fence, which must be ten (10) feet in height to meet the security requirements of New York State Department of Health; and to locate a gate at the entrance of the site, within the 100-foot buffer along Purchase Street. This gate is also required to ensure the safety and security of the Project Site.

Mitigation Measures

The WJWW filtration plant is a use permitted by Special Exception Permit in the SB-O zoning district. The Proposed Action complies with the zoning in terms of use and bulk and seeks two minor area variances, for the height of the fence and locating the entrance gate within the 100-foot buffer. Both requested variances are required for the safety and security of the Project Site. As a result of the Proposed Action's overall conformity to the zoning requirements of the SB-O, no additional mitigation measures are necessary.

Policy Documents

Existing Conditions

2013 Town/Village of Harrison Comprehensive Plan

The Town/Village of Harrison adopted its Comprehensive Plan in December of 2013. The Project Site is located within the Purchase neighborhood area as identified by the plan. Relevant recommendations from the plan, including town wide recommendations, are summarized below:

- Seek ways to use energy-efficient products and incorporate green building practices in new municipal projects and consider updating the Town ordinance to encourage sustainable design practices (pg. 7).
- Retain mature trees, stone walls, and other natural and built features which contribute to the character of the [Purchase] area (pg. 7).
- Limit curb cuts along Anderson Hill Road, Lincoln Avenue, and Purchase Street (pg. 7).

The Comprehensive Plan does not include specific recommendations for the Westchester County Airport, WJWW or the provision of water or water utilities in the Town/Village of Harrison.

There are no land use recommendations in the 2013 Plan related to the provision of water or water utilities, Westchester Joint Water Works operations, or the Westchester County Airport in the Town/Village of Harrison.

Westchester County 2017 Airport Master Plan

The 2017 Airport Master Plan reviews the Airport layout and assesses the need for future improvements to the airport facilities. Phase 1 of the Master Plan includes the expansion of General Aviation Hangars, and parking in the area adjacent to the Project Site. As depicted in the Master Plan, the expansion of these facilities would slightly encroach into the proposed Project Site. No expansion is proposed for the area adjacent to the Exchange Parcel.

Westchester County submitted a letter on July 6, 2018, to the Federal Aviation Administration stating that the County is undertaking a supplemental Airport Master Plan process. There are currently no drafts of this supplemental plan available for public review.

Potential Impacts

2013 Town/Village of Harrison Comprehensive Plan

The Proposed Action is consistent with the recommendations of the Town/Village of Harrison Comprehensive Plan. The building and site design components of the Project support the following objectives of the Comprehensive Plan:

- “Seek ways to use energy-efficient products and incorporate green building practices in new municipal projects and consider updating the Town ordinance to encourage sustainable design practices.” (Page 7)
- “Retain mature trees, stone walls, and other natural and built features which contribute to the character of the [Purchase] area, and limit curb cuts along Anderson Hill Road, Lincoln Avenue, and Purchase Street.” (Page 7)

Westchester County 2017 Airport Master Plan

The Project Site is not considered a critical area of expansion within the *Westchester County 2017 Airport Master Plan*. In addition, the Airport Master Plan is currently being updated by Westchester County and the County has provided WJWW with a non-binding Memorandum of Understanding for the Proposed Action.

Mitigation Measures

The Proposed Action is consistent with the Town/Village zoning and the Comprehensive Plan. The Proposed Action would not impact any proposed Airport improvement projects and it would incorporate landscaping and design that are contextual with the surrounding neighborhood. The Proposed Action would be consistent with the Comprehensive Plan; therefore, no additional mitigation measures are necessary.

II. COMMUNITY CHARACTER AND VISUAL IMPACTS

Existing Conditions

The Project Site is currently undeveloped and vegetated. Today, the Project Site consists primarily of Successional Southern Hardwood forest vegetation. Approximately 56 percent of the trees on the Project Site are on the NYSDEC invasive species list.² A low stone wall lines the western property boundary of the Project Site along Purchase Street and is likely associated with a dwelling that was located just south of the subject property until the 1940s. An intermittent south-to-north flowing stream and adjacent emergent freshwater wetland are present near the easterly property boundary. Views of the interior of the Project Site are mostly obscured from public view by deciduous forest growth.

The adjacent 702-acre airport to the east of the Project Site contains two landing strips, taxiways, and several large one-, two- and three-story warehouse-style buildings used as hangers and other airport related uses. Airport access roads, expansive asphalt parking lots for automobiles and airplanes, and a control tower are also present and contribute to the overall visual setting east of the Project Site.

Land to the west of the Project Site consists primarily of Purchase Street which forms the westerly boundary of the property, low-density/large lot R-2-zoned one-family residential development, and fragmented woodlands with scattered lawns and landscaping. Farther to the west is Interstate 684 and to the northwest and immediately west of Interstate 684, is Rye Lake.

Land to the north of the Project Site includes a two (2)-story wood-frame one-family home, the Purchase Friends Meeting House, a small cemetery at the southeast corner of the intersection of Purchase Street and Lake Street, and fragmented woodlands, lawns, and landscaping.

Land to the south of the Project Site includes two airport utility buildings, Tower Road, Wolfe Lane, a one-family home, the north end of the Golf and Country Clubs of Purchase, a WJWW water supply facility containing a pump station and two large water storage tanks, and woodlands.

Potential Impacts

There are no state or federally designated landmarks and no designated visual resources onsite, contiguous to or in the immediate area of the site that would be significantly affected by the Proposed Project. A visual impact analysis of the filtration plant was undertaken from 11 different viewpoints. The results are presented in **Appendix D, Visual Impact Analysis**. Views of the filtration plant would primarily be seen during the winter months and in close proximity of the Project Site. Careful consideration was made to strategically landscape the site to minimize the visual impacts of the filtration plant. This includes the planting of 302 new trees. The outdoor lighting plan is designed to provide a safe and secure site and prevent light trespass, excessive glare, light pollution, and restricted visibility of the night sky (skyglow), adverse effects on nocturnal wildlife, and inefficient use of energy resources.

The proposed building would include exterior granite and quartzite stone veneer on part of the facade to match the stone walls along Purchase Street and stone pier accents would be constructed

² See https://www.dec.ny.gov/docs/lands_forests_pdf/isprohibitedplants2.pdf

next to the property gate consistent with other development along the street. Neutral or muted building colors (cadet grey and almond suede siding) would be used to help the structure blend in and be more compatible with its surroundings. A gabled roof line would be provided, and front façade glazing, and translucent panels would be installed to improve architectural quality and reduce visual monotony. Refer to **Appendix D, Visual Analysis** for building elevations and visual simulations of post construction conditions.

Mitigation Measures

Various measures, summarized above, are proposed to reduce the visibility of the facility from offsite locations while at the same time improving the appearance of the Project. No significant adverse impacts to visual resources and community character are expected from the project based on project siting, design and identified mitigation measures that include landscaping, compliance with zoning code bulk regulations, development of a lighting plan, and the proposed architectural treatment of the building.

III. FISCAL AND ECONOMIC IMPACTS

Existing Conditions

The Project Site is currently owned by Westchester County and is part of a 304-acre Westchester County airport property, tax parcel ID 0971.-8. Westchester County is a tax-exempt public authority, and therefore does not pay real property taxes except for the Purchase Fire District #4 tax. The 2021 Purchase Fire District #4 tax for Westchester County is \$35,360.75

The Exchange Parcel is currently owned by WJWW, a non-profit public benefit corporation. It is also tax-exempt from real property taxes, except for the Purchase Fire District #4 and the Blind Brook Sewer District taxes which totaled \$536.78 in 2021.

Potential Impacts

The Proposed Action would not result in a material change in taxation for Westchester County Airport property as a result of the land swap because the land swap would entail an equal exchange of land, and both properties involved in the swap do not currently contain any on-site structures or infrastructure. Therefore, the Westchester County Airport property's assessed value and taxes owed would not materially change as a result of the Proposed Action.

Once developed, the Project Site would increase in its assessed value beyond what WJWW is currently paying on the Exchange Parcel because the Exchange Parcel is now assessed as vacant land. The Proposed Action would not result in any changes to other local, county, and school tax revenue, as both the Project Site and Exchange Parcel are exempt from paying these taxes due to the tax-exempt status of Westchester County and WJWW. Both the County and WJWW would be exempt from paying these taxes when the land swap is finalized, and the Project is complete.

WJWW estimates that the total construction cost of the filtration plant is 108 million dollars. The cost of the Project would be shared by the member municipalities and split as follows: 27.7 percent Village of Mamaroneck, 16.7 percent Town of Mamaroneck, and 55.6 percent Town/Village of Harrison. The allocation of the cost share is based upon the share of total water sold per the audited financial statements existing at the time the project was authorized by the WJWW Board of Trustees. With the potential use of water fund surplus, water rates may increase by 25 percent to 30

percent from current rates over the initial five (5) year period to mitigate rate increases, instead of 30 to 35 percent.

WJWW supplies water on a retail basis to its member municipalities and to portions of the City of Rye and the City of New Rochelle. In 2020, the retail customer cost of water was on average \$9.44 per thousand gallons or about nine tenths of a cent per gallon. With the Proposed Action, retail rates are likely to increase over the next five (5) years in total by 30 to 35 percent (without use of any water surplus funds). This would yield a rate of between \$12.27 and \$12.74 per thousand gallons as a result of the Proposed Action. WJWW also sells water on a wholesale basis to the Village of Larchmont and Suez Water Westchester. In 2020, the wholesale cost of water on average was about \$3.20 per thousand gallons or three-tenths of a cent per gallon. It is anticipated that as a result of the Proposed Action, the wholesale rate would rise to about \$4.50 per thousand gallons over the next five (5) years.

With respect to water rate increase and the Proposed Action, the member municipalities may use accumulated fund balance to spread the impact of water rate increases over a longer period of time. WJWW would also be pursuing grant opportunities that could lessen the overall increases in water rates necessary to support the Proposed Action.

The Project would not generate a robust employee population that would significantly contribute to the local economy through direct or indirect spending. Once fully operational, the Project would have at most two (2) employees during the day shift and one (1) employee during the evening and night shifts.

Mitigation Measures

The Proposed Action would result in a net positive impact for the Purchase Fire District #4 and the Blind Brook Sewer District taxing districts. The Project Site is anticipated to generate a higher amount of taxes than the current taxes at the Exchange Parcel. No significant adverse fiscal and economic impacts are anticipated as a result of the Proposed Action, and therefore no mitigation is necessary.

The Project would have at most two (2) employees during the day shift and as a result, no significant adverse fiscal and economic impacts are anticipated, and therefore no mitigation is necessary.

IV. COMMUNITY SERVICE

Demographics

Existing Conditions

WJWW's member municipalities are the Town/Village of Harrison, Village of Mamaroneck, and the Town of Mamaroneck. In addition, WJWW supplies water on a retail basis to portions of the City of Rye and the City of New Rochelle. WJWW also provides water on a wholesale basis to the Village of Larchmont and to the for-profit water company Suez Water Westchester. In all, WJWW provides drinking water to some 120,000 consumers in Westchester County.

Potential Impacts

The Project would include the construction of a 30-MGD Dissolved Air Flotation/Filtration plant to serve the WJWW's water source from Rye Lake. The filtration plant would have the capacity to meet

the maximum day water supply-demand of the WJWW's entire water distribution system. The Proposed Action would not induce an increase in the population in any of the municipalities in WJWW's service area or to the Town/Village of Harrison. The Proposed Action would be implemented to address existing water quality issues along with compliance with the Administrative Order issued by the USEPA and the Court Order issued by the New York State Supreme Court.

Mitigation Measures

The Project is a proposed upgrade to the current water supply system to protect public health and to comply with regulatory requirements, a State Court Order and a USEPA Administrative Order. Thus, the Proposed Action is not expected to generate an increase in the population of any communities in WJWW's service area, and no significant demography-related adverse impacts to community services are anticipated. No mitigation is necessary.

Police Fire and Emergency Medical Services

Existing Conditions

The Project Site is located in the service district of the Harrison Emergency Medical Services (EMS). The Harrison EMS is located at 2 Pleasant Ridge Road, Harrison, New York. Harrison EMS is approximately 7 miles from the Project Site and has both volunteer and paid staff. An annual response time practice run is conducted by Harrison EMS for the Westchester County Airport every year. The average response time to Westchester County Airport is 6 minutes, 15 seconds. It is anticipated that the response time to the Project Site would be approximately the same time as the response time to the Airport.

The Purchase Fire Department is located at 614 Anderson Hill Road, Purchase, New York, approximately 2.6 miles from the Project Site. The Purchase Fire Department is a fully volunteer organization.

The Harrison Police Department is located just off the Hutchinson River Parkway at 650 North Street Harrison, New York. The facility is approximately 5 miles from the Project Site. The average response time to the Project Site is less than 3 minutes. There are 65 sworn members of the Harrison Police Department, in addition to several civilian employees.

Potential Impacts

The maximum of three (3) WJWW employees at the filtration plant would not significantly impact the EMS services based on the number of calls received per year. According to a phone conversation with Executive Director Robert Calandruccio, the EMS can easily accommodate an increase of three (3) persons.

The Fire Department has a response time of 6 to 7 minutes. The additional three (3) employees at the filtration plant would not significantly impact the services to be provided by the Fire Department. The fire suppression systems for the filtration plant would be designed to comply with the rules and regulations of the NYS Building and Fire Codes. The Project would meet NYS Building and Fire Codes.

The additional three (3) WJWW employees at the filtration plant would not significantly impact the services to be provided by the Police Department.

Mitigation Measures

No mitigation measures would be necessary as there would be no significant adverse impacts on the services to be provided by the Harrison EMS, Police, or Fire Departments.

Solid Waste**Existing Conditions**

The Project Site does not currently produce any on-site sewage discharge.

Potential Impacts

The anticipated on-site sewage discharge from the Proposed Action includes sanitary waste, water collected from floor drains, and centrate from the residuals dewatering process. The sewage would be primarily liquid sewage with low solids and would be conveyed to the Blind Brook Wastewater Treatment Plant. The average solids produced would be less than 6 cubic yards (CY) per day, with a maximum of 22 CY per day. The average solids collected would be equivalent to two (2) to three (3) dumpster per week.

Construction activities from the Proposed Action would generate 33 tons of solid waste per month, and the operation of the Proposed Action would generate an average of 113-135 tons of solid waste per month under average operating conditions. The construction waste would be disposed of at the Charles Point Resource Recovery Plant in Peekskill, NY.

Mitigation Measures

The amount of new solid waste is not anticipated to overburden municipal facilities or create adverse impacts. No mitigation is necessary.

V. UTILITIES**Existing Conditions****Water Supply**

The water from WJWW's Rye Lake water source is currently treated with gaseous chlorine for disinfection, sodium silicofluoride for fluoridation, blended orthophosphate for corrosion control at the Rye Lake WJWW water source site and sodium hydroxide (caustic soda) for corrosion control at Purchase Booster Pump Station before being conveyed to the Purchase Street Storage Tanks where sodium hydroxide is added for pH adjustment. WJWW recently installed a new UV disinfection plant at the Rye Lake Pump Station Parcel to provide enhanced treatment of the Rye Lake water supply.

The Maximum Contaminant Levels (MCL) for TTHM and HAA5 are 0.080 milligram per liter (mg/L) and 0.060 mg/L, respectively, on a Locational Running Annual Average basis. The results submitted for the first, second, and third quarters of 2019 exceeded the MCL for HAA5. Three (3) MCL violations were issued by Westchester County Department of Health for the HAA5 violations, and notices were mailed to customers on March 15, May 24, and September 3, 2019, to alert them of the violation. Additionally, on March 28, 2019, WJWW was issued an Administrative Order by the USEPA requiring a Corrective Action Plan (CAP) to address the violations for HAA5, and on July 11, 2019, a certified letter was issued by the EPA requiring WJWW to submit an updated CAP detailing

interim and long-term measures to mitigate these violations. Beginning in late 2019, WJWW implemented interim mitigation measures for these violations, including a water main flushing program.

On November 26, 2019, USEPA issued another Administrative Order, requiring WJWW to commence design for construction of a Filtration Plant and begin the SEQR process by January 31, 2020, with construction commencing by January 1, 2022, and the facility operational by October 15, 2024. To achieve and demonstrate compliance with this Administrative Order, WJWW initiated the SEQR process on January 31, 2020, and commenced design of the water filtration facility.

Water Service

The Project Site is not connected to the local water supply; however, an existing 20-inch finished (treated water) water main is present along Purchase Street from Purchase Booster Pump Station. A 36-inch water transmission main is also present along Purchase Street and is currently used to convey partially treated water from the Rye Lake Pump Station to the Purchase Street Storage Tanks. The existing water transmission main that runs from Rye Lake WJWW water source to the Purchase Street Storage Tanks currently conveys a maximum of 22 million gallons per day (mgd).

Sanitary Service

The Project Site is currently not served by public or private sanitary sewer collection and treatment facilities. However, an existing sanitary sewer collection system is located approximately 2,000 feet northeast of the Project Site on the Westchester County Airport (WCA) property.

Electric, Telephone, and Cellular Data

The Project Site is vacant and does not currently have existing electric, telephone, and cellular data connections.

Potential Impacts

Water Supply

The construction of a filtration plant is necessary for WJWW to continue serving residents with high quality drinking water on a long-term basis. The USEPA issued two administrative orders, resulting in an obligation to commence design of the proposed Rye Lake Filtration Plant. WJWW had previously been issued a Court Order in 2004 from the New York State Supreme Court to construct a filtration plant. The Court Order was upheld on appeal in 2005 and remains in effect today. For the protection of public health and safety and to comply with New York State's Court Order, the Safe Drinking Water Act and the USEPA Administrative Order, WJWW proposes to construct and operate a 30-MGD Dissolved Air Flotation/Filtration (DAFF) water filtration plant (plant) at WJWW's Rye Lake (Kensico Reservoir) water source.

In addition to meeting the obligations required of WJWW by New York State and USEPA, construction of a water filtration plant is a long-term solution to the issue of DBPs affecting the WJWW water source. The filtration plant would include enhanced coagulation to remove

disinfection byproduct precursors to TTHM and HAA5, giving WJWW a greater ability to routinely comply with the maximum contaminant levels for TTHM and HAA5 as required by USEPA standards. The Proposed Action would ensure a safe and reliable drinking water source for the WJWW customer base and would benefit the public by significantly reducing the risks of long-term exposure to DBPs.

Water Service

To operate the water filtration plant, the Proposed Action would result in an increase in total water demand by an average of 3,300 gpd but an increase in population or construction is not anticipated as a result of the proposed water filtration plant.

Sanitary Service

A sanitary sewer line connection is proposed from the Subject Property to the existing WCA Sewer Collection System on the WCA property. The proposed four (4)-inch diameter force main would connect to the east side of the proposed filtration plant and extend in a northerly and then easterly direction over a total distance of approximately 2,000 feet before connecting to the existing WCA Sewer Collection System. Construction of the proposed sanitary force main from the Project Site to the Westchester County Airport would include open cut trenching and installation of a bypass system for an existing culvert crossing. This crossing would be located within the freshwater wetland adjacent area between two delineated wetland areas on the northeast side of the project site but is not anticipated to disturb the wetlands because it would utilize the existing culvert.

The anticipated discharge from the Project Site would include sanitary waste, water collected from floor drains, and centrate from the residuals dewatering process (centrifuge dewatering). The four-inch force main would accommodate the projected average sewage flow rate from the facility of approximately 9,000 gpd and the projected maximum flow rate of approximately 12,000 gpd. Sewage from the site would be primarily liquid sewage with low solids.

Overall, the proposed sanitary main, WCA collection system, Westchester County trunk line, and Blind Brook Wastewater Treatment Plant would be accepting liquid sanitary waste from the filtration plant, and the Passaic Valley Sewerage Commission would be receiving dewatered solids from the site.

Electric, Telephone, and Cellular Data

The type of electrical service that would be provided would be determined by Con Edison upon review of the final load letter to be submitted during final project design.

The finished operating facility is projected to consume an estimated 7,210,000 kWh/yr. of energy and 20,000 gal./yr. of propane which equates to a specific energy consumption of approximately 700 kWh per MG of treated water. Propane would be stored in two on-site above ground 2,000-gallon storage tanks (total of 4,000 gallons of storage) and be used to heat the facility.

The Project would also include the installation of an approximately 18,900 sq. ft., 340-kilowatt (kW) roof-mounted photovoltaic system to partially offset the energy needs of the site with clean and renewable energy that would be generated on-site.

As a backup to the electric system, two diesel-fueled standby power generators would also be installed on the site for emergency purposes and uninterrupted water treatment during power outages once the construction is completed and the facility is operating. The fuel tank for each generator would have the capacity to provide at least 24 hours of continuous, full-load plant operation. Generator switchgear would be provided to distribute power from the emergency generators to the motor control centers located in the facility's electrical rooms. One 1,250 kilovolt-ampere (KVA) load bank would be provided to exercise (test) each generator for no more than one (1) hour per week.

Mitigation Measures

The primary purpose of the Proposed Project is to improve the quality of the public drinking water system and to meet obligations now required of WJWW by the New York State Supreme Court and the USEPA. Based on the above analyses and considering the following mitigations already proposed in the Project design, significant adverse impacts on public utilities or from proposed infrastructure are not expected. Mitigation measures to reduce impacts on utilities are already proposed in the Project design include landscaping, efficient fixtures to conserve water at the facility, connection to an existing sanitary sewer main on the Westchester County Airport property, and installation of a photovoltaic system.

VI. STORMWATER

Existing Conditions

Approximately 5.2 percent (0.7 acres) of the 13.4-acre Project Site is covered by impervious or compacted surfaces. The easterly forested area generally slopes from southwest to northeast towards a small stream that intermittently flows in a generally northerly direction through regulated freshwater wetlands. The stream eventually discharges into Rye Lake WJWW water source to the north of the Project Site along the east shore of the Lake. The western portion of the Project Site slopes from south to north along Purchase Street and discharges into the drainage ditch mentioned above. The drainage ditch eventually connects to the eastern stream prior to discharging into Rye Lake WJWW water source.

Potential Impacts

Stormwater runoff from onsite impervious surfaces would be captured via curb inlets and roof drains and conveyed through the piped stormwater system. Flow would be conveyed to a proposed constructed wetland for water quality volume treatment, and then discharged to a bioretention cell. Following the bioretention cell, flow would be conveyed through a piped system to the underground stormwater detention structure to reduce the peak flow during storm events. A diversion structure would divert larger flows from larger stormwater events around the bioretention cell. Runoff from these larger storm events would be piped directly to underground stormwater detention structures. Flow from the project site would be discharged to a stabilized swale via the Project Area Discharge Point (outfall), which flows to the unnamed stream, and ultimately flows to Rye Lake WJWW water source.

The Project would require a NYSDEC's SPDES General Permit for Stormwater Discharges from Construction Activity (General Permit). Stormwater management facilities for the proposed project are designed in accordance with the applicable NYSDEC regulations and *Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and Its Sources* and would manage the 1-, 10-, and 100-year design storm. The 500-year storm was also modeled.

The Project would only result in an increase in the peak runoff rate for the 500-year storm event. This increase of 5.33 cubic feet per second (cfs) in the peak runoff rate post-development is a five (5) percent increase over the pre-construction peak runoff rate. This increase in peak flow for the 500-year storm would result in a minor increase in depth (0.3-inch, 0.03 ft.) within the unnamed stream at the Project Site. This would be a minimal increase in depth and would be comparable to existing conditions.

All construction activities would be performed in accordance with NYSDEC's technical standards for erosion and sediment control to minimize potential adverse effects to surface waters, including Kensico Reservoir. Potential sediment and erosion control measures, including silt fencing, inlet (catch basin) protection, and covering stockpiled fill and/or excavated materials, would be implemented in accordance with an approved Stormwater Pollution and Prevention Plan (SWPPP). These measures would reduce erosion or runoff potential in the event of a storm and would provide dust control in dry weather. In addition, all construction activities that would take place adjacent to regulated NYSDEC freshwater wetlands would be completed in accordance with any conditions required by NYSDEC under Articles 15 and 25 of the NY Environmental Conservation Law, or through equivalent approvals.

Mitigation Measures

The proposed stormwater control system, as described above and shown on the proposed plans, is expected to address potential water quality and quantity impacts from the proposed project, including reductions in post-development peak runoff volumes from the one (1), ten (10), 25- and 100-year design storms. This proposed drainage system, along with the facilities maintenance requirements listed above, are expected to suitably address potential adverse environmental impacts on water quality and ensure that runoff from the proposed project is properly controlled to prevent flooding. Based on the foregoing, no further mitigation is recommended. As stated above, the Project would result in an increase in the peak runoff rate for the 500-year storm event. This increase of 5.33 cubic feet per second (cfs) in the peak runoff rate post-development is a five (5) percent increase over the pre-construction peak runoff rate. This increase in peak flow for the 500-year storm would result in a minimal increase in depth and would be comparable to existing conditions; therefore, no mitigation of significant adverse impacts would be required.

VII. GEOLOGY- SOILS AND TOPOGRAPHY

Existing Conditions

Approximately 82 percent of the Project Site contains well to moderately drained soils, while the remaining portion of the Project Site is classified as poorly drained. The topography does not vary much on the Project Site, and only the northeast corner of the site contains slopes greater than 15 percent.

Potential Impacts

The filtration plant would be constructed in an area that is gently sloping and contains moderately drained soils. This area is near the center of the property and is considered the most suitable site based on topography and soil characteristics.

The 2021 Geotechnical Engineering Report analyzed many aspects of the Proposed Action, including the need for cut and fill on-site. Based on existing conditions and test borings from previous subsurface exploration, 12 inches of topsoil stripping depth is proposed for construction planning purposes within the limits of disturbance prior to placement of grading fill. The actual depth of topsoil stripping would be dependent on the depths encountered in the field. Removal of silt-sand and other soil materials is proposed within the footprint of the proposed water filtration plant.

Suitably textured granular fill, including sand-gravel and crushed stone would be used as fill material. All fill material would be free from ice and snow, roots, sod, rubbish, and other deleterious or organic matter and be of suitable texture. Prior to commencing with fill placement, the fill subgrades would be properly compacted and proof-rolled with a loaded dump truck or other heavy, wheeled equipment to assess the suitability of the material. Excess soil that cannot be used would be disposed off-site in accordance with Town/Village of Harrison, New York State, and federal regulations.

Dewatering to maintain the groundwater at an elevation at least two (2) feet lower than the excavation bottom elevation would be required in the vicinity of the new filtration plant during the construction of the foundation for the facility. Temporary groundwater discharge permits would be required from NYSDEC for any dewatering operations. In addition, review and approval of temporary groundwater discharges would be coordinated with NYCDEP in accordance with the Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and its Sources.

The maximum depth of excavation would be 35 feet in the area in which the washwater tanks would be installed. The total volume of net material anticipated to be removed from the Project Site would be approximately 49,900 CY. This estimate has a 20 percent uncertainty factor applied to it.

A Phase I Environmental Site Assessment (ESA) of the site was conducted in 2019 to identify any soil or groundwater contamination at the site. Two Recognized Environmental Conditions (REC), an Historic Recognized Environmental Condition (HREC), and two Business Environmental Risks (BER) were identified on or near the airport property.

In addition, a preliminary subsurface exploration program was completed on November 22, 2019, and groundwater samples were collected on December 13, 2019, for the Preliminary Geotechnical Report. Soil samples were tested for a number of compounds which were all detected below NYS DEC Environmental Remediation Program criteria for unrestricted use soil cleanup objectives; therefore, there are no restrictions for the reuse of excavated subsoil and glacial till on- or off-site. Groundwater was also tested for volatile organic compounds (VOCs) and SVOCs as well as perfluorinated alkyl acid (PFAA) compounds, which are a sub-set of per- and polyfluoroalkyl substances (PFAS). None of these compounds were detected above laboratory detection limits; therefore, no treatment for these compounds is warranted.

A Phase I reassessment was conducted in August 2021 and included information on additional groundwater testing conducted in July 2021. The groundwater samples resulted in no detected

volatile organic compounds, pesticides, or PCBs. However, several semi-volatile organic compounds and metals were detected in separate groundwater samples that exceeded their respective NYSDEC TOGS 1.1.1 Water Quality Standards for class GA (fresh) groundwater. These results would not affect the water that would be treated by the proposed filtration plant because the WJWW water source is from Rye Lake and processed at the Proposed Site in a closed loop system.

The existing soil material on-site would be evaluated for suitability as fill material to be re-used. Clean material would be properly compacted and proof-rolled with a loaded dump truck or other heavy, wheeled equipment. Excess soil and earth materials that cannot be re-used would be disposed off-site in accordance with Town/Village of Harrison, New York State and federal regulations and the recommendations of Phase I and Geotechnical Engineering report provided in the Mitigations section below.

The northeastern portion of the Project Site has a small area that is classified as steep slopes which is located outside of the limits of disturbance for the construction of the facility and would only be slightly impacted during the installation of the new sewer line.

Mitigation Measures

No significant adverse impacts to the soils, topography, or steep slopes on the Project Site are anticipated to result from the implementation of the Project based on the geotechnical and environmental assessments and recommendations presented in this section of the DEIS. The Project would include the following measures of identifying limits of clearing prior to site preparation and construction: installing temporary fencing, grade or stabilize cleared slopes as soon as possible, reuse existing soils as practicable as possible, prepare and implement a Stormwater Pollution Prevention Plan, and develop and implement an erosion and sediment control plan.

VIII. VEGETATION AND WILDLIFE

Existing Conditions

Vegetation

Today, the Project Site consists primarily of Successional Southern Hardwood forest vegetation, interspersed with remnants of prior Site disturbance from past uses. A tree survey was conducted at the Project Site to determine if any environmentally significant species are present that warrant special consideration. The tree survey revealed a total of 1,896 trees with a diameter breast height (DBH) of four inches or greater. In total, there were twenty-one different tree species identified on-site; however, the tree surveys concluded that there are no tree species that would warrant special consideration during the proposed construction of the filtration plant. Furthermore, based on the several Site inspections and review of available published reports and databases, the Site contains no rare trees, plants, or significant natural communities. Dominant tree species include Norway maple (*Acer platanoides*) and black locust (*Robinia pseudoacacia*), both of which are located on the NYSDEC invasive species list. Of the 1,896 trees found on the Project Site, 56 percent of them are invasive.

According to the August 2021 Wetland Delineation Report, dominant vegetation identified include red maple (*Acer rubrum*), pin oak (*Quercus palustris*), and American elm (*Ulmus americana*) in the canopy; southern arrowwood (*Viburnum dentatum*), silky dogwood (*Cornus sericea*), and Russian olive (*Elaeagnus angustifolia*) in the understory; and field horsetail (*Equisetum arvense*), New

England aster (*Symphyotrichum novae-angliae*), and soft rush (*Juncus effusus*) in the herbaceous layer.

Wildlife

During the tree and wetland surveys, limited wildlife was observed. Eastern chipmunk (*Tamias striatus*) and grey squirrel (*Sciurus carolinensis*) were the only mammals seen. Seven species of birds were observed. The most common bird sightings were the American Robin (*Turdus migratorius*) and Blue Jay (*Cyanocitta cristata*).

The USFWS's Information for Planning and Consultation (IPaC) website identified one species of significance that could potentially occur within or adjacent to the Project Site. This species is the Indiana Bat. The USFWS's *Guidance on Developing and Implementing an Indiana Bat Conservation Plan* recommends that all tree removal within known Indiana bat habitat – regardless of amount – only occurs between October 15 to March 31 for project areas affecting Indiana bat summer habitat. Further consultation with USFWS would be conducted to determine the presence of Indiana Bat at the site and the need for seasonal tree clearing restrictions.

The Project Site was not identified as critical habitat for the Northern long-eared bat which is a rare species commonly flagged as being potentially present in many areas within New York State. The Project Site also did not contain critical habitat for threatened Bog turtles, which are usually found in high-quality wetland areas.

There were no federally designated critical habitats identified by USFWS within or adjacent to the Site, but the USFWS IPaC website identified eleven birds of conservation concern that could potentially occur within or adjacent to the project area. These birds are also commonly found throughout the Westchester area.

Potential Impacts

Approximately 6.16 acres would be cleared and developed including the building footprint, driveway, a small parking lot, walkways, and supporting utilities and ancillary features. Approximately 579 trees would be removed from the Project Site. No designated critical habitats would be disturbed or altered by the Proposed Action, as USFWS confirmed the Project Site does not contain any designated critical habitats. Proposed clearing would be limited to only what is necessary to accommodate the proposed facility and its essential structures and features, so that the remaining existing vegetation is left intact. Areas of greater environmental sensitivity, including the freshwater wetlands, stream corridor, and fringing forest line to the east would be avoided to the maximum extent practical.

A total of approximately 302 new trees would be planted. Identified species include mostly native species as well as some ornamental species that are suitably adapted to Site conditions.

Mitigation Measures

No significant adverse impacts to ecological resources on or adjacent to the Project Site are anticipated to result from implementation of the Project. Nevertheless, the Project proposes to include the following measures: tree clearing limits and install tree protection fencing at the Project Site, disturbance would be minimized to the maximum extent practicable, areas that are cleared but

not physically developed would be stabilized as soon as possible, proposed landscaping would introduce to the formerly disturbed site over 55 native and site appropriate species.

IX. WETLANDS, WATERBODIES, WATERCOURSES, AND FLOODPLAINS

Existing Conditions

NYSDEC, USACE, and Town/Village regulated freshwater wetlands are present on-site, including an intermittent/ephemeral stream that runs north and south along the easterly property boundary of the Site. The NYSDEC validated the wetland delineation map on August 10, 2021, and confirmed the Project Site contains 1.2 acres of delineated wetlands and 4.7 acres of regulated wetland adjacent area (100-foot buffer). The Project Site is not within any FEMA designated floodways, 100-year floodplains, Special Flood Hazard Areas, or 500-year floodplains. Review of Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map shows the Proposed Site is located in an area of minimal flood hazard (X Zone) which is considered an upland area.

Potential Impacts

There would be no direct disturbance to any wetland on or adjacent to the Project Site. The proposed limits of clearing for construction of the Project would result in temporary disturbance to approximately 1.7 acres of wetland adjacent area (i.e., within 100 feet of regulated wetlands). Disturbance would be associated with construction of the facility building, installation of Site utilities, and infrastructure, paving around the facility, grassed walkways (to reduce impervious cover where practical), and sewer line installation. Proposed impervious features on the property, including the plant building, a driveway, parking lot, walkways and supporting utilities and ancillary facilities, would total approximately 2.4 acres. Permanent impervious areas (building, equipment pad, and paving) within the freshwater wetland adjacent area would cover approximately 0.26 acres. In addition, approximately 0.4 acres within the adjacent area would be permanently disturbed; however, this area would be used to construct a green stormwater management practice (SMP), such as a constructed wetland or bioretention area to provide the required water quality volume (WQv) needed to treat the projected stormwater runoff from the requisite design storm. The Proposed Action would have no significant impact on the existing stream, stream channel, area wetlands or floodplains.

Mitigation Measures

No significant adverse impacts to wetland, watercourses, and floodplains on or adjacent to the Project Site are anticipated to result from implementation of the Project, based on the wetland and floodplain analyses presented in this section of the DEIS. However, the Project would include several measures during construction and operation to ensure that any effects are minimized to the greatest extent practicable. During construction, best practices would be implemented to ensure that any disturbance or construction activities would not result in the degradation of wetlands or waterbodies at or near the Project Site. The design of the plant itself, as well as anticipated operations, incorporate several measures to ensure the protection of wetlands and waterbodies and avoid adverse impacts.

X. ARCHEOLOGICAL AND HISTORICAL RESOURCES

Existing Conditions

A Phase 1 Archaeological Survey of the Project Site was prepared in December of 2019. The Phase 1 Survey resulted in the recovery of 130 historic artifacts, which were primarily found in two clusters. The Phase 1 Survey concluded that the artifacts recovered likely represented a mixture of secondary deposition and refuse disposal, possibly associated with the former Sutton house occupation, which stood to the south of the Project Site and was demolished in the 1940s. The Phase 1 Study also found material deposited that was a result of agricultural fertilization practices, and late nineteenth-through twenty-first-century refuse disposal practices. The Phase 1 Study noted that some of the material was also likely the result of construction activities associated with Westchester County Airport during the 1940s. Based upon the field investigations, the study recommended that the historic artifact assemblage did not constitute a potentially significant archaeological resource.

The Phase 1 Study also identified two isolated prehistoric flake fragments. Additional testing did not yield any prehistoric cultural material. The study concluded that the two isolated prehistoric artifacts did not constitute a potentially significant archaeological resource. Therefore, no further archaeological review was recommended within the Project Site.

Potential Impacts

NYSOPRHP reviewed the Phase 1 Survey and concluded in a letter dated December 30, 2019, that the Project Site “contained no properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places that would be impacted by the Proposed Action”.

The installation of a new sewer line is also proposed for the Project Site. A request was made to NYSOPRHP for comments on the proposed additional disturbance areas and comments were received from NYSOPRHP on April 12, 2021. After review of the Phase 1 Study and other submitted information, NYSOPRHP opined that no historic properties, including archaeological or historic resources, would be affected by the Proposed Action.

Mitigation Measures

NYOPRHP would continue to be consulted as part of the SEQRA process and project notification paperwork would be submitted electronically using the agency’s CRIS. Based upon responses received from NYSOPRHP to date, the Proposed Action would not have a significant adverse impact on historical or archaeological resources of the Project Site.

XI. TRAFFIC AND TRANSPORTATION

Existing Conditions

The Project Site is located on vacant property currently owned by Westchester County Airport. The Project Site is located off of Purchase Street (NYS 120), with three intersections of interest within a half-mile of the Project Site: Purchase Street at Tower Road; Purchase Street at Lake Street; and Purchase Street at the proposed access drive to the Project Site.

The Project would be located directly off of Purchase Street, classified by the New York State Department of Transportation (NYSDOT) as a “Minor Arterial” roadway. Purchase Street runs from

Airport Road in the north to the Cross Westchester Expressway in the south. Throughout the half-mile from the Project Site, Purchase Street is unsignalized and under the jurisdiction of NYSDOT. The roadway provides one 11-foot-wide travel lane in each direction. The posted speed limit along this section of Purchase Street is 45 miles per hour. In the vicinity of the Project Site, there are no sidewalks, curb ramps, or on-street parking in either direction of Purchase Street.

A crash analysis was conducted for the area along Purchase Street between Lake Street and Tower Road for a three-year period between January 1, 2017, and December 31, 2019. A total of eight crashes occurred during this timeframe, seven of which occurred at the intersection of Lake Street and Purchase Street. Of these seven crashes on Lake Street and Purchase Street, three (3) were rear-end collisions, two (2) involved overtaking, one (1) was classified as “other/unknown,” and one (1) was a left-turn crash. The eighth crash occurred at the intersection of Wolfe Lane and Purchase Street, which was a rear-end incident.

The Traffic Impact Study included the collection of turning movement counts at the Purchase Street and Lake Street, and Purchase Street and Tower Road intersections. These counts were conducted on Tuesday, April 13, 2021, between 7:45 a.m. and 10:15 a.m., and 4:00 p.m. and 6:15 p.m. The findings were adjusted using the NYSDOT hourly traffic volumes recorded between 2016 and 2019. The TIS found that weekday morning peak hour occurred between 8:00 a.m. and 9:00 a.m., and the evening peak hour between 4:15 p.m. and 5:15 p.m. **Table 1-2** contains the 2021 existing peak hour traffic volumes for the Tower Road and Purchase Street intersection, and the Lake Street and Purchase Street intersection, which include the weekday morning and evening peak hour.

Table 1-2: 2021 Existing Peak Hour Traffic Volume			
Intersection	Turning Movement	Morning Peak Traffic Count (8:00-9:00 a.m.)	Evening Peak Traffic Count (4:15-5:15 p.m.)
Lake Street & Purchase Street	Lake Street - continue straight	150	160
	Lake Street - right turn	37	22
	Purchase Street (northbound) - right turn	65	284
	Purchase Street (northbound) - left turn	10	38
	Purchase Street (westbound) - continue straight	168	134
	Purchase Street (westbound) - left turn	295	71
Purchase Street & Tower Road	Tower Road - right turn	19	33
	Tower Road - left turn	30	29
	Purchase Street (northbound) - continue straight	56	289
	Purchase Street (northbound) - right turn	48	48
	Purchase Street (southbound) - continue straight	291	67
	Purchase Street (southbound) - left turn	41	26

Source: Traffic Impact Study: Proposed Rye Lake Filtration Facility 2021

Potential Impacts

Project traffic is the estimated number of vehicular trips to be generated by the Project. When completed, the Project would have no perceptible traffic impacts, as WJWW estimates that the

Project Site would be staffed by two (2) WJWW employees during the day shift, and would generate, at most, two (2) vehicles during peak hours. This would have no impact on traffic operating conditions. In addition, it is estimated that operations would require two (2) to three (3) trucks per week to remove solid waste and nine (9) trucks per month for delivery of water treatment chemicals. Thus, the “Build” traffic volume/capacity analysis focuses on traffic impacts during the construction phase of the Project.

The Traffic Impact Study estimated trip generation during construction of the Project. It is projected that during the a.m. peak hour (8:00 a.m. to 9:00 a.m.), there would be 18 construction personnel trips in and 34 construction truck trips in, for a total of 52 trips in. In the p.m. peak hour (4:15 p.m. to 5:15 p.m.), it is estimated that there would be 18 construction personnel trips out and 34 construction truck trips out for a total of 52 trips out. It was assumed that construction truck trips would be required to take I-684 and travel on Purchase Street to the Project Site. For construction personnel trips, it was assumed that 50 percent would travel to and from the north on Purchase Street, and 50 percent would travel to and from the south. **Table 1-3** displays the build traffic conditions.

Table 1-3: 2027 Build Traffic Conditions			
Intersection	Turning Movement	Morning Peak Traffic Count (8:00-9:00 a.m.)	Evening Peak Traffic Count (4:15-5:15 p.m.)
Lake Street & Purchase Street	Lake Street - continue straight	161	173
	Lake Street - right turn	41	23
	Purchase Street (northbound) - right turn	90	322
	Purchase Street (northbound) - left turn	11	42
	Purchase Street (westbound) - continue straight	183	146
	Purchase Street (westbound) - left turn	342	96
Proposed Site Driveway & Purchase Street	Proposed Site Driveway - right turn	17	26
	Proposed Site Driveway - left turn	0	9
	Purchase Street (northbound) - continue straight	84	349
	Purchase Street (northbound) - right turn	9	Not Applicable
	Purchase Street (southbound) - continue straight	357	103
	Purchase Street (southbound) - left turn	26	117
Purchase Street & Tower Road	Tower Road - right turn	21	36
	Tower Road - left turn	32	31
	Purchase Street (northbound) - continue straight	71	313
	Purchase Street (northbound) - right turn	51	51
	Purchase Street (southbound) - continue straight	313	83
	Purchase Street (southbound) - left turn	45	29

Source: Traffic Impact Study: Proposed Rye Lake Filtration Facility 2021

Purchase Street & Tower Road Intersection

Under existing conditions, all major street movements operate at a LOS “A” during the weekday a.m. and p.m. peak hours. In addition, the minor street movements operate at LOS “B” during the weekday a.m. and p.m. peak hours. Under future No-Build conditions, the individual movements would continue to operate at the existing LOS for both peak hour periods, while changes in individual movement delays would be 1.3 seconds or less. Under future Build conditions, which assesses the potential impact of construction traffic because the completed filtration plant would have no perceptible traffic impacts, the individual movements would continue to operate within the No-Build LOS during both peak hour periods. Changes in the individual movement delays would be minimally affected, at 0.2 seconds or less.

Purchase Street & Lake Street Intersection

Under existing conditions, all major street movements operate at a LOS “A” during the weekday a.m. and p.m. peak hours. In addition, the minor street movements Operate at LOS “B” during the weekday a.m. and p.m. peak hour periods. Under future No-Build conditions, which assesses the potential impact of construction traffic because the completed filtration plant would have no perceptible traffic impacts, the individual movements would continue to operate at the existing LOS for both peak hour periods, while changes in individual movement delays would be 2.1 seconds or less. Under future Build conditions, the individual movements would continue to operate within the No-Build LOS during both peak hour periods. Minor street movements would begin to operate at acceptable LOS “C” conditions, while changes to individual movement delays would be minimally affected, at 2.1 seconds or less.

Purchase Street & Site Driveway

Under future Build conditions, which assesses the potential impact of construction traffic because the completed filtration plant would have no perceptible traffic impacts, the major street approaches would experience LOS “A” conditions during weekday a.m. and p.m. peak hour periods. The proposed driveway would experience LOS “A” during the a.m. peak hour, and LOS “B” during the p.m. peak hour period. Furthermore, the delays to main traffic on Purchase Street would be minimal, at 1.6 seconds or less.

Site Access and Sightlines

Site access is provided from a proposed driveway on the eastern side of Purchase Street located approximately 150 feet south of Kempner Lane. Vehicles would enter and exit the Project Site via the proposed driveway. Vehicles would circulate the Project Site along paved roads around the filtration plant. There are four (4) proposed parking spaces located on porous pavement, which would be located in the Project Site’s southern side yard. The driveway would consist of asphalt material, and an access drive would surround the plant.

The Traffic Impact Study conducted sightline measurements at the proposed driveway intersection with Purchase Street. The recommended sight distances were calculated based on the 85th percentile speeds observed during the study at the driveway location, which was 56 MPH. For northbound and southbound movements on Purchase Street, the 85th percentile speed was 57 MPH.

The proposed driveway has adequate sight distances that accommodate exiting and entering vehicles and trucks without interfering with passing traffic. All sight distances for turning movements for trucks and vehicles comply with American Association of State Highway and

Transportation Officials (AASHTO) requirements, with the exception of trucks turning left from the Proposed Site onto Purchase Street. Trucks coming out of the Project Site and turning left are required to have 800 feet of sight distance. The Project Site allows for 725 feet of sight distance for this turning movement, which is slightly less than the AASHTO requirement. It is proposed that construction trucks would be prohibited from making a left turn out of the Site during the construction phase, which effectively mitigates this issue. After construction, there would be limited truck traffic, and what truck traffic is anticipated for deliveries would not unduly interfere with road traffic.

Parking

There are four (4) proposed parking spaces in the parking area, which would be located in the Project Site's southern side yard. During the Site's normal operations, the facility would be staffed by up to two (2) employees during the day shift and generate, at most, two (2) trips in the busiest hour.

Mitigation Measures

Based on the evaluation of existing conditions and potential impacts of the Project, no significant adverse traffic or parking impacts are anticipated as a result of the Project construction or operation. To mitigate for the insufficient sight distance that does not meet AASHTO requirement, no left turns are proposed for construction trucks exiting left from the Project Site onto Purchase Street. No additional mitigation measures are necessary.

XII. NOISE

Existing Conditions

A sound level analysis study was performed, and a report was produced in March 2022 by B. Laing Associates which provides data on existing ambient sound levels and analyzes potential noise impacts from the Proposed Project. To measure the existing ambient noise levels at the Project Site, noise sampling was conducted at five locations on or in the vicinity of the Project Site. The locations of these sampling sites are summarized in **Table 1-4**.

Table 1-4: Sampling Locations		
Monitoring ID	Location	Description
Location A	Purchase Street and New King Street	Northeast of Project Site
Location B	Lake Street and Purchase Street	North of Project Site
Location C	Kempner Lane and Purchase Street	West of Project Site
Location D	Tower Road and Purchase Street	South of Project Site
Location E	Project Site	Interior of Project Site

Source: Sound Level Analysis Report, March 2022

Ambient Noise Level Measurements

Ambient noise level measurements were taken on May 4, 2021, at the five (5) sampling locations (Location A through Location E) including the center of the project site and adjacent, nearby receptor locations and intersections. Monitoring took place in 3 phases – a.m., Midday and p.m. The Project site's interior ambient noise level was measured at Location E (per **Table 1-4**) and was, as expected, the lowest with an Leq of 51.5 dB(A) in the a.m. peak, 52.7 dB(A) in the midday peak and

55.6 dB(A) in the p.m. peak. Octave band measurement at 1kHz³ for each phase, respectively, resulted in 46.9 dB, 49.2 dB and 51.8 dB.⁴

Sound levels, in the existing condition, were measured northeast of the Project site at Location A (per **Table 1-4**, Purchase Street and New King Street). Sound measurements at this location showed an L(eq) of 70.7 dB(A) in the a.m. peak, and 68.2 dB at octave band 1kHz. The midday peak(s) resulted in an L(eq) of 67.4 and 65.2 dB at octave band 1kHz. The p.m. Peak resulted in an L(eq) of 68.4 p.m. peak and 66.1 dB at octave band 1kHz. The noise measurements at this location were taken at the southeastern corner of New King Street and Purchase Street.

The sound levels, at this location, result from the existing traffic on Purchase Street (Route 120) and the Westchester County Airport.

Sound levels, in the existing condition, were measured north of the Project site at Location B (per **Table 1-4**, Lake Street and Purchase Street). Sound measurements in this location showed an L(eq) of 72.8 dB(A) in the a.m. peak, and 70.2 dB at octave band 1kHz. The midday peak resulted in an L(eq) of 69.1 and 66.9 dB at octave band 1kHz. The p.m. peak resulted in an L(eq) of 71.1 p.m. peak and 68.0 dB at octave band 1kHz. The noise measurements at this location were taken at the southwestern corner of Lake Street and Purchase Street.

The sound levels, at this location, result from the existing traffic on both Purchase and Lake Streets and operational use of the Westchester County Airport.

Sound levels, in the existing condition, were measured west of the Project site at Location C (per **Table 1-4**, Kempner Lane and Purchase Street). Sound measurements in this location showed an L(eq) of 66.9 dB(A) in the a.m. peak, and 63.6 dB at octave band 1kHz. The midday peak resulted in an L(eq) of 66.5 dB(A) and 63.1 dB at octave band 1kHz. The p.m. peak resulted in an L(eq) of 68.3 dB(A) and 63.8 dB at octave band 1kHz. The noise measurements at this location were taken at the northwestern corner of Kempner Lane and Purchase Street.

The sound levels, at this location, result from the existing traffic on Purchase Street and operational use of the Westchester County Airport.

Sound levels, in the existing condition, were measured south of the Project site at Location D (per **Table 1-4**, Tower Road and Purchase Street). Sound measurements in this location showed an L(eq) of 68.0 dB(A) in the a.m. peak, and 63.4 dB at octave band 1kHz. The midday peak resulted in an L(eq) of 67.3 dB(A) and 61.1 dB at octave band 1kHz. The p.m. peak resulted in an L(eq) of 65.0 dB(A) and 61.6 dB at octave band 1kHz. The noise measurements at this location were taken at the southeastern corner of Purchase Street and Tower Road.

The sound levels, at this location, result from the existing traffic on Purchase Street and operational use of the Westchester County Airport.

³ Middle frequency range.

⁴ Octave band analysis with A weighting at 1kHz for each phase resulted in 46.9 dB(A), 49.2 dB(A) and 51.8 dB(A). At 1kHz dB and A, B and C weighting curves are set to be identical.

In addition, sound levels from nearby I-684 cannot be excluded as a contributing noise source that elevates sound levels in the existing ambient condition. Interstate-684 (I-684) is classified by the New York State Department of Transportation (“NYSDOT”) as an urban “Principal Arterial – Interstate.” Per the FHWA, “levels of highway traffic noise typically range from 70 to 80 dB(A) at a distance of 15 meters (50 feet) from the highway.”

Potential Impacts

The Purchase Friends Meeting House is located just north of the proposed Project location. Noise impacts were also evaluated in consideration of the residents to the west and the single resident to the north. Due to the minimal, anticipated generated trips for the project during facility operations, no significant impact is anticipated to the potential sensitive receptor.

To the extent receptors of any kind (residential, commercial buildings, etc.) occur, they too are already impacted as described/measured above by noise/sound levels from the local roadway, I-684 and Westchester County Airport; the proposed Project or Project-related traffic would not materially add to these levels.

A majority of the operation units, including air scour blowers, and certain mechanical equipment would be located inside of the plant. Sound/noise sources that would be outside of the plant include air conditioning units, generators, and on-site activities such as the loading and unloading of trucks.

Using the NYSDEC impact criterion discussed previously, no significant adverse noise impacts would be expected from the proposed Project or operations at the Project site.

Two 1,000 kW emergency generators are proposed on the south side of the proposed filtration plant. Sound barriers consisting of sound attenuated enclosures and exhaust silencers would be provided to mitigate noise from these generators. Given the distance of the HVAC equipment to the receptors to the north and west and the 100-foot buffer from Purchase Street and 100-foot side yard setback to the north, no noticeable sound impact is anticipated from the mechanical units.

Intermittent operational sounds produced by the Project could consist of backup beepers from loading trucks and garbage trucks. Backup beepers/alarms would be sporadic in terms of garbage pick-up and potential loading/ unloading of box trucks and therefore sound levels may intermittently exceed ambient levels.

Temporary noise impacts may occur during the construction of the proposed facility. However, it should be noted that existing, ambient levels are already amplified due to interstate traffic and adjacent Westchester County Airport. Ambient conditions at the most adjacent residential locations, when the maximum construction equipment is in use, would significantly exceed the existing ambient noise conditions at times. However, construction activities are limited to fixed hours per the Town/Village ordinance and would be temporary. The proposed construction schedule includes 12 phases spanning a period of 36 months from notice to proceed (NTP) to completion once all permits and approvals are granted. Per the construction schedule, month 5 would be the launch of outdoor equipment operations.

Mitigation Measures

Due to numerous factors such as the distance between noise sources and receptors, the siting of noise sources, the influence of the local, minor arterial roadways and the Westchester County Airport on ambient noise levels, and identified systems design and mitigation, and the following mitigations, significant impact from noise is not expected from the Project.

Mitigation measures have been incorporated into the Project, minimizing the potential for adverse noise impacts. These include the following: most operational equipment and activities would be indoors and contained within acoustical noise reducing enclosures; sound barriers consisting of sound attenuated enclosures and exhaust silencers would mitigate noise from the generators; all construction equipment would be turned off when not in use; and when feasible, construction equipment would be kept as far from the site boundaries as possible.

The Project Site's exterior perimeter encompasses an already amplified ambient noise level due to traffic activity from Purchase Street, I-684, and Westchester County Airport. Construction activity from the Project Site would be at or close to the existing ambient noise levels for off-site receptor locations for the majority of the construction phases. In addition, the Town/Village of Harrison Noise Ordinance limits when construction activities can occur to reduce the effects of any unavoidable noise.

XIII. AIR**Existing Conditions**

The Project Site is located in the Town/Village of Harrison, which is in Air Quality Health Advisory Region 3 – Lower Hudson Valley. Within Region 3, the NYSDEC has continuous monitoring stations in White Plains, Central Valley, and Millbrook, New York, and at Ninham and Belleayre Mountains. Data from the closest monitoring stations from the Project Site were used to define the existing air quality levels, or background concentrations, within the Project Site. Background concentrations include ambient pollution levels from sources such as other stationary and mobile sources. In addition, the Town of Harrison is located near several monitoring sites in Region 2, and these stations were also reviewed to assess existing quality levels within the Project Site. Region 2 includes 18 monitoring sites in Richmond, Queens, King, New York, and Bronx counties. In instances where Region 3 monitoring stations do not monitor for a specific pollutant, the closest monitoring station in Region 2 was reviewed for pertinent data.

The most recent NYSDEC monitoring data⁵ indicates the closest Carbon Monoxide (CO) monitoring station to the Project Site is the Botanical Gardens/Pfizer Lab in Region 2. The 2020 maximum one-hour average and eight-hour average CO concentrations at this monitoring station are 1.92 and 1.30 parts per million (ppm), respectively. These values are consistent with the fact that Westchester County's status as a maintenance area for CO.

The closest monitoring station to the Project Site for lead (Pb) is also within Region 2, located at IS 52 in Bronx County. The maximum three-month rolling average for the monitoring station in 2020 was 0.0027 µg/m³, which is well below the maximum NAAQS of 0.15 µg/m³.

⁵ New York State Ambient Air Quality Report for 2020: https://www.dec.ny.gov/docs/air_pdf/2020airqualreport.pdf

For Nitrogen Dioxide (NO₂), the closest monitoring station is located in Botanical Gardens/ Pfizer Lab in Bronx County. The annual arithmetic mean in 2020 was 12.36 parts per billion (ppb), well below the maximum NAAQS of 53 ppb. In addition, the 98th percentile of one-hour daily maximum concentrations averaged over the previous three years⁶ for the monitoring station was 50.5 ppb. This result is significantly below the NAAQS of 100 ppb.

The closest monitoring site for Ozone (O₃) is the White Plains monitoring station. The fourth highest daily maximum 8-hour average for 2020 was 0.069 ppm. This value is just below the NAAQS of 0.070 ppm. During the two previous years, 2018 and 2019, the White Plains monitoring station exceeded the O₃ NAAQS by .002 ppm and .008 ppm, respectively.

For Particle Pollution (PM 2.5), the closest monitoring station is also White Plains. The annual mean averaged over three years⁷ was 5.1 µg/m³. The NAAQS for this requirement is 12 µg/m³. In addition, the 98th percentile of 24-hour concentrations, averaged over three years, was 13.6 µg/m³, well below the NAAQS of 35 µg/m³. For Particle Pollution (PM₁₀), IS 52 in Bronx County was the closest monitoring station. The 2020 maximum 24-hour concentration of Particle Pollution (PM₁₀) was 31 µg/m³. This is also under the NAAQS of 150 µg/m³.

For Sulfur Dioxide (SO₂), the closest monitoring station is Botanical Garden/Pfizer Lab. The annual average in 2020 was 0.44 ppb, which is below the NAAQS of 30 ppb.

Potential Impacts

The Project would generate construction vehicle trips during site preparation and construction activities and vehicles and equipment would be operating onsite during workdays, but these activities would be temporary and intermittent during the construction process and would occur during normal working hours and are not expected to have a significant adverse impact on air quality. Dust may be periodically generated during construction; however, various techniques are available to mitigate this potential and temporary air quality impact (see **Mitigations** below). In addition, the construction contractor would be required to develop and comply with a dust mitigation plan as part of the construction contract. Additional air quality impacts from operation traffic would be negligible.

Two diesel-fueled standby power generators that would burn ultra-low sulfur diesel fuel would be provided for emergency use. The generators would each be rated at 1,250 KW, 480V, 3PH, 3W, 60HZ. The emergency generators would only operate in the event of a utility power failure, and for “exercising” purposes to keep the generators in good working order. Any air quality impacts related to the running of the emergency generators would be temporary in nature either for exercising purposes for no more than one (1) hour per week or for the duration of an emergency power outage. The use of emergency generators is not expected to have a significant adverse impact on air quality.

The power system for the filtration plan would be electric and solar. However, propane would be used for heating of the plant building. It is estimated that a total of 20,000 gallons of heating fuel per year would be used at the Project Site. Modeling analysis was performed using the United States

⁶ Data from 2018, 2019, and 2020

⁷ Data from 2018, 2019, and 2020

Environmental Protection Agency's (EPA) AERSCREEN screening dispersion model, to determine whether the proposed project could potentially cause any significant adverse impacts with respect to the 1-hour average nitrogen dioxide (NO₂) and PM_{2.5} National Ambient Air Quality Standard (NAAQS), which are the critical pollutants of concern. Receptors were modeled at the five (5) residences closest to the facility and the nearest facility to the boiler vents, which would be located on the south side of the proposed structure.

The maximum predicted 1-hour NO₂ concentration from the heating of the plant, when added to the background concentration, is predicted to be below the National Ambient Air Quality Standards. In addition, the maximum predicted 24-hour and annual PM_{2.5} concentrations, when added to the background concentrations, are also predicted to be below the NAAQS.

Mitigation Measures

Significant adverse air quality impacts would not occur as a result of the Project. Nevertheless, there are methods to reduce any small impacts, particularly those that may occur during the construction process. These include the following mitigation measures that would be incorporated during the construction and operation of the filtration plant. The construction contractor would be required to develop and comply with a dust mitigation plan as part of the construction contract.

XIV. PUBLIC HEALTH

Drinking Water

Existing Conditions

WJWW is subject to Westchester County Department of Health, New York State Department of Health, and USEPA water quality regulations. In 1993, New York State Department of Health determined that WJWW's source from Rye Lake does not meet the criteria established by the State for filtration avoidance. In response to this determination, WJWW's raw water intake was moved farther into Rye Lake and placed at a greater depth to access higher quality water from Rye Lake. A turbidity curtain was also installed in Rye Lake in the area where storm water runoff from Interstate 684 and the County Airport enters Rye Lake in an effort to protect the raw water quality of the intake. In addition, WJWW made improvements to its chlorination disinfection system and constructed additional water storage tanks to provide additional disinfection contact time.

In an action brought by NYSDOH pursuant to Section 12 of the Public Health Law, the State Supreme Court for Westchester issued an Order, entered on January 23, 2002, that granted NYSDOH's motion for summary judgment, holding that WJWW violated the State Sanitary Code by failing to construct and operate a water filtration plant. The State Supreme Court's Order was affirmed on appeal in 2003. Upon remand, on June 9, 2004, the Supreme Court issued a Court Order requiring WJWW to construct a filtration plant (Judgment and Order of New York State Supreme Court Index No. 13364-99, Justice Louis A. Barone). The Court Order was upheld on appeal in 2005. It remains in effect today.

On January 4, 2006, the US EPA adopted a Stage 2 Disinfectants and Disinfection Byproducts (DBP) Rule to provide increased public health protection against the potential risks associated with these compounds. DBPs are formed when natural organic matter in the raw water source interacts with disinfectants such as chlorine. Stage 2 DBP Rule regulated contaminants include haloacetic acids and trihalomethanes. Because WJWW serves a retail population of between 50,000 to 99,999 people,

compliance with these new provisions is mandatory. Starting October 1, 2012, WJWW was required to monitor the maximum contaminant levels (MCL) for total trihalomethanes (TTHM) and haloacetic Acids (HAA5).

The MCLs for TTHM and HAA5 are 0.080 milligram per liter (mg/L) and 0.060 mg/L, respectively, on a Locational Running Annual Average basis. The results submitted for the first, second, and third quarters of 2019 exceeded the MCL for HAA5. The 2019 Water Quality Report issued by WJWW indicates that, of the contaminants tested, only two (2) tested at a level higher than New York State allows: total coliform and HAA5. Three (3) MCL violations were issued by Westchester County Department of Health for the HAA5 violations, and notices were mailed to customers on March 15, May 24, and September 3, 2019, to alert them of the violation. Additionally, on March 28, 2019, WJWW was issued an Administrative Order by the USEPA requiring a Corrective Action Plan (CAP) to address the violations for HAA5, and on July 11, 2019, a certified letter was issued by the EPA requiring WJWW to submit an updated CAP detailing interim and long-term measures to mitigate these violations. Beginning in late 2019, WJWW implemented interim mitigation measures for these violations, including a water main flushing program. The proposed long-term measures for mitigation include the construction and operation of a water filtration facility, the Proposed Action.

On November 26, 2019, USEPA issued another Administrative Order, requiring WJWW to commence design of the proposed Rye Lake Filtration Plant and begin the SEQR process by January 31, 2020, with construction commencing by January 1, 2022, and the facility operational by October 15, 2024. These milestones, for construction and operation, are not achievable and will not be met.

Potential Impacts

For the protection of public health and safety and to comply with New York State's Court's Order, the Safe Drinking Water Act and the USEPA Administrative Order, WJWW proposes to construct and operate a 30-MGD Dissolved Air Flotation/Filtration (DAFF) water filtration plant (plant) at WJWW's Rye Lake (Kensico Reservoir) water source. The Proposed Action would improve drinking water quality and would not result in any adverse impacts on public health with regards to drinking water.

Mitigation Measures

Ensuring WJWW has effective infrastructure to comply with State and Federal regulations is imperative, as the organization is responsible for providing safe and reliable drinking water to nearly 120,000 consumers in Westchester County. The Proposed Action would have a positive impact on public health, and is itself a mitigation, as it is designed to address water quality issues along with compliance with the AO issued by the USEPA and the Court Order issued by the New York State Supreme Court.

Hazardous Materials

Existing Conditions

The 2019 Phase I Environmental Site Assessment (ESA) concluded that the Project Site was not identified on any of the environmental database listings that were searched. Two Recognized Environmental Conditions (REC), an Historic Recognized Environmental Condition (HREC), and two Business Environmental Risks (BER) were identified on or near the airport property.

A preliminary subsurface exploration program was completed on November 22, 2019, and groundwater samples were collected on December 13, 2019, for the Preliminary Geotechnical

Report. Soil samples were tested for a number of compounds which were all detected below NYS DEC Environmental Remediation Program criteria for unrestricted use soil cleanup objectives; therefore, there are no restrictions for the reuse of excavated subsoil and glacial till on- or off-site. Finally, groundwater was tested for volatile organic compounds (VOCs) and SVOCs as well as perfluorinated alkyl acid (PFAA) compounds, which are a sub-set of per- and polyfluoroalkyl substances (PFAS). None of these compounds were detected above laboratory detection limits; therefore, no treatment for these compounds is warranted.

A Phase I reassessment was conducted in August 2021 and included information on additional groundwater testing conducted in July 2021. The reassessment agreed with the opinions, conclusions, and recommendations issued within the initial Phase I ESA, and no deficiencies or absence of information were found that would necessitate further inquiry. As a result, the reassessment concluded that the preparation of a new Phase I ESA is not necessary at this time. In addition, the three (3) groundwater samples were collected to assess the groundwater quality at the Site. No volatile organic compounds, pesticides, or PCBs were detected in the samples. However, several semi-volatile organic compounds and metals were detected in separate groundwater samples that exceeded their respective NYSDEC TOGS 1.1.1 Water Quality Standards for class GA (fresh) groundwater. These results would not affect the water that would be treated by the proposed filtration plant because its water source is from Rye Lake and processed at the Proposed Site in a closed loop system.

Six (6) chemicals would be stored inside the filtration plant and used onsite for operations: hydrofluosilicic acid (23 percent), alum coagulant, sodium hydroxide (25 percent), sodium hypochlorite (12.5 percent), orthophosphate (corrosion inhibitor) and a dewatering polymer. These chemicals are required for the operation of the water filtration plant to enhance filtration, control corrosion, prevent dental decay and provide secondary disinfection and are commonly used for water treatment. All chemicals would be stored and handled in a manner that would prevent releases to the environment and/or exposure to site workers, according to applicable Federal, state, and local regulations. Based on measurements from inside the plant, the closest bulk storage tank (hydrofluosilicic acid) is located approximately 300 feet from the northern property line. The fill station is located approximately 500 feet from the northern property line. This distance, combined with the placement of the storage tanks within the plant building and the implementation of containment measures, monitoring, and spill cleanup procedures required by state and federal regulations, addresses concerns related to chemical storage.

For chemical delivery, a dedicated area (fill station) would be provided for tanker trucks to safely deliver chemicals with emergency containment to prevent a delivery spill from entering the environment. The fill station would contain designated hose connections for filling each specific chemical. Each chemical would have a dedicated fill line leading to an interior bulk storage tank.

All chemicals would be fully utilized on-site, the only waste from the treatment process would be from dewatered solids. These would be piped through the filtration plant to centrifuges, with the dewatered solids cake being discharged to a trailer in the dewatering room. For removal, a truck would connect to the trailer, remove it from the building, and deliver it to an approved facility for disposal. It is anticipated that approximately two (2) to three (3) trailers a week would be removed from site.

Potential Impacts

No environmental contaminants were found on-site that would necessitate remediation or abatement, or otherwise limit the use of the Project Site.

The facility is being constructed to Federal and State standards to ensure the safety of employees, users, and the environment. No adverse impacts are anticipated as a result of hazardous materials on the Project Site.

Mitigation Measures

No environmental contaminants were found on the Project Site that would necessitate remediation or abatement therefore no mitigation measures are necessary.

XV. CONSTRUCTION**Potential Impacts****Construction Schedule and Parking**

Construction activities would take place during typical work hours and fully comply with § 177-2(F) of the Town/ Village of Harrison Noise chapter, which limits construction activities to the hours of 7:30 a.m. to 8:00 p.m. Monday through Friday and after 10:00 a.m. on weekends and national and state holidays unless the Town/Village Building Inspector determines that there is an imminent danger to life or property. No work would be conducted on Sundays.

The proposed construction schedule includes 12 phases spanning a period of 36 months from notice to proceed (NTP) to completion once all permits and approvals are granted. Many of the construction phases overlap and all require a varying number of trucks on-site. The three-month period when excavation work would occur for the filtration building is the most active phase in terms of the daily average number of trucks required at the Project Site. The reasonable worst case scenario estimate is that a daily average of 70 truck trips would be needed for the three-month phase. The next most-intensive phase, the site work and site prep phase, would involve clearing, grubbing, stump extraction, removal of materials from the Project Site, and preliminary grading. This phase would last four months and require a daily average of 17 truck trips. The remainder of the phases would not require more than a daily average of five (5) trucks.

Construction Related Air Quality Impacts

The operation of construction vehicles, heavy equipment, and gas-powered tools would be temporary and intermittent during the construction process and would vary in intensity depending on phase of construction and types of work being performed. Nevertheless, adverse impacts on air quality from vehicle and equipment emissions from a single construction project of this type and scale would not result in any significant short-term, long-term, regional, or localized air quality impacts. All diesel equipment would use ultra-low sulfur diesel fuel and large diesel equipment would have a diesel particulate filter.

Another potential air quality issue during construction is dust; however, various techniques are available to mitigate this potential localized and temporary air quality impact. The contractor would

assess the feasibility of a dust mitigation plan which could include as applicable the following dust suppression measures: wetting bare soils if and when dust becomes an issue, maintaining slow on-site construction vehicle speeds to minimize dust, immediate development or seeding and planting of bare ground as soon as possible after clearing, installing silt fencing, and stabilizing stockpiles if they are to remain more than a few days. Other techniques include installing a stabilized construction entrance and rumble strips to remove sediment from tires to prevent tracking of soil onto public streets and covering trucks transporting soil off-site.

Additionally, the Project would adhere to an approved Sediment and Erosion Control Plan and Stormwater Pollution Prevention Plan (SWPPP).

Construction Noise Related Impacts

Noise would be generated by vehicles, equipment, tools, and personnel during the construction process. Noise receptors in the area include primarily the Westchester County Airport which periodically generates noise above ambient levels and is not expected to be adversely affected, and a few single-family residential homes located on the west side of Purchase Street, opposite the Project Site, and the single-family home and Purchase Friends Meeting House north of the Project Site on the east side of Purchase Street. Construction activities would be conducted during typical construction work hours and in any case would comply with § 177-2(F) of the Town/Village of Harrison Noise ordinance, which limits construction activities to the hours of 7:30 a.m. to 8:00 p.m. Monday through Friday and after 10:00 a.m. on weekends and national and state holidays, unless the Town/Village Building Inspector determines that there is an imminent danger to life or property. No construction would take place on Sunday. Noise is expected to be temporary and intermittent during the construction process, depending on project phase and type of work activity, and with identified mitigation would not result in any significant avoidable impacts.

Construction Related Traffic Impacts

During the busiest phase of construction, which would last approximately 3 months, a total worst-case maximum of 70 truck trips would be required daily to complete removal of spoils associated with the necessary excavation for building construction.

Traffic generated during the excavation phase would primarily be associated with heavy truck traffic, particularly dump trucks that would transport soil off-site for disposal or use at another location and return to the Site for another load and personnel vehicles. During peak weekday traffic hours (8:00 a.m. to 9:00 a.m. and 4:15 p.m. to 5:15 p.m.), it was projected that 18 workers and 34 truck trips would enter or exit the Project Site.

Access to the Project Site is proposed from a driveway located off Purchase Street, a road designated as a New York State highway (NYS Route 120). Trucks would be prohibited from turning left out of the Project Site during the construction process.

Construction-Related Vibrations

A geotechnical exploration program was conducted at the Project Site from May 13 through June 4 of 2021. During this period, a total of 28 test borings were advanced. These data establish that the depth of decomposed rock beneath the Project Site is between 18.5 feet and 43.5 feet below

ground surface. Based on this depth to decomposed rock and bedrock, no blasting or chipping is anticipated for this project. Therefore, potentially significant impacts from blasting, chipping, and associated vibrations are not expected.

Mitigation Measures

Construction would be conducted in accordance with an approved site plan and in accordance with all applicable Federal, State, and local codes. Impacts from construction would be temporary (during the 36-month construction period) and would conclude when the Project is completed. This is a temporary, construction-related unavoidable impact.

An NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity and SWPPP would be prepared for the project to ensure proper control of stormwater runoff during construction. The SWPPP would be reviewed and approved by the Town/Village Engineer and the NYC Department of Environmental Protection. An Erosion and Sediment Control Plan would be prepared to address the potential for erosion and sedimentation, including siltation of on-site and off-site wetlands, existing and proposed drainage infrastructure, and the movement and deposition of soils on and off-site. Dust control techniques such as soil wetting and/or application of calcium chloride would be used to stabilize soil along the driveway and in work areas as needed and keep on-site construction vehicle speeds at or below ten (10) mph to minimize dust generation.

Construction activities would not trigger any requirements for air quality permits or registrations from the NYSDEC and based on identified mitigation strategies, no significant impact is anticipated.

Possibilities to mitigate construction impacts on traffic include parking construction vehicles and equipment on the Project Site in designated staging areas, when possible, rather than returning vehicles to their respective business parking lots in the evening and driving back to the Project Site in the morning, maintaining a stabilized construction entrance to help reduce sand and pebbles from being tracked on to roads; and urging truck drivers to use major roads and highways where possible to avoid residential streets.

XVI. OTHER ENVIRONMENTAL IMPACTS

Unavoidable Adverse Environmental Impacts

Unavoidable adverse environmental impacts are as follows:

Short Term Impacts

- Potential dust generation, erosion, and sedimentation may occur during construction.
- Temporary increases in truck traffic and other construction-related activities that would generate noise during the course of the construction period.
- When completed, the Project would have no perceptible traffic impacts. The only potential impact on traffic conditions would take place during the construction phase of the Project. No left turns are proposed for trucks exiting left from the Project Site onto Purchase Street during construction as a mitigation measure for the left turn sight distance that does not meet American Association of the State Highway and Transportation Officials requirements.

Long Term Impacts

- Additional clearing, minor loss of wildlife habitat, and displacement of limited wildlife, particularly in the area of the limit of disturbance.
- There would be an increase in wastewater generation on the currently vacant site from 0 gpd to an estimated average 9,000 gpd of wastewater from the Project Site. All wastewater would be conveyed to and treated at the Blind Brook Wastewater Treatment Plant.
- There would be an increase in refuse generation over the existing condition. The average solids produced would be less than 6 CY per day or 70 pounds per day.
- There would be increased demand for nonrenewable energy services (electricity, diesel fuel, and propane); however, the project includes various techniques to conserve energy.
- The visual character of the Project Site would be different from the existing conditions. Overall, the character would change from vacant forested land buffering Westchester County airport to a water filtration plant surrounded by vegetative buffer and remaining forested land buffering Westchester County Airport. The proposed architectural design, which incorporates setbacks from the edges of the Project site and landscaping, would not result in a significant adverse impact to the character of the surrounding neighborhood.

Irreversible and Irretrievable Commitment of Resources

The Proposed Action would result in the following irreversible and irretrievable commitment of resources:

- Natural vegetation, wildlife habitat, and some resident wildlife may be lost or displaced due to clearing that is necessary to develop the site. Areas that are cleared but are not slated for physical development would be revegetated for the purposes of landscaping, visual screening, and buffering.
- Material used for construction of the water filtration plant, including but not limited to any wood, asphalt, concrete, fiberglass, steel, aluminum, etc. Some of the waste or scrap materials generated during construction can be recycled or reused by others in the future. Wood used in construction is replaceable when the supplier replants, but this can take many years before the trees are ready for harvesting.
- Nonrenewable energy resources used in the construction, operation, and maintenance of future on-site development based on the proposed plans and preliminary operational energy estimates, including fossil fuels (i.e., gasoline, diesel associated with site preparation and operation of construction equipment and electricity, solar, and propane for meeting power demands, indoor heating, water heating, cooling/air conditioning, ventilation, plant operations, and lighting demands, as well as diesel fuel for emergency generators).

Growth Inducing Impacts

The purpose of the Proposed Action is to provide filtered water to WJWW's existing customers. By its very nature, the Proposed Action is not intended to induce growth but to comply with State Court Order, the SDWA and applicable federal and state regulations, and the USEPA Administrative Order.

WJWW proposes to construct and operate a 30-MGD Dissolved Air Flotation/Filtration (DAFF) water filtration plant (filtration plant or plant) to treat drinking water from the nearby Rye Lake (Kensico Reservoir) WJWW water source. The Proposed Action would be able to accommodate the additional projects already being considered or approved by the Town/Village of Harrison but is not expected to induce growth in the area. According to WJWW, the current average demand is 13.8 MGD with a peak demand of 23.7 MGD. The Project would include the construction of a 30 MGD plant.

Energy Use and Conservation

Site Preparation and Construction

The filtration plant would be constructed on an undeveloped wooded site that does not currently utilize energy resources and has no existing on-site utility connections; therefore, an increase in energy use and GHG emissions is expected. Clearing, grading, driveway, and parking lot construction; installation of utilities and site infrastructure; and construction of the filtration plant would require the use of construction vehicles, heavy equipment, and power tools such as chainsaws that utilize nonrenewable fossil fuels. This work would take place over a twelve-phase 36-month construction schedule and involve various levels of activity and energy demand, depending on the phase. During the construction period, energy use and GHG impacts would occur on-site, as well as off-site along roadways from construction vehicle traffic and manufacturing of building materials and equipment. Once an electrical connection is made, additional but minor indirect/off-site emissions are expected at electric generating stations that provide non-renewable electricity to the Con Edison transmission network.

Tree Removal

The removal of trees and other vegetation that absorb carbon dioxide (CO₂) and generate oxygen would also have an impact; albeit a small impact with a single project of this type and scale. Nevertheless, the Project has been designed to minimize clearing to only what is necessary to construct and operate the filtration plant and protect natural resources and wildlife habitat by retaining the remainder of the Site in its natural condition.

Of the 1,896 trees found on the Project Site, 56 percent are invasive. The Project would require the removal of 579 trees. The removal of these trees and the replanting of replacement trees would benefit the Project Site. A total of 302 new trees would be planted. Tree species would include mostly native species as well as some ornamental species that are suitably adapted to site conditions.

Construction Vehicle Traffic

Operation of construction vehicles and equipment during construction would utilize energy resources, particularly diesel fuel and gasoline, and in turn release GHGs. During the busiest three-month phase of construction, a maximum of 70 truck trips would be required daily to complete the necessary excavation and material transport for building construction, and heavy equipment (e.g., excavators, backhoes, bulldozers) would be used to excavate, push, and grade soil and load dump trucks. Traffic generated during the excavation phase would primarily be associated with heavy truck traffic, particularly dump trucks that would transport soil off-site for recycling or reuse at another location and return to the Project Site for another load. During this phase, an estimated 70 truck trips and 22 to 34 construction personnel would visit the Project Site per day. During peak weekday traffic hours (8:00 a.m. to 9:00 a.m. and 4:15 p.m. to 5:15 p.m.), it was projected that 18 construction personnel and 34 truck trips would enter or exit the Site. This temporary increase in traffic and operation of construction equipment is unavoidable.

Construction and Demolition Debris Management

The Project Site is undeveloped and is considered to be a “greenfield” based on the Phase I Environmental Site Assessment (ESA) which did not identify potentially hazardous materials on-site above threshold levels. Therefore, all Construction and Demolition (C&D) waste and earth materials are assumed to be nonhazardous and feasible for diversion to a local recycling facility or to be reused at alternative locations. Diversion of wastes from landfills and other disposal facilities by reusing and recycling salvageable C&D can also help to reduce GHG emissions.

It is estimated that project construction would generate over 1,600 tons of demolition waste, 530 tons of construction waste, and 59,000 tons of excavated soil for a total of 61,130 tons of total C&D waste. Of the 59,000 tons of excavated soil, 12,600 tons is expected to be reused on-site and therefore would not have to be shipped off-site by large diesel-powered trucks, while 46,400 tons would be removed from the Project Site. Other than soil, the next largest waste streams are asphalt, concrete, and wood which are readily recyclable at local facilities.

Contract documents would require that the future contractor submit a Construction Waste Management Plan (CWMP) to the engineer for approval prior to commencement of construction.

Facilities Operations

The RLWFP would require energy to power the facility and treatment processes; heat, cool, and ventilate the building; and provide indoor and outdoor lighting once the facility is operating. The heating, ventilation and air conditioning (HVAC) system is necessary to provide WJWW with a suitable environment for facility staff and operation and maintenance of essential equipment. The proposed HVAC system would consist of air handling units (AHU), supply/ exhaust fans, dehumidification units (DHU), boiler, hot water pumps, hot water unit heaters, electric unit heaters, air conditioning units, and associated control systems. Propane fuel would be used to heat the facility. As a result, an increase in energy demand and associated GHG emissions can be expected during project facility operation.

Indoor and outdoor lighting is also an important factor in terms of energy use and conservation; therefore, LED lighting would be used for all indoor, outdoor, and emergency lighting. Lighting plans would be designed to reduce light-related impacts such as excessive lighting, light trespass, glare, impacts on nocturnal wildlife, as well as excess energy demand. Exterior fixtures would be provided with motion sensors, photoelectric sensors, and automatic timers.

To power the facility, the proposed filtration plant would connect to electric utilities provided by Con Edison of New York by way of existing overhead powerlines located along Purchase Street and would utilize liquid propane to be stored onsite in two (2) 2,000-gallon above ground storage tanks to heat the facility.

The finished operating facility is projected to consume an estimated 7,210,000 kWh/yr. of electrical energy, 9,100 gal/yr. of diesel fuel, and 20,000 gal/yr. of propane. This equates to specific energy consumption of approximately 700 kWh per million gallons (MG) treated, which compares favorably to other surface water treatment facilities. The corresponding carbon footprint of the facility is projected to be approximately 3,300 MT CO₂e/yr. which includes a 5.5 percent reduction in GHG emissions achieved by the proposed photovoltaic system.

Emergency Standby Generators

Two diesel-fueled standby power generators would also be installed on the Site for emergency use and uninterrupted water treatment during power outages once the construction is completed and the facility is operating. Each of the proposed generators is rated at 1,250 kW, 480V, 3PH, 3W, 60HZ. The generators would have a combined capacity to energize the entire plant. One 1,250 KVA load bank would be provided to exercise each generator individually on a regular basis. It is anticipated that the emergency generators would run no more than one (1) hour per week.

Operational Traffic

Once construction is completed and the facility is operating, just one to two employee vehicles would be added to the surrounding road network in any given hour based on an anticipated maximum of two facility operators during the day shift and one operator each during the evening and night shifts. This level of trip generation is negligible compared to most commercial, industrial, institutional, and multi-family residential land uses. In addition, there would be eight (8) visits per month by a treatment process sludge removal truck (2/week), approximately five (5) plant chemical deliveries per month, an occasional garbage truck to pick up trash (possibly contractor that already serves the area), or other rare or occasional visitor.

Sea Level Rise

The Project Site is located within a FEMA X Flood Zone which is an upland area having less than a 0.2 percent chance of flooding during any given year, adequate on-site drainage infrastructure would be provided to prevent potential drainage issues, and the property is not located in an area that would be affected by sea-level rise. Most importantly, the Project would have no significant adverse effect on the climate based on project type, scale, best management practices and proposed mitigations.

Measures to Avoid or Reduce Impacts on Climate Change

Energy Conservation

- Three photovoltaic arrays would be installed on the roof of the proposed building to reduce demand for nonrenewable energy resources and partially offset related energy and climate related impacts.
- Energy conservation techniques would be universally implemented in the design and operation of the facility and facility design would comply with the 2020 Energy Conservation Code of New York State.
- Exterior lighting would be limited to only what is necessary to ensure a safe and secure indoor and outdoor work environment.
- Proposed indoor, outdoor, and emergency lighting systems would consist of LED fixtures to reduce energy demands.
- Illumination levels and conservation strategies would be based on the NYS energy conservation code, electrical code, and recommendations of the Illuminating Engineers Society of North America.
- Energy conservation measures would be instituted to ensure lights are shut off when and where they are not needed.
- The lighting systems would be designed to include the following energy conservation strategies:

- Minimize energy consumption to the extent practicable to reduce potential environmental impacts;
- Use long-life fixtures requiring low maintenance;
- Provide instant relight or dimming capability in certain areas;
- Be controlled manually or automatically;
- Use fixtures with low life-cycle and operations and maintenance costs;
- Exterior fixtures would be equipped with motion sensors, photoelectric sensors, and automatic timers.

Construction Related Energy Conservation

- Limit the area of disturbance and removal of existing trees and shrubs to the extent practicable on the 13.4-acre property and landscape to help retain oxygen-producing/CO₂ absorbing vegetation, including the replanting of 302 trees.
- Maintain a relatively small development footprint and reduce the proportion of impervious paved surfaces by utilizing vegetated pathways to and from outside equipment and structures and parking areas rather than concrete or pavement, to help reduce the urban heat island effect and any additional need for building cooling.
- Construction and demolition waste disposal contracts would include a requirement that all waste materials that are reusable or recyclable be diverted from landfills.
- Promote and facilitate recycling of garbage and other wastes at the facility as part of routine operations.
- Limit prolonged construction vehicle and equipment idling times when possible. Keep large trucks on-site at the end of each day rather than returning them to contractor headquarters for overnight storage.
- Retain reusable soil on-site to the extent practical to reduce off-site shipments/truck trips.

H. SUMMARY OF ALTERNATIVES

The DEIS examines the nine (9) alternatives that have been included in the Final Scope. Additional alternatives that were evaluated in a prior FEIS in 2008, which examined the option of building the proposed water filtration plant on the WJWW-owned Exchange Parcel that is the subject of the land swap under the current Proposed Action. These additional alternatives from the 2008 FEIS are addressed separately. The nine (9) alternatives fall into five broad categories, as follows:

- **No Action** – This alternative is required under SEQRA to be analyzed in every DEIS and provides a baseline for evaluating the anticipated impacts of the Proposed Action. In this DEIS, No Action is a single, discrete alternative involving maintenance of status quo conditions for the Project Site and retaining the Exchange Parcel in WJWW ownership.
- **Alternative Sites** – These development scenarios involve construction of the proposed filtration plant at a location other than the proposed Project Site on Purchase Street at the Airport (**Figure 1-4, Alternative Sites**).
- **Filtration Technology Alternatives** – These development scenarios involve technologies other than the presently proposed Dissolved Air Flotation/ Filtration (DAFF) technology. The Filtration Technology Alternatives, collectively discussed as Alternative 3 in this DEIS, are identified in the 2008 FEIS, and include the then-proposed Immersed Filter Membrane, as well as three other technologies:

Dissolved Air Flotation (“DAF”)/ Ozone/ Filtration; Ozone/ Direct Filtration; and Pressurized Membrane Filtration. The currently proposed DAFF system was one of the four technology alternatives examined in the 2008 FEIS.

- **Design Alternatives** – These development scenarios involve modifications to the presently proposed plant on the Project Site at the Airport. This includes “Alternative Façade Treatments” (Alternative 4,) and alternative access to Tower Road (Alternative 5) as per the Final Scope for this DEIS. The 2008 FEIS included a discussion of several access alternatives for the then-proposed use of the Exchange Parcel for the proposed plant, which are discussed as variants of Alternative 2 in this DEIS.
- **Other Potential Alternatives** – These scenarios involve potential options for actions other than the construction of a filtration plant, such as utilizing water supplies other than Rye Lake (e.g., other New York City sources or groundwater wells), other types of water treatment (i.e., ultraviolet treatment), and a regional water system in lieu of WJWW continuing to supply drinking water to its customers. A connection to Shaft 20 for New York City’s Delaware Aqueduct is identified per the Final Scope as Alternative 9 for analysis in this DEIS. Several other, miscellaneous alternatives that were addressed in the 2008 FEIS are discussed in the DEIS.

A comparison of the environmental impacts associated with each Alternative can be found in **Table 1-5** and locations of the Alternative can be found in **Figure 1-4, Alternative Sites**. Additional descriptions of each alternative are described below.

Table 1-5: Comparison of Impacts Associated with Alternatives										
Alternative Name	Proposed Action	Alternative 1- No Action	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 7	Alternative 8	Alternative 9
Description		The status of the existing Project Site remains the same and the Proposed Action does not proceed.	Construction of a water filtration plan on the existing WJWW property (Exchange Parcel).	Implementation of a different filtration technology.	Implement a standard industrial façade which would typically be applied to such utility uses and landscaping around the perimeter of the building.	Involves a modified layout of the Project at its currently proposed location, to provide southward driveway connection to Tower Road.	Involves developing the filtration plant on a site located south of the Proposed Action and accessing the site from Tower Road.	Involves developing the filtration plant on Rye Lake Pump Station Parcel.	Involves locating the filtration plant on property owned by NYCDEP located at Harrison SBL 0097.-1.	Involves the connection to Shaft 20 on the NYCDEP's Delaware Aqueduct System.
Property Rights	Even land swap between WJWW and Westchester County.	Not applicable, no work would proceed.	WJWW owns the property but property access requires easements.	The property rights would remain the same as the Proposed Action.	The property rights would remain the same as the Proposed Action.	The property rights would remain the same as the Proposed Action.	WJWW does not have property rights to the site and Westchester County has not offered this property to WJWW.	WJWW does not have property rights to the site and NYCDEP has not offered this property to WJWW.	WJWW does not have property rights to the site and NYCDEP has not offered this property to WJWW.	WJWW does not have access or property rights to the pipeline routes and new pump stations.
Site Access	Access would be provided off of Purchase Street.	Not applicable, no work would proceed.	Access road between plant and Purchase Street through an easement within the adjacent subdivision.	Site access would remain the same as the Proposed Action.	Site access would remain the same as the Proposed Action.	Site access would be provided through a southward driveway connection to Tower Road.	Site access would be provided through a driveway connection to Tower Road.	Site access would be provided through its current site access road.	Site access would be provided off Purchase Street.	Site access would vary and WJWW does not have access or property rights to the pipeline routes and new pump stations.
Does Alternative Meet Regulatory Compliance?	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No. this would not involve the filtration of water.
Capital Costs	\$108 Million	Not applicable, no work would proceed.	Costs are anticipated to be similar to the Proposed Action	Costs are anticipated to be similar to the Proposed Action	Costs are anticipated to be less because the additional landscaping and material upgrades would not be included in the project design.	Costs are anticipated to be similar to the Proposed Action	Costs are anticipated to be similar to the Proposed Action	Costs are anticipated to be similar to the Proposed Action	Costs are anticipated to be similar to the Proposed Action	Costs are anticipated to be at least \$171 million.
Limits of Disturbance	6.16 acres	Not applicable, no work would proceed.	12.77 acres	Limits of disturbance would be similar to the Proposed Action.	Limits of disturbance would be similar to the Proposed Action.	Limits of disturbance would increase by at least 0.55 acres due to the construction of the driveway.	Limits of disturbance would be similar to the Proposed Action.	Limits of disturbance would be similar to the Proposed Action.	Limits of disturbance would be similar to the Proposed Action.	Limits of disturbance would exceed 10 acres.

Table 1-5: Comparison of Impacts Associated with Alternatives										
Alternative Name	Proposed Action	Alternative 1- No Action	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 7	Alternative 8	Alternative 9
Permanent Wetland Disturbance	No disturbance of wetlands.	Not applicable, no work would proceed.	0.49 acres of wetlands.	No disturbance of wetlands.	No disturbance of wetlands.	Disturbance of wetland area would take place due to the construction of the driveway.	Disturbance of wetland area would take place due to the proposed location of the building.	No disturbance of wetlands.	Disturbance of wetland area would take place due to the proposed location of the building.	Disturbance of wetland area would take place due to the construction of the pipeline.
Utility Infrastructure	Water main connection to existing main in Purchase Street and sewer connection through Westchester County Airport to its collection system.	Not applicable, no work would proceed.	Water main connection to existing main in Purchase Street through access road easement and sewer connection through manhole located 500 feet from the property through an easement.	Utility infrastructure would be similar to the Proposed Action.	Utility infrastructure would be similar to the Proposed Action.	Utility infrastructure would be similar to the Proposed Action.	Utility infrastructure would be similar to the Proposed Action.	Utility infrastructure would be similar to the Proposed Action.	Utility infrastructure would be similar to the Proposed Action.	Utility infrastructure would be similar to the Proposed Action, in that it would not be anticipated to place a significant demand on water, wastewater, and electric utilities.
Tree Removal	579 trees	Not applicable, no work would proceed.	642 Trees	579 trees	579 trees	Additional tree removal would be required due to the construction of the driveway.	Tree Removal would be similar to the Proposed Action.	It is anticipated tree removal would be required but the extent would need to be further investigated.	Tree Removal would be similar to the Proposed Action.	It is anticipated tree removal would be required but the extent would need to be further investigated.
Viability	Yes, the Proposed Action would meet WJWW's objectives.	This Alternative would not comply with the Administrative Order and Injunction, and therefore, is not a viable option.	Yes, the Proposed Action would meet WJWW's objectives.	None of the available alternative technologies would result in a significant environmental benefit as compared to the Proposed Action using DAFF technology.	Yes, the Proposed Action would meet WJWW's objectives.	Alternative 5 is not viable because access connection to Tower Road would not be entertained by the controlling jurisdictional agency and is not permissible based on the County's funding agreements with the federal government.	Alternative 6 is not viable because access to Tower Road would not be entertained by the controlling jurisdictional agency and is not permissible based on the County's funding agreements with the federal government.	Alternative 7 is not viable because the site is not large enough to accommodate the existing uses as well as a new filtration plan and its required stormwater management practices. In addition, NYCDEP has not offered this property to WJWW for the use of a filtration plant.	Alternative 8 is not viable because the site is not large enough to accommodate the filtration plant without avoiding wetland areas. In addition, NYCDEP has not offered this property to WJWW for the use of a filtration plant.	Alternative 9 is not viable because WJWW does not have property or access rights, it would not comply with the required Administrative Order and State Court Order, and it is too cost-prohibitive.

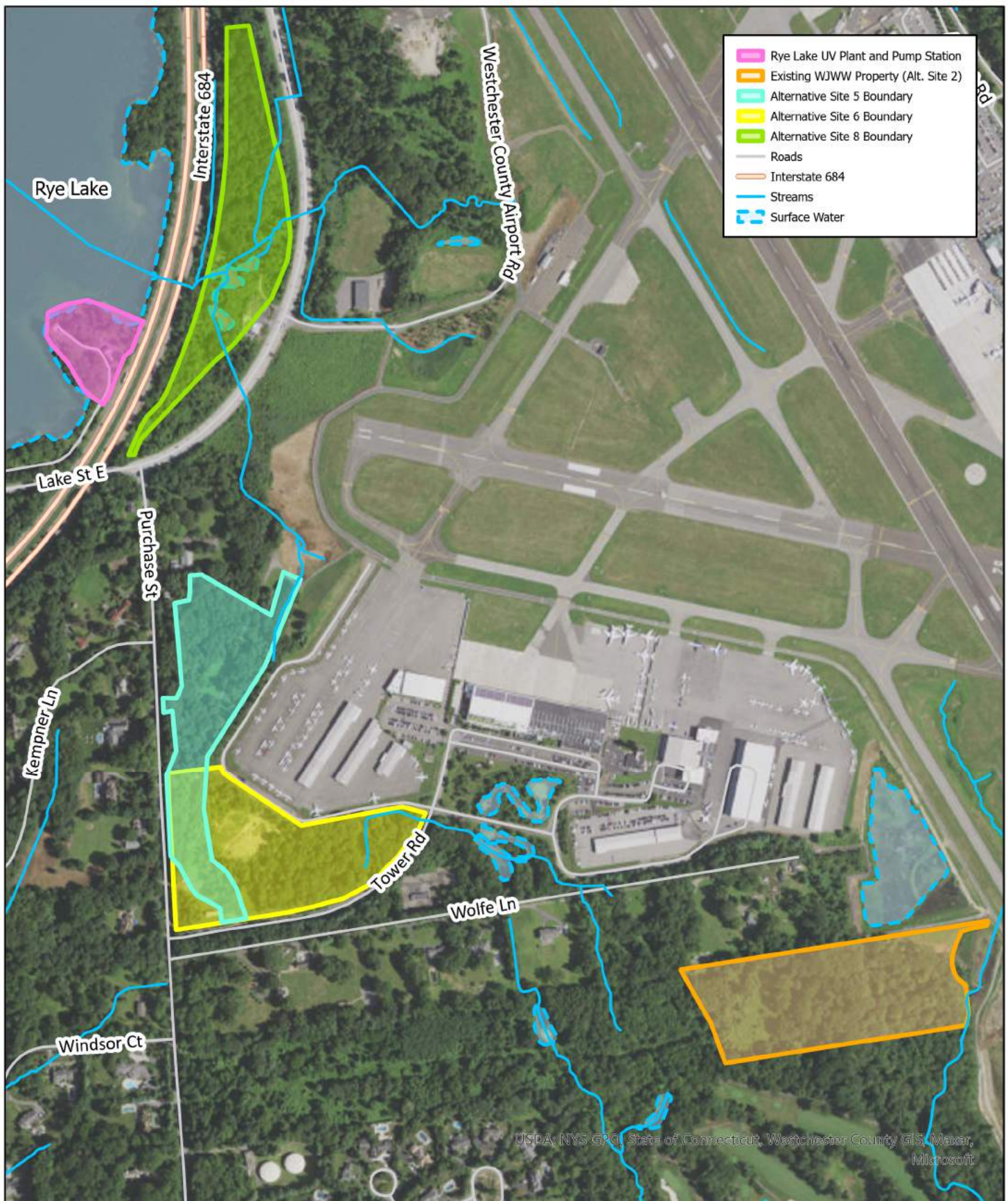


Figure 1-4: Alternative Sites

Sources: Westchester County GIS, 2020
Scale: 1 inch equals 625 feet



Westchester Joint
Water Works
Water Filtration Plant

I. ALTERNATIVE 1: NO ACTION

Under the No Action scenario, WJWW would continue operating its water supply system as at present, including the recently completed ultraviolet (UV) treatment facility at the Rye Lake Pump Station parcel, but without any filtration as would be provided under the Proposed Action. The Project Site would not be conveyed by Westchester County to WJWW for development of the water filtration plant and the Exchange Parcel currently owned by WJWW would not be conveyed to the County. There would be no change in conditions on the Project Site, which would remain as an undeveloped woodland area of Westchester County airport, interspersed with remnants of prior uses.

II. ALTERNATIVE 2: ALTERNATIVE SITE PLAN

This development scenario examines the option of building the proposed water filtration plant on the WJWW-owned Exchange Parcel that is the subject of the land swap under the Proposed Action. This parcel was the location of the proposed action described in the 2008 FEIS.

Under Alternative 2, essentially the same water filtration plant as is contemplated under the Proposed Action would be constructed on the Exchange Parcel, adjusted as necessary to accommodate differences in the physical setting of that parcel as compared to the proposed Project Site. This alternative specifically includes roadway access to Purchase Street via the existing easement through the adjacent Sylvan subdivision parcel to the west, which was the access route proposed in the 2008 FEIS. Three other potential access connections to the Exchange Parcel, which were also examined in the 2008 FEIS, are discussed separately at the end of this section of the DEIS.

As noted previously, agency decisions were not made on WJWW's prior proposal to construct the proposed water filtration plant on the WJWW-owned Exchange Parcel, since the SEQRA process at that time did not proceed to a findings statement. Thereafter, WJWW reconsidered its options for providing filtration to the Rye Lake water supply. A key impediment to the completion of action on that prior application was perceived conflicts and concerns regarding project consistency with surrounding land uses, especially nearby residential development, particularly given that the Exchange Parcel is situated in the Town/Village of Harrison's R-2 One-Family Residence District.

III. ALTERNATIVE 3: ALTERNATIVE FILTRATION TECHNOLOGY

Overview

At the time of the 2008 FEIS, Immersed Membrane Filtration (IMF) was the proposed technology, with the following four alternative technologies also being addressed in the FEIS:

- Dissolved Air Flotation (DAF)/Ozone/Filtration
- DAF/Filtration (DAFF)
- Ozone/Direct Filtration
- Pressurized Membrane Filtration

Subsequently, WJWW has undertaken a detailed, comparative analysis of IMF versus DAFF, and has decided that the latter technology should be used in the Proposed Action. Therefore, DAFF is analyzed as the Proposed Action in this DEIS, and the current list of alternate technologies examined herein is as follows:

- IMF – studied as the proposed action in the 2008 FEIS

- DAF/Ozone/Filtration – studied as an alternative in the 2008 FEIS
- Ozone/Direct Filtration – studied as an alternative in the 2008 FEIS
- Pressurized Membrane Filtration – studied as an alternative in the 2008 FEIS

Description of Alternatives

Immersed Membrane Filtration (IMF)

As noted previously, IMF was selected as the proposed technology at the time of the 2008 FEIS. The decision involved in selecting IMF at that time included a screening analysis of all five technologies (*Rye Lake Water Treatment Plant, Process Evaluation Report*, Hazen and Sawyer, Final Report, June 2001). This was followed by a pilot study conducted to confirm the performance of immersed membranes on Rye Lake water, and to obtain necessary design data (*Rye Lake Water Treatment Plant, Process Design Criteria Report*, Hazen and Sawyer, May 2004). The design criteria for an IMF plant were endorsed by the NYSDOH in June of 2004 and the final design documents were subsequently endorsed by NYSDOH and the Westchester County Department of Health.

With the decision to reactivate the filtration proposal to address the regulatory compliance issues pertaining to WJWW's Rye Lake water source, the potential availability of the Project Site at the Westchester County Airport, and the significant time since that application was unable to advance beyond the 2008 FEIS, the available filtration processes were re-evaluated. In the original IMF design, an additional/optional coagulation treatment step was included as part of the base membrane filtration design to promote organic carbon removal, if the organic carbon level reached a certain threshold. At the time of treatment selection in the early 2000s, the organic carbon levels were lower in the Rye Lake supply, and it was anticipated that the coagulation step might not be necessary under all conditions. Under current regulations and organic carbon levels, DAFF would consistently provide organics removal under all treatment conditions and has become the preferred option.

Dissolved Air Flotation/Ozone/Filtration

The major components of this treatment process are rapid mix, flocculation, dissolved air flotation (DAF) clarification, intermediate ozonation, filtration, residuals handling (waste backwash water tanks, filter-to-waste tanks, and DAF floated solids tanks), chemical feed systems and finished water pumping. The treatment plant for this alternative would have a basement, first floor and upper floor.

Ozone/Direct Filtration

The major components of this treatment process are pre-ozonation, rapid mix, flocculation, filtration, residuals handling (waste backwash water tanks, filter-to-waste tanks, settler/ thickeners, solids disposal tanks), chemical feed systems and finished water pumping. The treatment plant for this alternative would have a basement, first floor and upper floor.

Pressurized Membrane Filtration

In this treatment process, raw water is pumped through self-cleaning strainers and into the membrane modules at approximately 30 pounds per square inch gauge. Hollow fiber membranes with a nominal pore size of less than 0.01 micrometers (μm) would operate with an inside-out dead-end mode. The hollow fiber membranes are housed within cartridges (modules) and the modules are mounted on racks that are contained within separate skids. The treatment plant for this alternative would have a

basement with booster pumps, pump dry wells, finished water pumps and wetwell, waste transfer pumps, waste backwash tanks, solids disposal tanks, and spent chemical tanks. It would also have a ground floor for the main process equipment, settler/thickeners and chemicals.

IV. ALTERNATIVE 4: ALTERNATIVE FAÇADE TREATMENTS

The Proposed Action's facade has been designed with sensitivity to the neighbors in the vicinity of the Project Site. More specifically, this design includes architectural features and treatments to enhance the building exterior's aesthetic appeal and help it blend in with its surroundings, thereby minimizing the resulting effect on visual resources and community character. The proposed design, subject to review and approval by the Town/Village of Harrison Architectural Board of Review, includes a stone masonry veneer base in a cut pattern to match the existing stone walls on the Project Site, ground-face concrete blocks, board-and-batten metal siding, ribbed metal roofing, aluminum windows, translucent exterior panels, glazed entries, and architectural louvers. In addition, landscaping is proposed that is strategically placed to provide additional mitigation to the visual impacts of the proposed filtration plant.

Implementation of the features identified above entails additional costs to WJWW as compared to a more standard industrial façade which would typically be applied to such utility uses and landscaping around the perimeter of the building. In order to place this aspect of the Proposed Action in the proper perspective, to assist in SEQRA decision-making, it is appropriate for this DEIS to evaluate the costs and benefits associated with the current proposal for superior architectural design in comparison to an alternative design that meets the basic functional requirements of the Proposed Action. Therefore, the Alternative Design – Alternative Façade Treatment development scenario entails a basic exterior appearance, reflective of the utility use of the plant, which includes metal siding without special façade treatments, minimal glazing, simple gable and/or flat roof, and basic louvers.

V. ALTERNATIVE 5: THE USE OF TOWER ROAD

This alternative involves a modified layout of the Project at its currently proposed location, to provide southward driveway connection to Tower Road, for the intended purpose of reducing potential impacts to neighboring uses that may be associated with the current proposal for direct vehicular access onto Purchase Street. All other aspects of the design of the filtration plant under Alternative 5 would be identical to the Proposed Action. The access driveway under this alternative would follow the course of an existing gravel roadway that is currently used by Airport personnel. The existing gravel roadway has a width varying between 11 and 17 feet. In order to provide for two-way traffic safety for fire, emergency and delivery vehicles to serve the proposed water filtration plant, the driveway would be widened to a uniform 26 feet, per the requirements of the Purchase Fire Department, thereby entailing disturbance outside the footprint of the existing gravel roadway. The new driveway also would be paved and would include stormwater drainage infrastructure. The disturbance for the reconfigured access driveway for this alternative would occur within existing mapped NYSDEC wetlands that are situated between the proposed filtration plant and Tower Road.

A conceptual design for the proposed plant at the Project Site with a driveway connection to Tower Road is presented in *Rye Lake Filtration Plant Basis of Design Report*, Hazen and Sawyer, May 22, 2020. However, the Project design was modified to the Proposed Action with access along the parcel's Purchase Street frontage in response to input from Westchester County indicating that a layout connecting to Tower Road was not approvable.

VI. ALTERNATIVE 6: ALTERNATIVE SITE PLAN TOWER ROAD

This alternative involves relocating the proposed plant onto a parcel to the south, fronting on Tower Road (Tower Road Site). Alternative 6 is intended to serve the same purpose as Alternative 5 in reducing potential impacts to neighboring uses that may be associated with the current proposal for vehicular access directly onto Purchase Street. The general design of the filtration plant and its accessory improvements under Alternative 6 would be similar to the Proposed Action.

A conceptual design for the placement of the proposed filtration plant on the Tower Road Site is presented in *Rye Lake Filtration Plant Tower Road Site Viability Report*, Hazen and Sawyer, March 29, 2019. However, as with Alternative 5, in response to input from Westchester County indicating that any layout with access to Tower Road was not approvable, this design was abandoned and replaced with the current proposal for the Project Site on an Airport parcel having a driveway access at Purchase Street.

VII. ALTERNATIVE 7: ALTERNATIVE SITE PLAN AT RYE LAKE PUMP STATION

This alternative involves siting the proposed filtration plant on a parcel owned by the NYCDEP, for which WJWW has a Land Use Permit for the Rye Lake Pump Station and other existing public water service facilities, located at 900 Lake Street on the west side of Interstate 684. This parcel (Pump Station Parcel) comprises a portion of the overall NYCDEP-owned property fronting on Rye Lake, which forms a peninsula that extends into the southern end of the lake. The approximately 3.36-acre Pump Station Parcel currently contains three main buildings, which pump water from Rye Lake and provide chemical and UV treatment, as well as ancillary facilities such as electrical equipment and emergency backup generators.

Alternative 7 would add a fourth main building and appurtenances (including another emergency backup generator) to the Pump Station Parcel. It is assumed that the general design of the filtration plant and its accessory improvements under The Rye Lake Pump Station Parcel is a highly constrained site by various factors, including its small size, configuration, location, environmental setting, and degree of existing development. Much of the area on this parcel contains existing WJWW development, which would not allow sufficient space for the addition of a filtration building. Furthermore, because of its frontage on Rye Lake on three sides, the Pump Station Parcel is largely located within the 100-foot freshwater wetland adjacent area extending landward from the lake shoreline.

VIII. ALTERNATIVE 8: ALTERNATIVE SITE PLAN HARRISON SBL 0097.-1

Under this alternative, the proposed filtration plant would be constructed on an approximately 9.9-acre, lens-shaped parcel owned by the New York State Department of Transportation (NYSDOT Parcel), which is located between Purchase Street and Interstate 684, opposite New King Street, to the north of the proposed Project Site. A portion of the NYSDOT Parcel fronting on Purchase Street is actively used for New York State highway maintenance operations (e.g., vehicle and equipment storage), but the parcel is otherwise vacant.

Unlike the five other site plan/location alternatives discussed in this chapter of the DEIS⁸, Alternative 8 has not been subject to feasibility analysis or conceptual planning by WJWW, so available information is much more limited regarding technical design issues and similar considerations for Alternative 8.

⁸ 2- Alternative Site at the Exchange Parcel; 5- Alternative Access to Tower Road; 6- Alternative Site on Tower Road; 7- Alternative Site at Rye Lake Pump Station; and 9- Connection to NYCDEP Shaft 20.

However, GIS analysis of the NYSDOT Parcel indicates that approximately 47 percent of its area comprises freshwater wetlands. Assuming that the intent would be to avoid disturbance of this wetland area, since the Proposed Action does not encroach into wetlands, only about 5.2 acres of the NYSDOT Parcel would remain available for potential development. This non-wetland area on the NYSDOT Parcel is less than the approximately 6.16 acres that would be disturbed on the Project Site under the Proposed Action, not accounting for any protection of 100-foot-wide wetland buffers that are likely to account for substantial additional area surrounding the wetlands on the NYSDOT Parcel. Thus, besides the fact that WJWW does not have ownership interest in the NYSDOT Parcel for development of the proposed plant and is highly unlikely to receive the requisite regulatory approvals from NYCDEP (as explained below), construction of Alternative 8 also appears to be infeasible based on the physical and environmental constraints of the site.

IX. ALTERNATIVE 9: SHAFT 20 ALTERNATIVE

Although the USEPA Administrative Order and New York State Court Order requires filtration, WJWW did explore possible alternatives to filtration. This alternative was explored after the SEQRA process did not result in a findings statement and allow regulatory decisions to proceed on the proposal for a water treatment plant on the WJWW-owned site to the south of the Airport (currently called the Exchange Parcel) as presented in the 2008 FEIS. A conceptual design analysis of an alternative to connect to Shaft 20 on NYCDEP's Delaware Aqueduct System is presented in a December 2014 draft report prepared by HDR, Woodward & Curran, Gannett Fleming, and D&B Engineers & Architects, titled *Draft Conceptual Design of an Alternative to the Rye Lake Source Using Shafts 20 & 22 of the Delaware Aqueduct* (2014 Draft Conceptual Design Report).

At the time of the 2014 Draft Conceptual Design Report, the project concept included three components: (a) establishing a new connection for WJWW at Shaft 20 on NYCDEP's Delaware Aqueduct System; (b) improvements to WJWW's existing connection to Shaft 22 on NYCDEP's Delaware Aqueduct System to maximize the use of this source during the October-through-May non-peak period; and (c) a separate, backup connection to NYCDEP's Catskill Aqueduct System. Once completed, this project would allow WJWW to eliminate its use of the Rye Lake water source. Water from the Delaware and Catskill Aqueduct Systems meets the regulatory standards for a waiver from the filtration requirements which apply to water from Rye Lake. At that time, NYCDEP confirmed the availability of capacity to meet WJWW's 50-year water demand projections.

The new connection to Shaft 20 alone, combined with the existing supply from Shaft 22, would be adequate to serve WJWW's needs. However, at the time of the 2014 Draft Conceptual Design Report this project was not expected to be completed until 2020. The Shaft 22 improvements were planned for completion in 2017 as an interim measure to decrease WJWW's reliance on Rye Lake as a water source and, thereby, to improve WJWW's compliance with its regulatory requirements while awaiting the additional supply from Shaft 20 to come on-line. If Alternative 9 were to be implemented at this time, it would not include the transitional improvements at Shaft 22.

X. OTHER ALTERNATIVES CONSIDERED

A. OTHER AIRPORT PROPERTIES

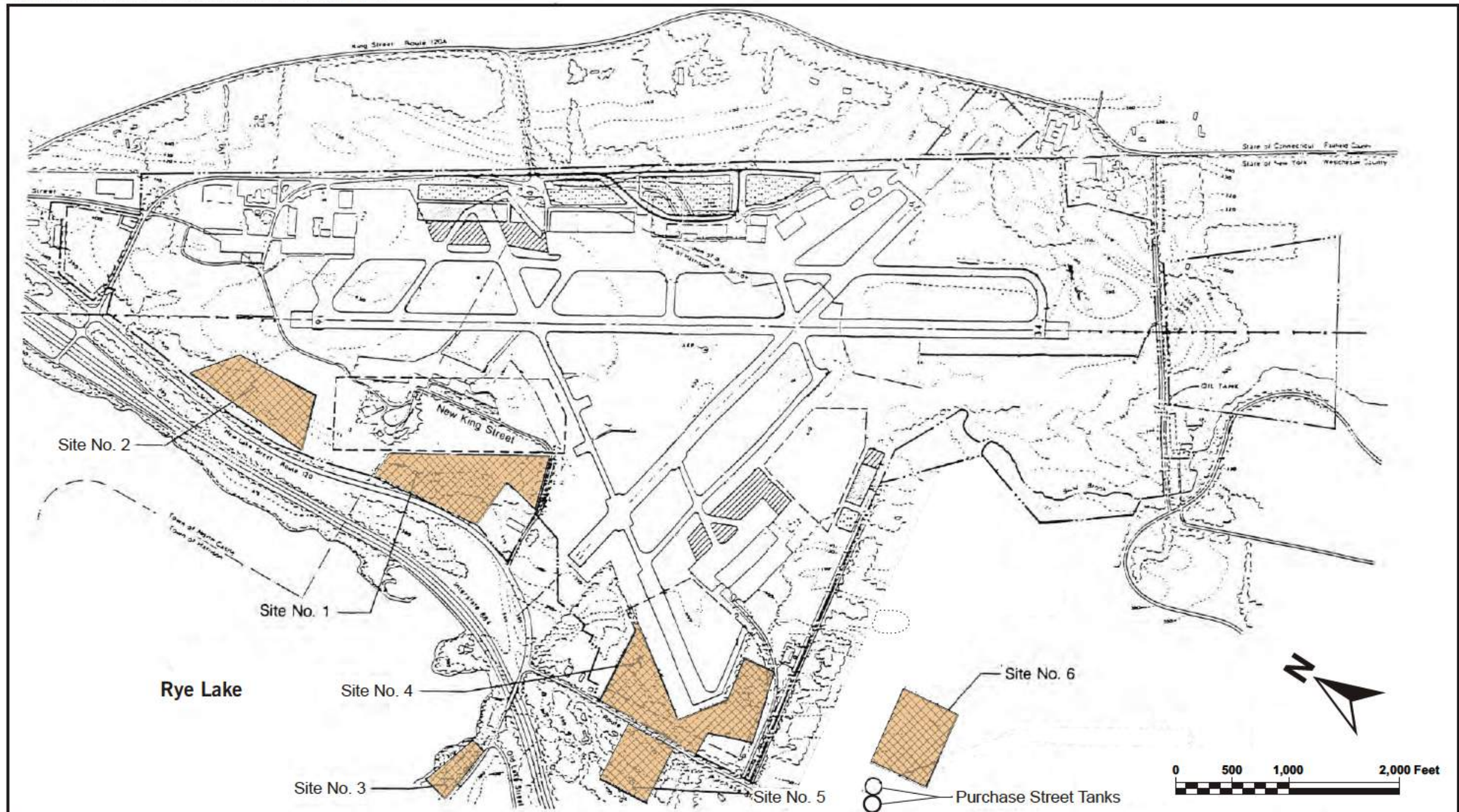
The 2008 FEIS examined three parcels located on the grounds of Westchester County Airport as alternatives to the then-proposed use of the Exchange Parcel for WJWW's filtration plant (**Figure 1-5, 2008 FEIS Alternate Facility Locations**). Two of these alternate parcels (identified as Site No. 1 and Site No. 2 in the 2008 FEIS) are situated to the north of the current location of the Proposed Action, while the third parcel (identified as Site No. 4 in the 2008 FEIS) spans between the current location of the Proposed Action and Tower Road to the south. A public comment on the Draft Scope requested that a site at the Airport with frontage on Tower Road be revisited. This alternative location, which is similar to Site No. 4 in the 2008 FEIS, is analyzed in detail as Alternative 6 in this DEIS.

As with development scenarios discussed above involving alternate roadway connections to the Exchange Parcel which were analyzed in the 2008 FEIS and alternatives with roadway access to Tower Road, any scenario involving use of the Airport property would necessitate proprietary approval from Westchester County. However, to reiterate, the County has indicated that it is only amenable to entertaining the WJWW's proposal for the current Project Site. Furthermore, the remaining two Airport parcels examined in the 2008 FEIS (Site Nos. 1 and 2) were described as suffering from significant constraints, including the presence of steep slopes, protected soils and wetlands, proximity to and drainage towards Rye Lake, and limited availability for development. Further, it should be noted that Sites 1 and 2 are also under the control of Westchester County and based on recent conversations with Westchester County the potential for development of these sites is not an option at this time.

B. OTHER NON-AIRPORT PROPERTIES

The 2008 FEIS examined three additional alternate sites located outside of the Airport property, which are discussed below and identified in **Figure 1-5, 2008 FEIS Alternate Facility Locations**:

- Site No. 3 – This approximately 2.2-acre, NYCDEP-owned parcel is located directly on the south shore of Rye Lake and is bound by New Lake Street to the south and Interstate 684 to the east. While this site is located close to the existing transmission mains, it is very small, and the available area is not adequate to accommodate the proposed plant. Furthermore, NYCDEP regulations prohibit construction of any impervious surface within 100 feet of a wetland or within 300 feet of a reservoir or controlled lake, and it also lies within a NYCDEP-designated no-build zone. These constraints prevent NYCDEP from allowing the proposed water filtration plant to be placed here, making this alternative infeasible.



- Site No. 5 – This approximately 6.0-acre parcel is located on the west side of Purchase Street approximately 150 feet south of Kempner Lane. Drainage from this site is directed away from Rye Lake (i.e., it is located outside the Kensico Reservoir basin), and it is located in close proximity to the existing transmission main, and it rated favorably on technical aspects. However, during the analysis of the prior application, this site rated low based on social limitations, particularly with respect to the presence of adjacent residential units on three sides. Furthermore, this parcel experienced subsequent residential development, such that no portion of its area is available for the Proposed Action and, therefore, it is not a feasible alternative.
- Site No. 6 – This approximately 8.0-acre parcel is located on the east side of Purchase Street, to the east of WJWW's water storage tanks. This site is also located outside the Kensico Reservoir basin and it is located in close proximity to the existing transmission main. However, at the time of the prior application reflected in the 2008 FEIS, this site was located within a residential subdivision, and it was determined that acquisition from the property owner would be difficult based on WJWW's experiences with the same developer. Furthermore, this site is part of a major development including a golf course, a country club and residential units; and this parcel has seen continued development of the residential subdivision, such that no portion of its area is available for the Proposed Action and, therefore, it is not a feasible alternative.

C. ULTRAVIOLET TREATMENT

WJWW pursued UV treatment as a substitute to filtration prior to the 2008 FEIS because the capital costs for a UV plant are approximately one-tenth the cost of a filtration plant, operation and maintenance costs are also significantly less for UV treatment than for filtration, and a UV plant involves a smaller development footprint than a filtration plant. However, NYSDOH denied WJWW's petition for UV treatment in lieu of filtration – via correspondence dated January 23, 2002; February 3, 2004; June 9, 2004; and May 18, 2007 – concluding that filtration is the only option that meets the current and anticipated treatment requirements for Rye Lake source water.

As discussed previously, WJWW recently installed a new UV disinfection plant at the Rye Lake Pump Station Parcel to provide enhanced treatment of the Rye Lake water supply, which is operating in conjunction with the chlorination facility to provide greater inactivation efficiencies of pathogenic organisms and to improve protection of public health. However, this would not meet the filtration requirements of the EPA Administrative Order, the Supreme Court Judgment and Order, and current federal drinking water standards and, therefore, would not accomplish WJWW's objectives for the Proposed Action.

D. OTHER NEW YORK CITY WATER SOURCES

This alternative, identified in the 2008 FEIS, involves various means of acquiring additional water from the New York City system, to replace the current supply drawn from Rye Lake, whereby a filtration plant would not be constructed. More specifically, the 2008 FEIS examined three such scenarios:

- (a) Water from Shaft 17, conveyed through Kensico Reservoir, with UV treatment
- (b) Water from Shaft 17, conveyed along Interstate 684, with UV treatment
- (c) UV-treated water from Shaft 19, conveyed to WJWW's Purchase Street Storage Tanks

The 2008 FEIS eliminated these scenarios as not viable based on the considerations discussed below.

Water from Shaft 17, conveyed through Kensico Reservoir, with UV treatment

A connection to NYC's Delaware Aqueduct could provide WJWW with water that meets USEPA Filtration Avoidance Determination requirements. Implementation of this scenario requires the construction and operation of a UV treatment plant for additional treatment (which recently was completed at WJWW's Rye Lake Pump Station Parcel). This scenario was identified and evaluated in the 2008 FEIS to transmit Delaware Aqueduct water from Shaft 17 to the WJWW storage tanks on Purchase Street.

It is extremely unlikely that NYCDEP would approve construction under this scenario because of its anticipated impact on Kensico Reservoir and Shaft 17, as well as being within the 300-foot NYCDEP watershed buffer. Installing a major water main through the reservoir has the potential to create turbidity and cause other disruptions during construction. This would negatively affect the water supplies of both WJWW and NYCDEP. Tying into Shaft 17 could put the shaft at risk, leading to a water continuity supply risk to New York City itself.

Based on the foregoing, this scenario would not meet WJWW's objectives for the Proposed Action and, thus, is not a viable alternative.

Water from Shaft 17, Conveyed along Interstate 684, with UV treatment

This scenario would involve pumping water from Shaft 17 overland to the WJWW Purchase Street Storage Tanks and a new UV treatment plant and would require a water main from a new pump station located at Shaft 17 to an existing transmission main near the Rye Lake Pump Station.

It is extremely unlikely that NYCDEP would approve another utility constructing a pump station so close to Shaft 17 or connecting into the shaft. If NYCDEP approval was given, there are space constraints at Shaft 17 that would make it very difficult to site the required pump station. The design and construction of a new pump station and new transmission main and discontinuing the use of the existing Rye Lake Pump Station, would require significant capital expenditure. (The Rye Lake Pump Station would be available for emergency use only.) The cost of constructing this alternative would be comparable to the then-proposed action, but without the water quality benefits gained by filtration.

Based on the foregoing, this scenario would not meet WJWW's objectives for the Proposed Action and, thus, is not a viable alternative.

UV-treated Water from Shaft 19, conveyed to WJWW's Purchase Street Storage Tanks

This scenario would involve purchasing UV-treated water from New York City and pumping and conveying this water from NYCDEP's Delaware Aqueduct Shaft 19 to the Purchase Street Storage Tanks. Under this scenario, a pump station at the Shaft 19 site would be required to transmit water from Grasslands Road.

Significant capital expenditure would be necessary to construct a new pump station at Eastview, and it would mean abandoning (available for emergency use only) the existing Rye Lake Pump Station. A land use permit would be needed to construct this pump station at the Eastview site on land owned by NYCDEP.

Since WJWW does not own or control this land, there is no guarantee that it could be obtained for a pipeline. Pipe jacking would be required to cross the Bronx River Parkway and significant rock removal is expected along the length of pipe. The cost of constructing this alternative would be comparable to, if not more than, the then-proposed action.

Based on the foregoing, this scenario would not meet WJWW's objectives for the Proposed Action and, thus, is not a viable alternative.

E. CONSTRUCTION GROUNDWATER WELLS

This alternative, identified in the 2008 FEIS, involves the installation of groundwater wells as a means of acquiring additional water to replace the current supply drawn from Rye Lake, whereby the proposed filtration plan would not be constructed. In order to replace the then-proposed 20-mgd output for the filtration plant, approximately 174 wells would be needed with an output of 80 gpm per well. With the current filtration plant capacity increased by 50 percent (to 30 mgd), approximately 261 wells would be needed. Even the original production capacity of 80 gpm was believed to be highly optimistic because it reflects best-case conditions in glacial till soils in other areas of Westchester County. WJWW's service area does not include such deposits, so it is highly likely that more than 261 wells would be necessary after comprehensive study. Siting this number of wells within the WJWW service area would require a substantial area of land above productive aquifers.

Based on the poor availability of groundwater and the large number of wells that would be needed to support the service area, extensive development of groundwater as a dependable source of supply for WJWW is infeasible. Furthermore, siting 174 or more wells along with the necessary infrastructure for water supply purposes could result in potentially larger impacts than the proposed project in terms of water resources, natural resources and land use.

Based on the foregoing, this scenario would not be reasonable or feasible and, thus, is not a viable alternative.

F. WESTCHESTER COUNTY REGIONAL WATER SYSTEM

This alternative, discussed in the 2008 FEIS, involves the acquisition of additional water by WJWW via a regional water system overseen by Westchester County, to replace the current supply drawn from Rye Lake.

At the time of the 2008 FEIS, Westchester County Department of Environmental Facilities (WCDEF) was in the process of developing and considering two regional approaches for

providing water to their service areas. One option involved connection to NYCDEP's Catskill/Delaware UV Plant at the Eastview property and pumping water to the County's service areas. The second option involved construction of a new County UV plant near the Kensico Dam. WJWW worked in conjunction with the County to explore sharing the new NYCDEP connection or the new UV plant to provide treated water to its service area. At the time of the issuance of the 2008 FEIS, Westchester County had not concluded its investigation into these approaches, but had advanced them to the point that they could be discussed and evaluated in the FEIS.

To provide water to WJWW's distribution system, a new 20-mgd pump station specifically dedicated to meet WJWW's hydraulic conditions would be needed in the vicinity of the new UV plant and a new pipeline would have to be constructed through the Quarry Heights region of North Castle to convey this flow to WJWW's Park Lane Storage Tanks, with a gravity main to the Purchase Street Storage Tanks via Park Lane, Lake Street and Purchase Street. The pump station would require chemical addition for disinfection and corrosion control.

Approximately 1.4 miles of transmission main would be required in the Town of North Castle and 3.1 miles of transmission main would be needed in the Town of Harrison. Land easements would have to be acquired and permitted between Kensico Dam and the Purchase Street Storage Tanks. Since WJWW does not own or control most of this land, there is no guarantee that it could be obtained for a pipeline. Pipe jacking or hanging pipe would be required to cross Interstate 684, along with significant rock removal along the length of pipe. Extensive permitting would be required to cross the interstate highway.

After the 2008 FEIS was issued, there was significant interest among project stakeholders in a County-led regional water treatment and conveyance alternative. These options were further evaluated by WJWW but, ultimately, the regional water utilities pursued options that did not provide any means for WJWW to obtain treated water, thereby increasing the uncertainty in the timing of possible action on a Westchester County Regional Water System, and even whether this scenario ultimately would ever come to fruition.

Furthermore, WJWW was a secondary partner in this endeavor, with Westchester County primarily controlling project development and advancement. However, WJWW alone is subject to the EPA Administrative Order and the Supreme Court Judgment and Order; and these directives, and the associated penalties, are not incumbent upon Westchester County or other potential partners. In September 2013, WJWW became aware Westchester County would no longer be pursuing a new Regional Water System and would instead be developing a plan to evaluate other options that did not include WJWW. Therefore, it is no longer practicable for WJWW to pursue this option in lieu of the proposed filtration plant; accordingly, this scenario is not reasonable or feasible and, thus, is not a viable alternative.

2. PROJECT DESCRIPTION

A. INTRODUCTION

This Draft Environmental Impact Statement (DEIS) has been prepared pursuant to the standards and requirements of the New York State Environmental Quality Review Act (SEQRA) and its implementing regulations contained in part 617, Title 6 of the New York's Code of Rules and Regulations (6 NYCRR 617). The DEIS was prepared by the Project Sponsor and Lead Agency Westchester Joint Water Works (WJWW) to consider the potential impacts of a land exchange with the County of Westchester and the construction and operation of a water filtration plant consistent with WJWW's January 11, 2021, Positive Declaration of Environmental Significance. **Appendix A, SEQR Documents**, contains the long Environmental Assessment Form and the Lead Agency's Declaration and Determination of Significance.

The Proposed Action (Project) includes the construction and operation of a 30 million gallon per day (MGD) Dissolved Air Flotation/Filtration (DAFF) plant (filtration plant or plant) for the Westchester Joint Water Works' (WJWW) nearby Rye Lake (Kensico Reservoir) water source. The Proposed Action is necessary to maintain the health and safety of WJWW customers and to comply with an United States Environmental Protection Agency (USEPA) Administrative Order, a New York State Supreme Court Order, and the USEPA and New York State Sanitary Code surface water filtration requirements. The filtration plant would use enhanced coagulation to remove disinfection byproduct precursors of total trihalomethanes (TTHM) and haloacetic acids (HAA5). The filtration plant would give WJWW more control over the removal of disinfection byproduct precursors and better ability to routinely comply with the USEPA's Stage 2 Disinfectants and Disinfection Byproducts Rule Maximum Contaminant Levels (MCLs).

The proposed plant would have the capacity to filter the maximum day water supply demand of WJWW's entire water distribution system. The Proposed Action would include the construction of a filtration plant building, driveway, parking lot, installation of supporting ancillary facilities, utilities including water and sewer, and stormwater management features on 13.4-acres of land (Project Site) currently owned by Westchester County and managed by the Westchester County Airport (**Figure 2-1, Site Location**). The sewer line for the Project would tie into the airport collection system on Westchester County Airport property pursuant to an easement that would be granted by the County. As proposed, the filtration plant would be designed to treat water pumped from the Rye Lake Pump Station (RLPS) and to supply finished water to the Purchase Street Storage Tanks. The Project Site would be accessed from Purchase Street, also known as Route 120. The Proposed Action would require relocation of the existing Airport secondary fence line separating the Project Site and Westchester County Airport. The filtration plant building would be less than one (1) acre. Proposed impervious features, including the plant building, a driveway, parking lot, walkways and supporting utilities and ancillary facilities, would total approximately 2.4 acres.

As part of the Proposed Action, WJWW would acquire the 13.4-acre Project Site which is currently part of the Westchester County Airport property from Westchester County. The County has advised WJWW that the best course of action would be a proposed equal land swap to result in no net loss of airport property. The 13.4-acre parcel of land for the filtration plant would be apportioned from the County Airport property and deeded to WJWW in exchange for WJWW deeding a contiguous 13.4-acre parcel (Parcel ID 0961.1 and Exchange Parcel) in its ownership to the County for incorporation into the airport property (**Figure 2-2, Land Swap Properties**).

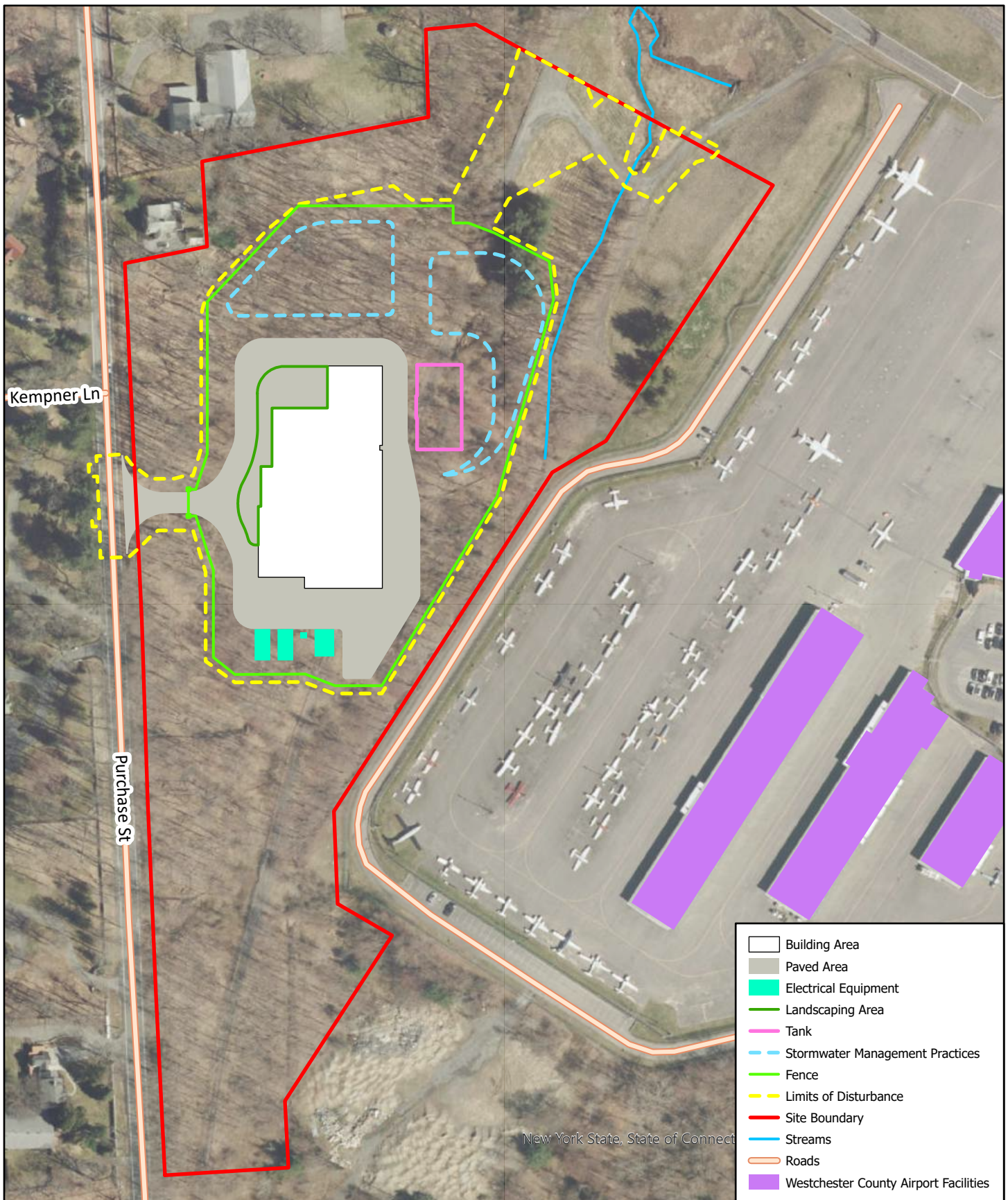


Figure 2-1: Site Location

Sources: Westchester County GIS, 2020
Scale: 1 inch equals 170 feet



Westchester Joint
Water Works
Water Filtration Plant





Figure 2-2: Land Swap Properties

Sources: Westchester County GIS 2020;
Scale: 1 inch equals 700 feet

**Westchester Joint
Water Works
Water Filtration Plant**

An Environmental Impact Statement (EIS) is a document used to systematically consider significant adverse environmental impacts, evaluate a reasonable range of alternatives, identify, and propose mitigation. An EIS facilitates the weighing of social, economic, and environmental factors early in the planning and decision-making process. This document describes the Proposed Action in detail, outlines its purpose and benefits, identifies anticipated environmental impacts, and identifies appropriate mitigation measures to avoid or alleviate potential adverse significant impacts to the maximum extent practicable as required by SEQRA. The DEIS also considers alternatives to the Proposed Action. This DEIS provides essential information and analyses that are necessary for WJWW, as the Lead Agency for this SEQRA review, to render an informed decision on the merits and environmental implications of the Proposed Action before any final decision on the Proposed Action is made.

B. PROJECT BACKGROUND, NEED, OBJECTIVES AND BENEFITS

Project Background

Westchester Joint Water Works is a non-profit public benefit corporation formed by an Act of the NYS Legislature⁹ at the request of the three member municipalities of the Village of Mamaroneck, the Town of Mamaroneck, and the Town/Village of Harrison for the purpose of cooperatively operating a public water works system. WJWW supplies water to its member municipalities for retail sale to their resident consumers and to portions of the City of Rye and the City of New Rochelle, serving a total retail population of over 59,000 persons from over 14,600 service connections. WJWW provides water on a wholesale basis to the for-profit water company Suez Water Westchester, which sells water to the City of Rye, Village of Rye Brook, and Village of Port Chester. WJWW also supplies water to the Village of Larchmont on a wholesale basis. In all, WJWW provides drinking water to some 120,000 consumers in Westchester County.

The water supply for the WJWW system is obtained from the upstate Catskill and Delaware watersheds of the New York City (NYC) water system. WJWW draws its water from two connections to the NYC system: (i) Shaft 22 of the NYCDEP Delaware Aqueduct in Yonkers and (ii) Rye Lake WJWW water source, the eastern portion of Kensico Reservoir, in Harrison. The Proposed Action is related to the water drawn from Rye Lake WJWW water source.

The Rye Lake WJWW water source is currently treated with chlorine, fluoride, and corrosion inhibitor at the Rye Lake Pump Station (RLPS). The water is pumped from the RLPS to the Purchase Street Storage Tanks where pH adjustment occurs via the addition of sodium hydroxide.

In 1993, New York State Department of Health determined that WJWW'S source from Rye Lake does not meet the criteria established by the State for filtration avoidance. In response to this determination, WJWW's raw water intake was moved farther into Rye Lake and placed at a greater depth to access higher quality water from the lake. A turbidity curtain was also installed in the Rye Lake WJWW water source in the area where stormwater runoff from Interstate 684 and the County Airport enters Rye Lake

⁹ Chapter 654 of the Laws of New York, 1927 entitled "An Act to authorize two or more municipalities, excepting cities but including water districts, jointly to acquire, construct, lease and maintain a water works system, to provide for the method of financing therefor, to provide for the management, operation, sale and disposition thereof, and otherwise to act jointly concerning the obtaining and distributing of a supply of water."

in an effort to protect the raw water quality of the intake. In addition, WJWW made improvements to its chlorination disinfection system and constructed additional water storage tanks to provide additional disinfection contact time.

In an action brought by NYSDOH pursuant to section 12 of the Public Health Law, the State Supreme Court for Westchester issued an Order, entered on January 23, 2002, that granted NYSDOH's motion for summary judgment, holding that WJWW violated the State Sanitary Code by failing to construct and operate a water filtration plant. The State Supreme Court's Order was affirmed on appeal in 2003. Upon remand, on June 9, 2004, the Supreme Court issued a Court Order requiring WJWW to construct a filtration plant (Judgment and Order of New York State Supreme Court Index No. 13364-99, Justice Louis A. Barone). The Order was upheld on appeal in 2005. It remains in effect today.

To comply with the Court Order, which established a schedule and milestones toward compliance with the mandatory filtration requirement, WJWW prepared to proceed with construction of a membrane filtration plant. The plant was proposed to be located on a 13.4-acre parcel of property it had acquired in the Town of Harrison adjacent to the County Airport. The project was identified as a Type II action under the Type II category that is today codified at 6 N.Y.C.R.R. § 617.5(c)(35) ("a particular course of action specifically required to be undertaken pursuant to a judgment or order"). WJWW determined that it would submit for local approvals and follow the Town/Village of Harrison Planning Board process. Applications for local site plan and special exception use permits were submitted to the Planning Board, which issued a negative declaration under SEQRA and granted approvals on June 21, 2005. The final design of WJWW's original water treatment plant was completed and approved by NYSDOH and the County Department of Health in 2006.

As a result of lawsuits brought by a third party challenging certain permits and approvals for the facility, the Planning Board rescinded its prior approvals and, notwithstanding the prior classification of the action as Type II and negative declaration, issued a positive declaration on June 11, 2007. In accordance with a scope adopted by the Planning Board, WJWW proceeded to prepare a DEIS, which the Planning Board certified as complete on September 25, 2007. A public hearing was conducted on November 15, 2007, and WJWW prepared and submitted a draft Final Environmental Impact Statement (FEIS) in July 2008.

As part of the EIS process, WJWW explored alternatives to filtration including regional water treatment and conveyance options. After submission of the draft FEIS, there was significant interest among the Planning Board and other project stakeholders in a County-lead regional water treatment and conveyance alternative. These options were further evaluated by WJWW, but ultimately, the regional water utilities pursued treatment options that did not provide any option for WJWW to obtain treated water. With regional water treatment and conveyance options no longer available, WJWW then investigated the viability of another alternative to filtration of Rye Lake consisting of the construction of a pipeline for conveyance of treated water directly from New York City's Shaft 20 in Greenburgh. In 2016, the alternative was rejected due to its exorbitant cost and the identified potential significant impacts.

During this time period, the USEPA adopted on January 4, 2006, a Stage 2 Disinfectants and Disinfection Byproducts (DBPs) Rule to provide increased public health protection against the potential risks associated with these compounds. DBPs are formed when natural organic matter in the raw water source interacts with disinfectants such as chlorine. Stage 2 DBP byproduct chemicals include haloacetic

acids and trihalomethanes. Because WJWW serves a retail population of between 50,000 to 99,999 people, compliance with these new provisions is mandatory. Starting October 1, 2012, WJWW was required to monitor the maximum contaminant levels (MCL) for total trihalomethanes (TTHM) and haloacetic acids (HAA5). The MCLs for TTHM and HAA5 are 0.080 milligram per liter (mg/L) and 0.060 mg/L, respectively, on a Locational Running Annual Average (LRAA) basis. The results submitted for the first, second, and third quarters of 2019 exceeded the MCL for HAA5.

On November 26, 2019, the EPA issued a superseding Administrative Order (Index No. SDWA-02-2020-8001) which now, in addition to the Corrective Action Plan for the violation of the DBPs Rule, included an obligation to commence design of the proposed Rye Lake Water Filtration Plant and begin the SEQRA process by January 31, 2020, with the Filtration Plant to be operational by October 15, 2024.

By letter dated April 29, 2021, the U.S. Department of Justice (DOJ) notified WJWW that the USEPA had referred “certain violations of the Safe Drinking Water Act” to the “U.S. Attorney’s Office for the Southern District of New York for litigation in the U.S. District Court for the Southern District of New York.” The letter stated that the “violations relate to the failure of Westchester Joint Water Works and its constituent municipalities, the Town/Village of Harrison, the Town of Mamaroneck, and the Village of Mamaroneck ... to comply with the SDWA and an administrative order issued by EPA dated November 26, 2019. WJWW failed to comply with the ... MCL ... for ... HAA5 ... and, in particular, exceeded the MCL for HAA5 during the first, second, and third quarters of 2019. While WJWW has implemented interim measures to prevent HAA5 MCL exceedances in the short term, it is presently in violation of the SDWA and the AO, including the requirement that it construct a filtration plant at Rye Lake.” DOJ sent a similar notification letter dated May 26, 2021, directly to each of the member municipalities, the Town/Village of Harrison, the Town of Mamaroneck, and the Village of Mamaroneck. **Appendix B, Legal Documentation**, includes the AO issued, the State Court Order, and the Department of Justice letters discussed above.

Public Need and Objectives

Ensuring WJWW has effective infrastructure to comply with State and Federal regulations is imperative, as the organization is responsible for providing safe and reliable drinking water to nearly 120,000 persons in Westchester County. The Proposed Action is designed for the protection of public health and safety along with compliance with the AO issued by the USEPA and the Court Order issued by the New York State Supreme Court.

As population and human activity continue to increase surface water sources can be adversely affected by increasing levels of organic matter. Disinfection Byproducts (DBPs) are formed when natural organic matter in the raw water source, such as leaf fall and aquatic vegetation, interact with disinfectants such as chlorine. Examples of DBP byproduct chemicals include haloacetic acids (HAA5) and trihalomethanes (TTHM). While the presence of these HAA5 and TTHM that have been detected in WJWW’s water system are at concentrations that do not constitute an immediate health hazard, the USEPA warns that long-term exposure to HAA5 and TTHM above federal regulatory standards may lead to an increased risk of cancer and pose liver, kidney, or central nervous system problems¹⁰.

¹⁰ See <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>.

In response to these environmental threats, the USEPA adopted a Stage 2 Disinfectants and DBPs Rule on January 4, 2006. The rule requires more stringent regulations to provide for better public health protection against the risks associated with DBPs. The USEPA's Stage 2 Rule is mandatory for public water systems serving between 50,000 and 99,999 retail customers, which includes WJWW. Starting October 1, 2012, WJWW was required to monitor the maximum contaminant levels (MCL) for total TTHM and HAA5. The results submitted for the first, second, and third quarters of 2019 exceeded these MCLs. In response, the USEPA issued two administrative orders¹¹, resulting in an obligation to commence design of the proposed Rye Lake Filtration Plant and a Corrective Action Plan that outlines provisions to be taken to achieve compliance with MCLs standards. The Proposed Action would address the health concerns posed by DBPs through the construction and operation of a water filtration plant.

In addition to the USEPA Administrative Orders, on January 23, 2002, the New York State Supreme Court issued a Court Order requiring WJWW to construct a filtration plant. The Court found WJWW in violation of N.Y.C.R.R. § 5-1.30 "by failing to construct and operate a filtration plant to filter the potable water that it sells to its customers from the Rye Lake System". Upon remand, on June 9, 2004, the Supreme Court issued a Court Order requiring WJWW to construct the filtration plant (Judgment and Order of New York State Supreme Court Index No. 13364-99, Justice Louis A. Barone). The Order was upheld on appeal in 2005. It remains in effect today.

Construction of the 30 MGD DAFF water filtration plant is designed to meet obligations now required of WJWW by the New York State Supreme Court and the EPA. Additionally, the Proposed Action would benefit the public by decreasing the risks of long-term exposure to DBPs. The filtration plant would include enhanced coagulation to remove disinfection byproduct precursors to TTHM and HAA5, which would give WJWW a greater ability to routinely comply with the MCLs for TTHM and HAA5 as required by the USEPA Stage 2 Disinfectants and Disinfection Byproducts Rule.

Benefits of Proposed Action

The Proposed Action fulfills legal requirements with the USEPA and the State of New York regarding the construction of a filtration plant. WJWW was issued two administrative orders from the USEPA requiring the construction of a water filtration plant and the implementation of a Corrective Action Plan ensuring strict compliance with the USEPA's Stage 2 Disinfectants and Disinfection Byproducts Rule. Construction of the 30-MGD Dissolved Air Flotation/Filtration (DAFF) water filtration plant is designed to comply with these regulations. In addition, the Proposed Action fulfills the requirement outlined in the Judgement and Order issued by New York State Supreme Court (Index No. 13364-99), dated June 9, 2004, to construct a water filtration plant. The Proposed Action would address both requirements for the USEPA and New York State.

In addition to satisfying existing legal obligations, the Proposed Action is a long-term solution to environmental pressures affecting the WJWW water source at Rye Lake. Factors such as climate change and an increase in human activity led to an abundance of organic matter in surface water, which creates vulnerabilities regarding DBPs. The construction of a water filtration plant provides a vital safeguard for WJWW's water source at Rye Lake and its nearly 120,000 residents in Westchester County that WJWW serves.

¹¹ See superseding Administrative Order No. SDWA-02-2020-8001

The Proposed Action is the most economical solution to fulfilling the legal requirements with the USEPA and the State of New York without posing significant disruptions to its service during construction and providing safe drinking water to its current and future customers. Due to the filtration plant's proximity to the Rye Lake Pump Station and Purchase Street Storage Tanks, the current proposal avoids the need for additional infrastructure and therefore excessively high project cost and significant community disruptions during construction and impacts to the natural environment.

C. LOCATION AND SITE CONDITIONS

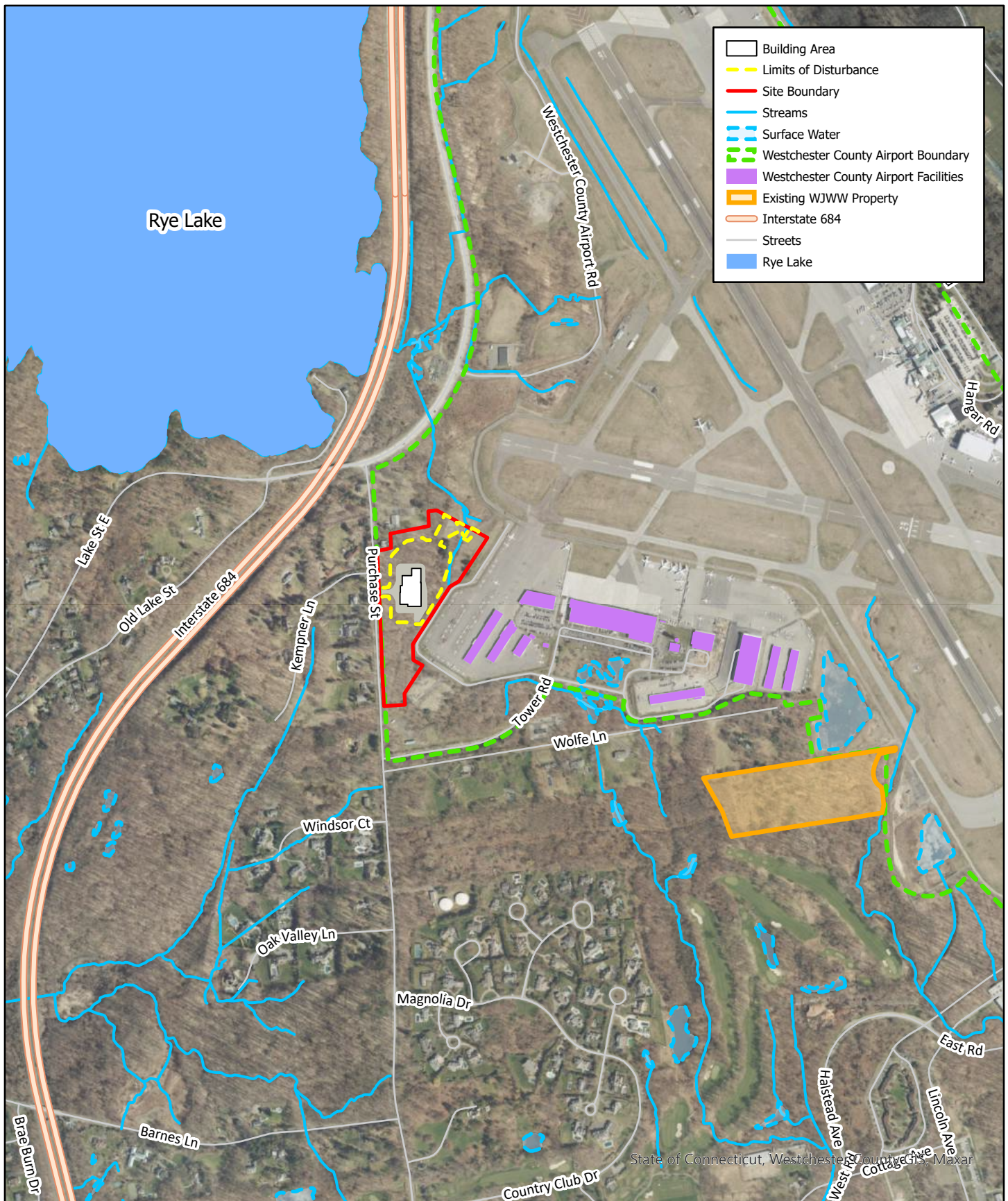
The proposed Project Site is 13.4 acres located on the east side of Purchase Street and west of the Westchester County Airport (**Figure 2-1, Site Location**). Access to the Project Site would be directly from Purchase Street. The Project Site of the proposed filtration plant is currently undeveloped and composed of trees and vegetation. The grade of the site slopes from south to north at an approximate 2.5 percent slope. There are 1.4 acres of wetland under both New York State Department of Conservation (NYSDEC) jurisdiction, surrounding an unnamed and unclassified stream. The northeastern portion of the exterior footprint is located within the 100-foot regulated adjacent area of the wetland, however, no construction is proposed within the actual wetland.

The Project Site is currently owned by Westchester County and managed by Westchester County Airport. The Project Site is in an area that is adjoining single-family residences and the Purchase Friends Meeting House directly to the north and west along Purchase Street and is surrounded by Westchester County Airport to the south, east, and northeast. The Project Site is also located approximately 500 feet south and east of Interstate 684 and Rye Lake (**Figure 2-3, Regional Location**).

D. PROJECT DESIGN AND LAYOUT

Overall Site Layout

The Project Site is located adjacent to the Westchester County Airport, and site access would be obtained from Purchase Street. The proposed building footprint would be less than one (1) acre in area (**Figure 2-4, Site Plan**). The proposed impervious features, including the filtration plant building, a driveway, parking lot, walkways, and supporting utilities and ancillary facilities, would total approximately 2.4 acres. The plant would be set back approximately 155 feet from Purchase Street and 288 feet from its northern neighboring property. The plant would be setback at a minimum of 100 feet from the airport property, meeting the local rear and side yard setback zoning requirements. A six (6) foot retaining wall would be located on the southern side of the plant. A 10-foot-high fence, as required by NYSDOH, would surround the filtration plant and separate the plant from the airport property. The approximate location of the fence is depicted on **Figure 2-1, Site Location**. To mitigate any potential negative visual impact of the security fence, an effort has been made to setback the security fence from the property line. Along Purchase Street, the fence is setback from the property line by approximately 100 feet. Along the northern property boundary facing the House of Worship property, the fence is setback by approximately 80 feet from the property line. Area variances for the height of the fence and encroachment of the access gate into the 100-foot buffer along Purchase Street would need to be obtained by the Town of Harrison Zoning Board of Appeals (**Appendix C, Site Plans**).



State of Connecticut, Westchester County GIS, Maxar

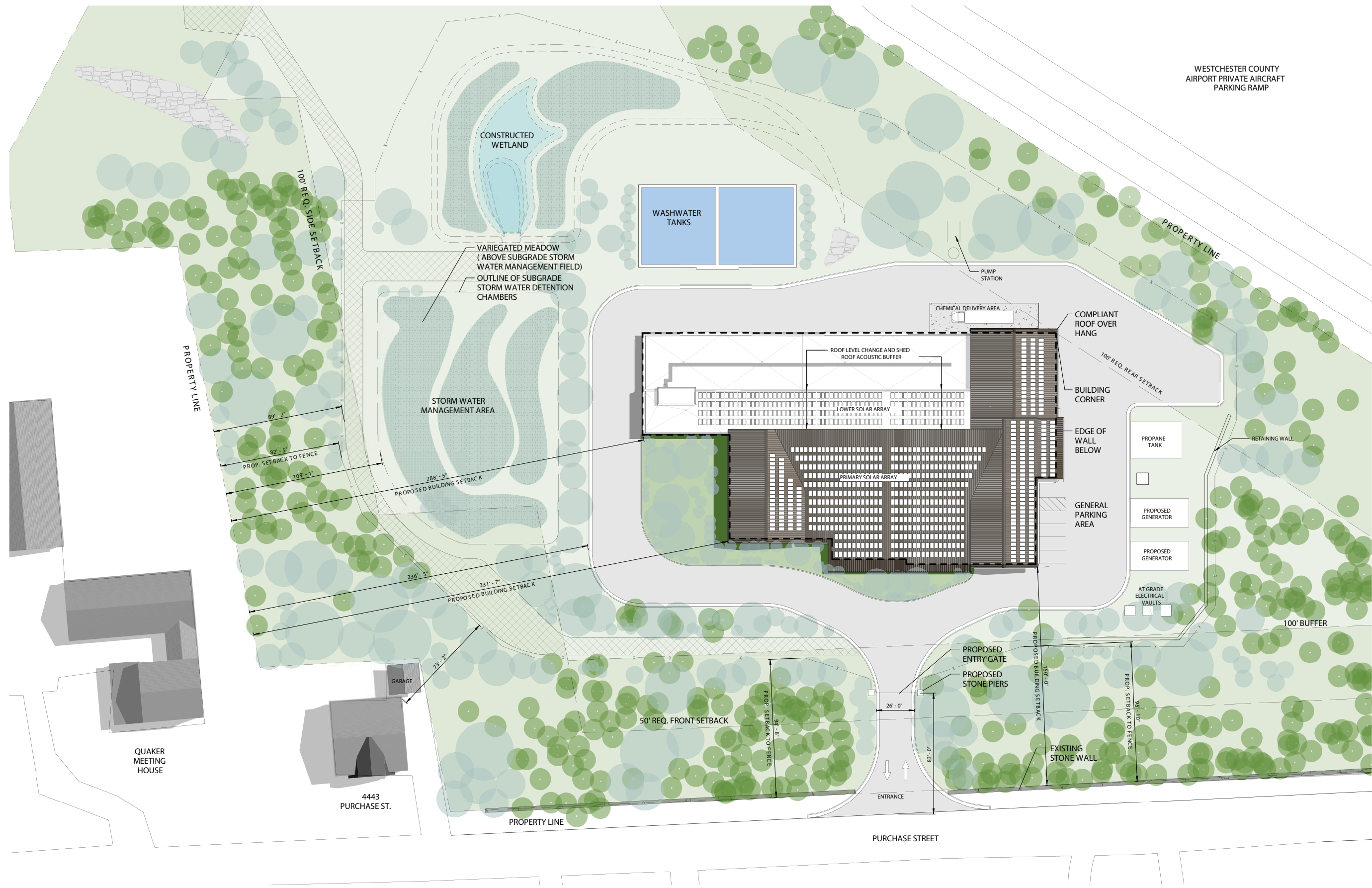


Figure 2-3: Regional Location

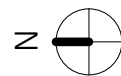
Sources: Westchester County GIS, 2020
Scale: 1 inch equals 1,000 feet



Westchester Joint
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1 ILLUSTRATIVE SITE PLAN
1" = 30'-0"



LEGEND:			
	EXISTING TREES		VARIEGATED VEGETATION
	PROPOSED GRASS PAVERS		PROPOSED TREES AND LANDSCAPED SCREENING

Figure 2-4, Illustrative Site Plan

Source: Nexus Creative Architecture Planning Design March 18, 2022

0 30 60

Westchester Joint
Water Works



NPV

Land Apportionment and Property Transfer Process

The proposed filtration plant would be constructed on land now owned by Westchester County. It is anticipated that the County would convey the 13.4 acres to WJWW in exchange for another property of equal size, Exchange Parcel (Parcel ID 0961.1) from WJWW, resulting in no net loss of airport property. The Exchange Parcel would benefit the County because it is adjacent to the Westchester County Airport and would be left in its existing condition or used for airport stormwater management or wetland restoration projects undertaken by the County.

Clearing, Grading and Drainage

While the grade of the Project Site slopes from south to north at an approximate 2.5 percent slope, regrading would primarily need to take place on the central portion of the site. Grading would occur within the limits of disturbance at the Project Site, which generally includes the footprint of the plant itself, stormwater management practices, associated paving, and ancillary equipment structures. Within the limits of disturbance, the Project Site would be leveled off to provide appropriate roadway slopes ranging from approximately 3 feet of cut to 5 feet of fill.

Reuse of excavated soils on-site would take place to the maximum extent practicable. However, approximately 49,900 cubic yards of fill would be removed from the Project Site. Stormwater runoff and site drainage would include the installation of a dry swale and bioretention cell. Both stormwater management practices would be sized to treat stormwater runoff for water quality and volume reduction generated from the Project Site's impervious area for the 100-year storm. Stormwater would be collected from the developed area via drain inlets and directed to a diversion structure. The diversion structure would direct the water quality volume to the stormwater management practice area for quality treatment and bypasses the larger storms to an underground detention system for quantity control.

Parking, Vehicle Access, and Road System

Driveway access would be provided from Purchase Street and located along the western property line. There are four proposed parking spaces located on porous pavement, which would be located in the Project Site's southern side yard. The driveway would consist of asphalt material, and an access drive would surround the plant to meet Appendix D of the New York State Fire Code access regulations.

Water Supply and Sanitary System

The proposed plant would have the capacity to filter the maximum day water supply demand of WJWW's entire water distribution system. Potable water for the operation of the plant would be provided by WJWW and connected to the 20-inch upper high service pipeline in Purchase Street. A new sewer line for the plant would be constructed and tied into the airport collection system on Westchester County Airport property pursuant to an easement that would be granted by the County. As proposed, the filtration plant would be designed to treat water pumped from the Rye Lake Pumping Station and supply filtered water to the Purchase Street Storage Tanks.

Site Lighting, and Landscaping

Site lighting and a landscaping plan can be found in **Appendix C, Site Plans**. All site lighting would remain within the property boundary and not encroach onto the neighboring properties. All site lighting would be limited to securing the plant and plant operations. The landscaping has been designed to assist with the visual screening of the filtration plant, replace some of the existing trees that would be removed during construction of the plant, and provide visual enhancement to the Project Site.

Construction Schedule and Operations

Construction is estimated to span 36 months and include 12 phases, some of which would take place concurrently. **Table 2-1, Construction Schedule**, shows a breakdown of each phase and how many months each phase would take. The estimated duration of each phase is weather dependent and subject to change.

Construction Phase	Month	Truck Trips (~#/day)
Procurement	1-2	0
Mobilization	3-4	1
Site Work	5-8	17
Site Work, Filtration Building Excavation	9-11	70
Site Work, Filtration Building Substructure, Waste Washwater Tank Excavation	12-13	10
Site Work, Filtration Building and Waste Washwater Tank Substructure	14-19	6-7
Site Work, Filtration Building Superstructure and Interior, Waste Washwater Tank Substructure	20-21	9
Site Work, Filtration Building Superstructure and Interior	22-31	2-8
Site Work, Filtration Building Interior, Startup and Commissioning	32	4
Site Work, Startup and Commissioning	33-34	3
Startup and Commissioning	35-36	1
Procurement	1-2	0
<i>Notes: Number of months are subject to change</i>		

All construction staging and workers' parking would take place on the Project Site. Construction vehicles would access the site from Purchase Street, and no queuing of construction vehicles would occur on Purchase Street. Construction traffic would access Purchase Street from Interstate-684, reducing the use of local roads to access the Project Site. As required by Chapter 177, Noise, of the Town Code, no construction would take place after 8:00 p.m. or before 7:30 a.m. on weekdays or before 10:00 a.m. on weekends and national and state holidays. Further, no construction would occur on Sundays.

E. RYE LAKE WATER TREATMENT PLANT (WTP) OVERVIEW

As noted in Sections A and B, dissolved air flotation/filtration (DAFF) is proposed as the appropriate technology for WJWW's water treatment plant. The recommended treatment process is similar to existing

DAFF water treatment plants that have been approved by the Westchester County Department of Health (WCDOH) as well as DAFF water treatment plants throughout the Northeast. An overview of the proposed treatment process is provided in **Figure 2-5**.



Figure 2-5. Overview of Proposed WJWW Plant Treatment Process

Raw water from the Rye Lake Pump Station would be conveyed to the filtration plant, where static mixers disperse chemicals uniformly into the flow stream. Chemicals added to the process flow stream would include a pH adjustment chemical and a coagulant. The enhanced coagulation process uses a chemical to neutralize the negative charge of dissolved and suspended particles in the water, allowing the particles to bind together and form larger particles. The coagulated water then enters the flocculators, which provide the mixing energy and time necessary to produce even larger particles, or floc, which are more readily removed by the clarification process.

The clarification process used at RLWFP is called dissolved air flotation (DAF), where floc is floated to the surface of the water by using nano-sized air bubbles. Air bubbles are created by combining air and water in a pressurized vessel and then injecting that highly pressurized and highly oxygenated water into the process stream using specialized nozzles. The small air bubbles attach to the solids and float the solids to the surface where they can be mechanically skimmed from the top of the tank. The floated solids from DAF clarification would be dewatered using a centrifuge and hauled away for disposal in accordance with all applicable rules and regulations, as discussed further in **Chapter 3-E, Utilities** of this DEIS.

The clarified water would then move through the gravity filter composed of anthracite and sand to remove remaining particles. At RLWFP, the DAF clarification process occurs in the same tank as filtration, allowing for a smaller footprint and direct conveyance through the filter.

The filters would be periodically backwashed using a reverse flow of filtered water to remove accumulated solids. After backwash, the water used to clean and reset the filters, known as waste washwater and filter-to-wastewater, would be routed to the combined waste washwater tanks, where it is held temporarily before being gradually mixed in with raw water at the head of the plant for treatment.

Following filtration, water would be disinfected. Corrosion control would be achieved through the addition of a corrosion inhibitor and a pH adjustment chemical. The treated water would then be conveyed to the Purchase Street Storage Tanks for distribution to WJWW customers.

F. PERMITS AND APPROVALS REQUIRED

A number of permits and approvals are required over the course of the Project from the Town/Village of Harrison, Westchester County, New York State, and federal agencies. WJWW would negotiate with Westchester County on the land swap and deed agreements, as well as a sewer easement to install a sewer line and connect it to the airport collection system on County property. The Federal Aviation Administration would need to approve the modification of the airport footprint, and the Westchester County Department of Environmental Facilities would need to approve the required sewer connection. The filtration plant design would require approval of the NYS and Westchester County Department of Health and a wetland permit from the NYSDEC. In addition, WJWW would continue to coordinate with the State Supreme Court regarding compliance with its final Court Order, and the USEPA regarding compliance with its administrative order.

Table 2-2 shows the anticipated list of permits and approvals that may be required for the Proposed Action:

TABLE 2-2: Permits and Approvals	
Government Entity / Agency	Approval(s) Required
USEPA	Compliance with Administrative Order SDWA-02-2020-8001
USEPA	Water Infrastructure Finance and Innovation Act (WIFIA) Program
United States Fish and Wildlife Service (USFWS)	Section 7 Consultation
Federal Aviation Administration (FAA)	Notice of Proposed Construction or Alteration (FAA Form 7460-1)
NYSDEC	State Pollution Discharge Elimination System (SPDES) General Permit for Construction Activity
NYSDEC	SPDES Industrial Permit (NY-2C) for Process Emergency Overflow
NYSDEC	401 Water Quality Certification
NYSDEC	Freshwater Wetlands
Environmental Facilities Corporation / NYSDOH	Drinking Water State Revolving Fund Program
Environmental Facilities Corporation / NYSDOH	Water Infrastructure Improvement Act (WIIA) Grant Program
NYSDOH	Compliance with Judgment and Order of New York State Supreme Court Index No. 13364-99, Justice Louis A. Barone
NYSDOH	Approval of Plans for Public Water Supply Improvement and Approval of Completed Works
New York State Office of Parks and Historic Preservation (NYSOPRHP)	State Historic Preservation Office (SHPO) Consultation
New York City Department of Environmental Protection (NYCDEP)	Stormwater Pollution Prevention Plan (SWPPP) review and approval
New York City Department of Transportation	
Westchester County Department of Health (WCDOH)	Approval of Plans for Public Water Supply Improvement and Approval of Completed Works
Westchester County Board of Legislators	Approvals for obtaining property rights and sewer easements
Westchester Department of Public Works	Building Approvals
Westchester County Department of Environmental Facilities	Approval to Connect to County Sewer System
Westchester County Planning Board	Administrative Review
Town of Mamaroneck Town Board	Approval of Funding for Project
Village of Mamaroneck Town Board	Approval of Funding for Project
Town/Village of Harrison, Town Board	Approval of Funding for Project
Town/Village of Harrison Planning Board	Freshwater Wetlands Permit
Town/Village of Harrison Planning Board	Site Plan and Subdivision Approvals

TABLE 2-2: Permits and Approvals

Government Entity / Agency	Approval(s) Required
Town/Village of Harrison Zoning Board of Appeals	Area Variance and Variance for the Fence
Town/Village of Harrison Town Board	Special Exception Use Permit
Town/Village of Harrison Architectural Board of Review	Architecture Approval
Town/Village of Harrison Building Department	Building Development Permits
Town/Village of Harrison Engineer	Land Disturbance Approval

Note: The approvals listed from the Town/Village of Harrison and its Planning Board are without prejudice to any contention that the proposed Filtration Plant is exempt from obtaining such approvals under Village of Munsey Park v. Manhasset-Lakeville Water District, 150 A.D.3d 969 (2d Dep't 2017), and similar cases.

G. LIST OF INVOLVED AND INTERESTED AGENCIES

INVOLVED AGENCIES

United States Environmental Protection
Agency
SDWA Compliance Section
290 Broadway
New York, NY 10007-1866

United States Fish and Wildlife Service
(USFWS)
300 Westgate Center Drive
Hadley, MA 01035-9589

New York State Department of
Environmental Conservation (NYSDEC)
SPDES and Wetland Permit
21 South Putt Corners Rd.
New Paltz, NY 12561-1620

New York State Department of Health
Bureau of Water Supply Protection
Center for Environmental Health
Corning Tower, Room 1110
Empire State Plaza
Albany, NY 12237

New York State Department of Health
50 North Street, Suite 2
Monticello, NY 12701

New York State Department of
Transportation
Region 8
Eleanor Roosevelt State Office Building
4 Burnett Boulevard
Poughkeepsie, NY 12603

Westchester County Department of Health
25 Moore Avenue
Mt. Kisco, NY 10549

Westchester County Board of Legislators
800 Michaelian Office Building
148 Martine Avenue
White Plains, NY 10601

Westchester County
Department of Public Works and
Transportation
148 Martine Avenue
White Plains, NY 10601

Westchester County
Department of Environmental Facilities
270 North Avenue, 6th Floor
New Rochelle, NY 10801

Westchester County Planning Board
Westchester County Department of
Planning
148 Martine Avenue, Room 432
White Plains, NY 10601-4704

Town of Mamaroneck
740 West Boston Post Road
Town of Mamaroneck, NY 10543

Village of Mamaroneck,
123 Mamaroneck Avenue
Mamaroneck, NY 10543

Town/Village of Harrison
1 Heineman Place
Harrison, NY 10528

Town/Village of Harrison Public Works
1 Heineman Place
Harrison, NY 10528

Town/Village of Harrison Planning Board
1 Heineman Place
Harrison, NY 10528

Town/Village of Harrison Zoning Board of
Appeals
1 Heineman Place
Harrison, NY 10528

Town/Village of Harrison
Architectural Board of Review
1 Heineman Place
Harrison, NY 10528

Town/Village of Harrison Building
Department
1 Heineman Place
Harrison, NY 10528

Town/Village of Harrison Engineer
1 Heineman Place
Harrison, NY 10528

Westchester County Airport
240 Airport Road, Suite 202
White Plains, NY 10604

New York State Historic Preservation Office
Peebles Island Resource Center
1 Delaware Avenue
Cohoes, NY 12180

New York City
Department of Environmental Protection
Bureau of Water Supply
465 Columbus Ave., Valhalla, NY 10595

INTERESTED AGENCIES AND ORGANIZATIONS

Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
Online Submission

Purchase Quaker Meeting
Clerk for the Board of Trustees
109 North Broadway, Apt. S-2
White Plains, NY 10603

Purchase Environmental Protection
Association
3003 Purchase Street – Box 21
Purchase, NY 10577

Westchester County Airport Advisory Board
240 Airport Road
Suite 202
White Plains, NY 10604

Westchester County Board of Health
145 Huguenot Street, 7th Floor
New Rochelle, NY 10801

3. EXISTING CONDITIONS, POTENTIAL IMPACTS AND MITIGATION MEASURES

A. LAND USE, ZONING AND PUBLIC POLICY

I. LAND USE

a) *EXISTING CONDITIONS*

The WJWW filtration plant would be located along Purchase Street, near its intersection with Lake Street and Interstate 684 in the Town/Village of Harrison, on lands currently operated and maintained by the Westchester County Airport. The 13.4-acre Project Site is proposed to be apportioned from the County Airport property and deeded to WJWW, in exchange for WJWW deeding a contiguous 13.4-acre parcel currently in its ownership to the County for incorporation into the airport property (Exchange Parcel, SBL 0961.-1). The Exchange Parcel is within a ½-mile from the Project Site, is currently vacant, and does not have direct access from Purchase Street (**Figure 3A-1, Land Swap Properties**).

The Project Site is located on Westchester County Airport land between the existing Rye Lake Pump Station and UV facility, and Purchase Street Water Storage Tanks located south of the Project Site on Purchase Street. The Project Site is not in use by the Airport and remains undeveloped. The Project Site is bordered to the north and east by Airport facilities, an access road, and airplane hangars. These uses are classified as transportation and communication. The Project Site is bordered to the west by Purchase Street, and residential land uses are found along and to the west of Purchase Street. A residential land use and the Purchase Friends Meeting House an institutional and public assembly use, border the Project Site directly to the north. The transportation and communication uses associated with the Airport continues south of the Project Site (**Figure 3A-2, Land Use**).

Within the ½ mile study area surrounding the Project Site, lands to the south and west are predominantly residential or undeveloped land (including the Exchange Parcel) except for one parcel containing a pump station and water storage tanks, also owned and managed by WJWW (**Figure 3A-2, Land Use**). Interstate 684, a major transportation corridor, runs north and southwest, approximately 500 feet from the Project Site. The southern portion of Rye Lake WJWW water source is located in the northwestern portion of the study area, and the Westchester County Airport encompasses the majority of the northeastern portion of the ½ mile study area.

b) *POTENTIAL IMPACTS*

Within the ½-mile study area, there are several water supply facilities including the Rye Lake Pump Station and UV facility, and Purchase Street Water Storage Tanks, all owned and managed by WJWW. Rye Lake WJWW water source is also within the ½ mile study area. Interstate 684, a major transportation corridor, runs north and southwest, approximately 500 feet from the Project Site, and Westchester County Airport, a transportation utility, is contiguous to the Project Site. Therefore, the Proposed Action is consistent with the surrounding utility land uses or land associated with utility land uses, which encompasses 58 percent (432 acres) of the ½ mile study area (735 acres) (**Figure 3A-2, Land Use**).

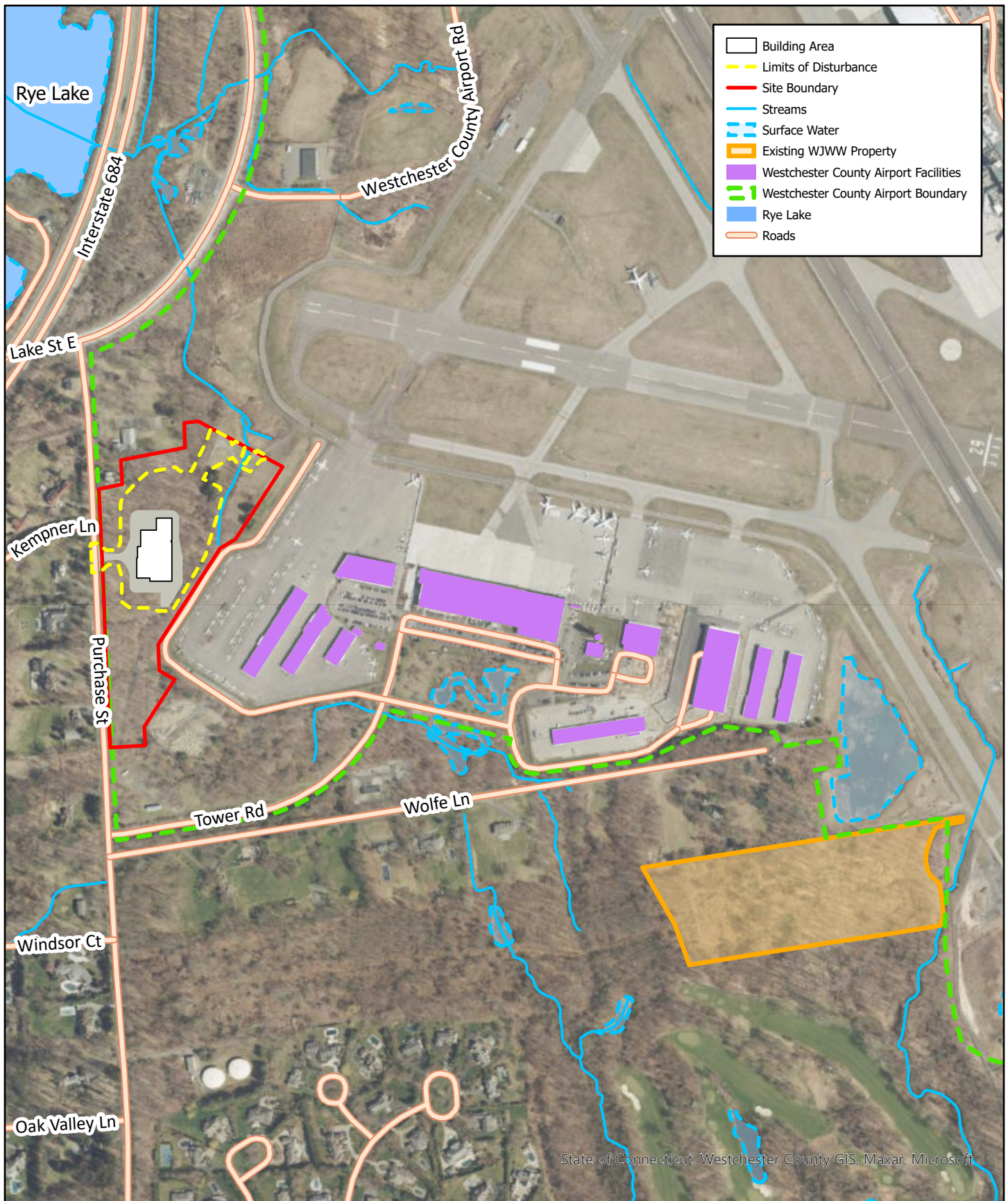


Figure A-1: Land Swap Properties

Sources: Westchester County GIS, 2020
Scale: 1 inch equals 600 feet



Westchester Joint
Water Works
Water Filtration Plant

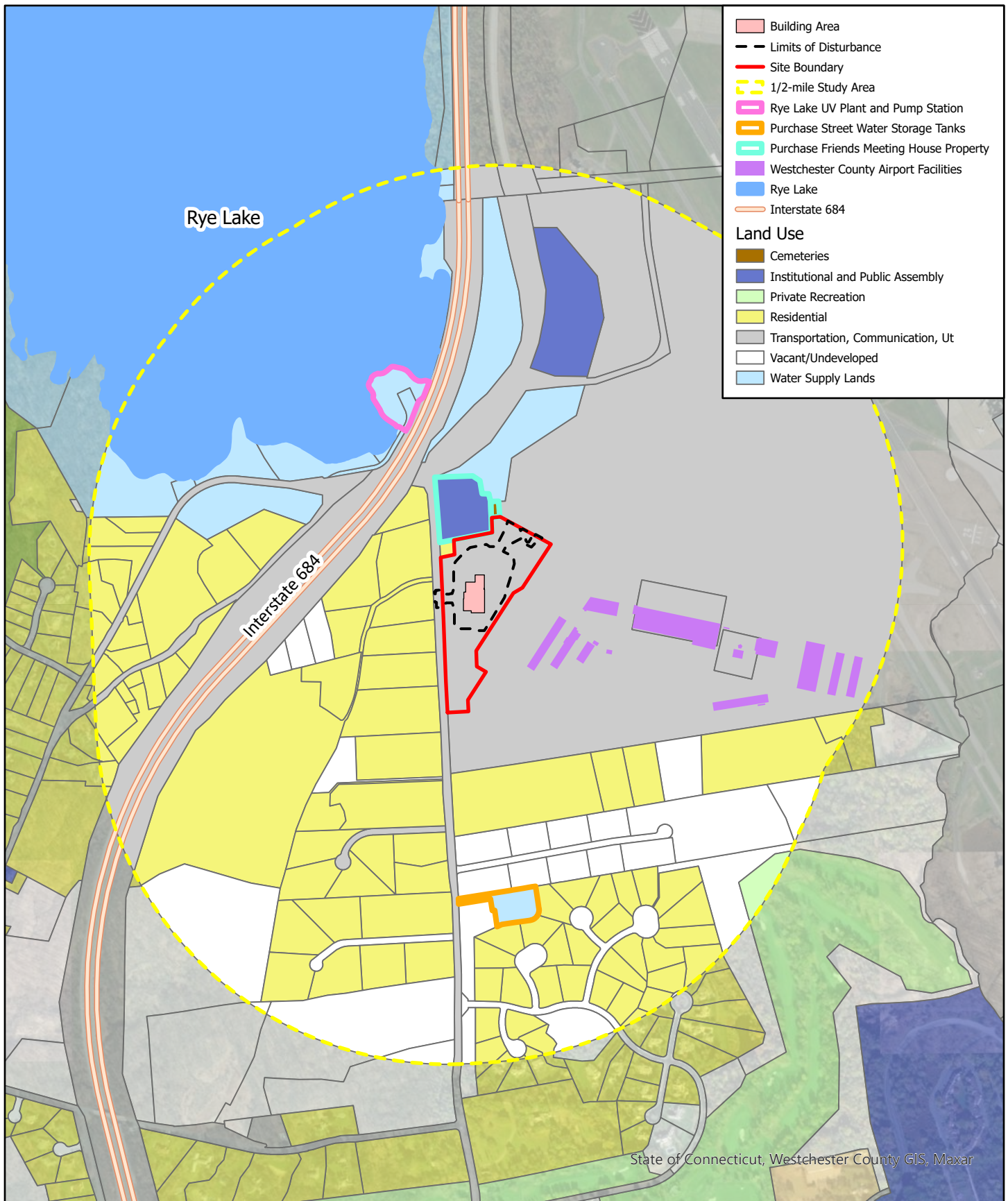


Figure A-2: Land Use

Sources: Westchester County GIS, 2020
Scale: 1 inch equals 1,000 feet



**Westchester Joint
Water Works
Water Filtration Plant**

There are residential and religious uses within the study area and are located adjacent to or in close proximity to the existing Westchester County Airport, Interstate 684, WJWW's Rye Lake Pump Station and UV facility, and the water storage tanks. While the Project Site would include a water supply utility, the development of the Proposed Action with such use would minimally alter the existing land use adjacent to or near the current religious or residential properties within the ½ mile study area. The Proposed Action would convert land categorized as a transportation utility (Airport) to a water utility use. Although the Project would increase the land area occupied by utility related structures and infrastructure, the filtration plant is designed to function with minimal daily operations of up to a maximum of two (2) on-site employees at any given time and approximately two (2) to three (3) truck per week to remove solid waste. In addition, nine (9) truck trips per month are proposed for delivery of water treatment chemicals. The Project Site, currently vegetated, would be cleared to the minimum extent necessary to construct the facility, its associated infrastructure, and an entrance onto Purchase Street. However, the Project proposes to include a vegetative buffer along the perimeter of the property, and the existing stone wall along Purchase Street would be retained to the maximum extent practicable. Nevertheless, as discussed in **Chapter 3-B, Community Character and Visual Impacts** of this DEIS, it is expected that the proposed filtration plant, its Purchase Street driveway and its security gate would be visible from Purchase Street in the area of the driveway curb cut.

The Exchange Parcel, currently vacant and contiguous to the Westchester County Airport, would become part of the Westchester County Airport property. There are no plans by Westchester County to develop this parcel for any land use beyond wetland restoration or stormwater management.

c) MITIGATION MEASURES

The WJWW Filtration Plant would add a water supply utility use to an area that is currently owned and managed by Westchester County Airport, a transportation utility. The Proposed Action is consistent with the surrounding utility land uses or land associated with utility land uses, which encompasses 58 percent of the ½ mile study area. The Project Site is currently vegetated and would be cleared to the extent necessary. Given the consistency of the Project Site's current and proposed utility land use and the non-intrusive operations required for the Proposed Project, no significant adverse impacts are anticipated, and no additional mitigation measures are necessary.

II. ZONING

a) EXISTING CONDITIONS

The Project is located within the Special Business District (SB-O), regulated in Chapter 235, Zoning, of the Town/Village of Harrison Code (**Figure 3A-3, Zoning**). Lands directly south and west of the Project Site are zoned R-2, One-Family Residence. Remaining lands within ½ mile of the site are zoned R-1 and R-2A, all One-Family Residence districts.

The SB-O district is a business district, Permitted uses are identified in the Table of Use regulations, Attachment 3 of Chapter 235, and the dimensions for uses are regulated in Attachment 4, Table of Dimensional Regulations of Chapter 235. The Town/Village of Harrison use table classifies uses as "P," (Permitted), "SE," (Special Exception Use) and "X," (Prohibited Use). Unlisted uses are prohibited.

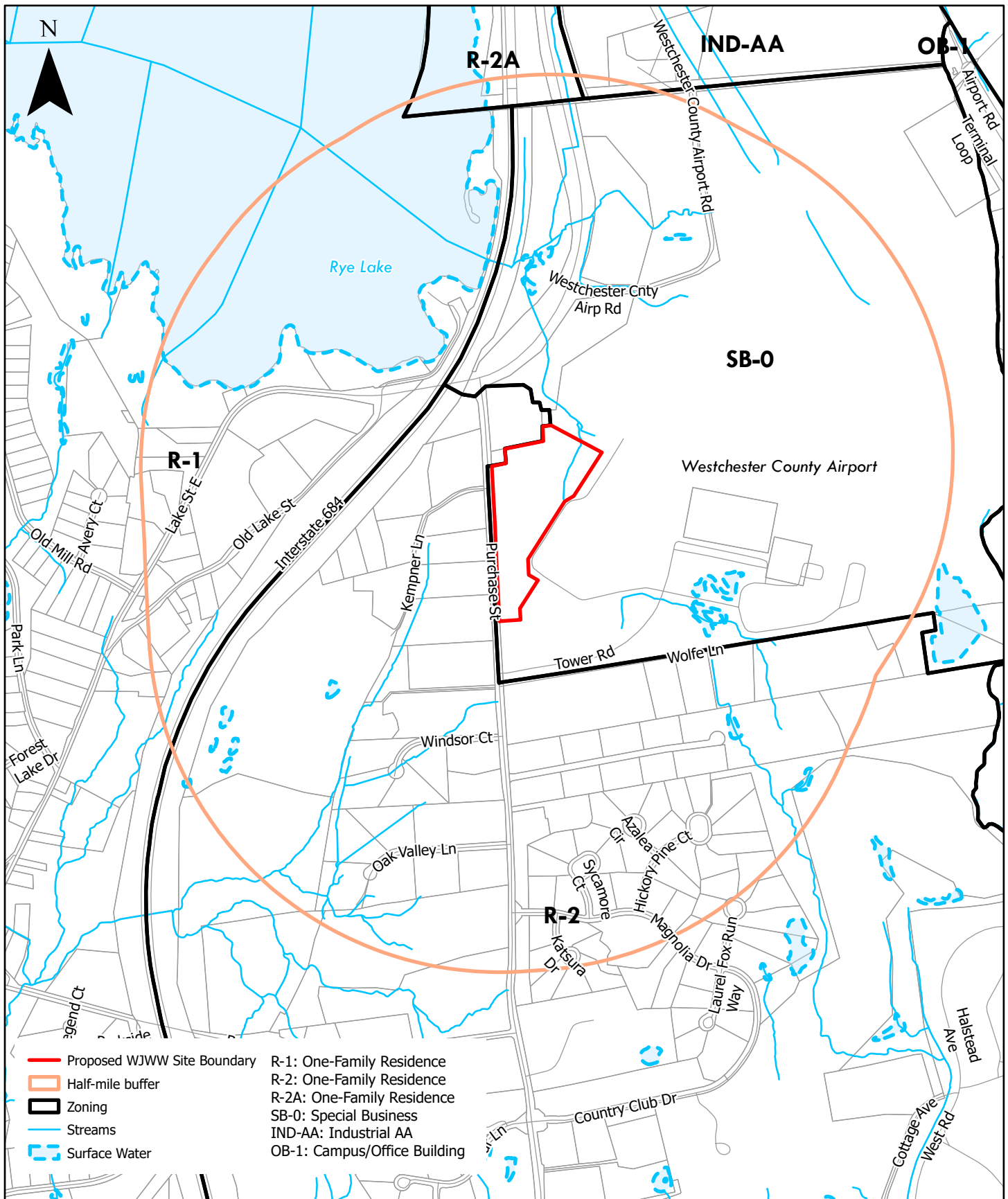


Figure A-3: Zoning

Sources: Westchester County GIS 2020
Scale: 1 inch equals 1,000 feet

Westchester Joint
Water Works
Water Filtration Plant

Within the SB-O zoning district, a public utility structure is designated a Special Exception Use. In addition, note (d) of Attachment 3 states *“All properties owned or operated by Westchester Joint Water Works shall be permitted by special exception use permit.”* Public utility structures are permitted in all residential zoning districts by special exception use permit as well.

Uses in the SB-O zoning district must adhere to the dimensional standards outlined in **Table 3A-1**.

Table 3A-1: SB-O Dimensional Standards, §235 Town/Village of Harrison Zoning Chapter	
Dimension	Requirement
Minimum Lot Area	5 acres
Maximum Building Coverage	20%
Minimum Lot Width	300 ft.
Minimum Front Yard	50 ft.
Minimum side yard adjoining a residence district *	100 ft.
Minimum side yard adjoining a business district	75 ft.
Minimum rear yard	100 ft.
Front Buffer adjoining a residence district*	50 ft.
Front Buffer adjoining a business district	25 ft.
Side and Rear Buffer adjoining a residence district	50 ft.
Side and Rear Buffer adjoining business districts	50 ft.
Maximum Height	55 ft. **
	4 stories
* This regulation applies to the Filtration Facility.	
**The highest elevation of the measured building height of buildings located within two hundred (200) feet of any residence district shall be no greater than the highest elevation permitted in adjoining residence districts, using the average grade at the common property line as the datum for such measurement.	

Article V of Town/Village Zoning chapter regulates Special Exception Uses. Section 235-14, General procedures, and conditions, outlines the Planning Board procedure for Special Exception Uses. Key to the Planning Board review process is subsection E which outlines the major considerations for special exception uses:

“The Planning Board shall not approve a special exception use unless it shall determine that, under the conditions and limitations to be imposed pursuant to § 235-16, General considerations, and §235-17, Special conditions and safeguards for specific uses, and any other provisions of law:

- (1) The use will not prevent or substantially impair either the reasonable and orderly use or the reasonable and orderly development of other properties in the neighborhood.*
- (2) The disadvantages to the neighborhood from the location of such use at the property are outweighed by the advantage to be gained by either the neighborhood or the town by authorizing the special exception use permit.*
- (3) The health, safety, welfare, comfort, convenience, and order of the town will not be adversely affected by the authorized use.*
- (4) Such use will be in harmony with and promote the general purposes and intent of this chapter as stated in § 235-2.”*

Upon the Planning Board's decision, the application is transmitted to the Town Board for a public hearing and review of the application (§§235-14(G) and (H)). After a public hearing, "the decision of the Planning Board shall be deemed confirmed unless the Town Board reverses or modifies such decision... by a majority vote of the Full Town Board, within 30 days after the Town Board public hearing" (§235-14(I)). No building permit can be issued by the Building Inspector unless the Planning Board's decision has been confirmed by the Town Board. Building permit authorization expires after 90 days after the Town Board action and three 90-day extensions may be granted by resolution of the Town Board (§235-14(J)).

Section 235-17(M) provides special conditions and safeguards for public utility facilities which are outlined as follows:

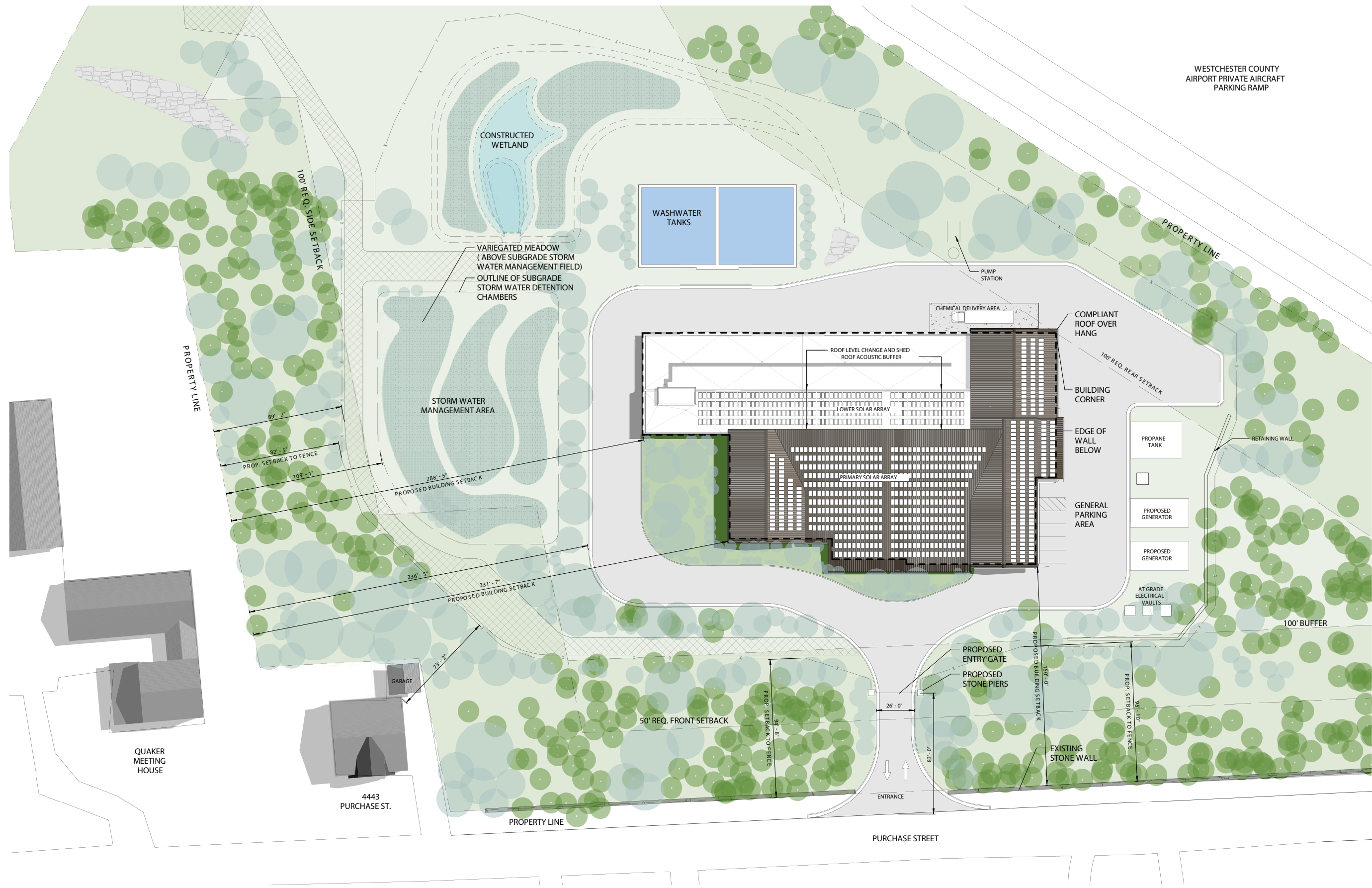
1. *"In any residence district, such facilities shall not include any business office, repair services or storage of supplies and equipment, except as an accessory to the principal use.*
2. *The minimum lot area shall conform to the district in which it is located, but in residence districts shall not be less than one acre.*
3. *All aboveground buildings, structures or equipment installations, exclusive of transmission lines, shall conform to the minimum yard requirements for the district in which they are located, but in residence districts shall not be less than 50 feet from any lot line.*
4. *Outdoor installations shall be adequately fenced and landscaped.*
5. *Landscape and terrain screening shall be provided to ensure compatibility with surrounding land uses.*
6. *Outdoor lighting shall be limited to that necessary for operational and security reasons and shall be so designed as to not be incompatible with surrounding land uses.*
7. *Major transmission lines shall be brought into or off the site by underground cables."*

In addition, §235-24.1 requires a 100-foot roadway buffer setback along Purchase Street which "shall be maintained in its natural state or landscaped, in accordance with the determination of the planning board, and shall be maintained by the property owner.... A permanent open space preservation easement may be required by the Planning Board."

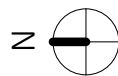
Section 235-26(D), fences and walls in business districts, limits front yard fence height to four (4) feet and side or rear yard fence height shall not exceed eight (8) feet in height.

b) POTENTIAL IMPACTS

The Project would meet the special conditions of §235-17(M) as demonstrated in **Figure 3A-4, Illustrative Site Plan (Appendix C, Site Plans)** and would comply with the dimensional requirements for the SB-O district described above. As the Project Site is bordered to the north and west by a residential district, a front and side yard buffer of 100 feet is observed. The proposed dimensional conditions for the Project are shown in **Table 3A-2**.



1 ILLUSTRATIVE SITE PLAN
1" = 30'-0"



LEGEND:			
	EXISTING TREES		VARIEGATED VEGETATION
	PROPOSED GRASS PAVERS		PROPOSED TREES AND LANDSCAPED SCREENING

Figure A-4, Illustrative Site Plan

Source: Nexus Creative Architecture Planning Design, March 18, 2022

0 30 60

Westchester Joint
Water Works



NPV

Table 3A-2: SB-O Dimensional Standards, Proposed Project

Dimension	Requirement	Proposed
Minimum Lot Area	5 acres	13.4 acres
Maximum Building Coverage	20%	6.5%
Minimum Lot Width	300 ft.	1,166 ft.
Minimum Front Yard	50 ft.	> 100 ft.
Minimum side yard adjoining a residence district *	100 ft.	> 100 ft.
Minimum side yard adjoining a business district	75 ft.	> 75 ft.
Minimum rear yard	100 ft.	100 ft.
Front Buffer adjoining a residence district*	50 ft.	50 ft.
Front Buffer adjoining a business district	25 ft.	N/A
Side and Rear Buffer adjoining a residence district	50 ft.	> 50 ft.
Side and Rear Buffer adjoining business districts	50 ft.	> 50 ft.
Maximum Height	55 ft. ** 4 stories	30 ft.

* Applies to the Filtration Facility.

**The highest elevation of the measured building height of buildings located within two hundred (200) feet of any residence district shall be no greater than the highest elevation permitted in adjoining residence districts, using the average grade at the common property line as the datum for such measurement. Height is defined in §235-4 as the vertical distance measured in feet or stories from the average finished grades measured along a line offset 10 feet from the periphery of the building or structure to the top of a flat roof or of a mansard roof or the average height of a pitched roof.

The Project would require two variances. Variances would be sought from the Zoning Board of Appeals for the height of the security fence, which must be ten (10) feet in height to meet the security requirements of New York State Department of Health; and to locate a gate at the entrance of the site, within the 100-foot buffer along Purchase Street. This gate is also required to ensure the safety and security of the Project Site.

The Project would meet the general and special conditions of §§ 235-14 and 235-17 (M) of the Zoning chapter for a special exception use. The Proposed Action is consistent with the surrounding utility land uses. The Proposed Action would not adversely affect the reasonable and orderly development of other properties in the neighborhood. The Town/Village of Harrison would be obtaining a public benefit, filtered drinking water, which would improve the health, safety, and welfare of its residents.

c) MITIGATION MEASURES

The WJWW filtration plant is a use permitted by Special Exception Permit in the SB-O zoning district. The Proposed Action complies with the zoning in terms of use and bulk and seeks two minor area variances, for the height of the fence and locating the entrance gate within the 100-foot buffer. Both requested variances are required for the safety and security of the Project Site. The visual impacts of the fence and gate where they are visible from public vantage points, is discussed in **Chapter 3-B, Community Character and Visual Impacts** of this DEIS. As a result of the Proposed Action's overall conformity to the zoning requirements of the SB-O, no additional mitigation measures are necessary.

III. POLICY DOCUMENTS

a) EXISTING CONDITIONS

2013 Town/Village of Harrison Comprehensive Plan

The Town/Village of Harrison adopted its Comprehensive Plan in December of 2013. The plan includes existing conditions analyses of the Town, and primarily focuses on the Platinum Mile, Downtown Central Business District, and specific residential neighborhoods. Topics include the following:

- Residential Controls
- Environment and Open Space
- Transportation and Parking
- Downtown Central Business District
- Downtown Harrison
- West Harrison
- Purchase
- Platinum Mile

The Project Site is located within the Purchase neighborhood area as identified by the plan. Relevant recommendations from the plan, including town wide recommendations, are summarized below:

- Seek ways to use energy-efficient products and incorporate green building practices in new municipal projects and consider updating the Town ordinance to encourage sustainable design practices (pg. 7).
- Retain mature trees, stone walls, and other natural and built features which contribute to the character of the [Purchase] area (pg. 7).
- Limit curb cuts along Anderson Hill Road, Lincoln Avenue, and Purchase Street (pg. 7).

The plan does not include specific recommendations for the Westchester County Airport, WJWW or the provision of water or water utilities in the Town/Village of Harrison. WJWW is discussed briefly in the utilities section of the plan identifying it as the Town's water provider (pg. 52). The Westchester County Airport is discussed as a prominent land use and economic driver, and its relationship to the County designated Critical Environmental Area called the "60 Ldn Noise Contour."

The Comprehensive Plan notes on pages 44-45,

Since 1985, commercial traffic at the airport has been restrained by operation of a Terminal Capacity Agreement. These restrictions were further extended and signed into Westchester County law in September 2004, into what is known as the Terminal Use Regulation. This limits the number of passengers and the number of flights to four flights per half-hour (either arriving or departing). ...The level of flights at the airport has never approached the maximum limit....

There are no plans for expansion at present, but there are continuing plans for improvements to safety, efficiency and environmental performance....

There are no land use recommendations in the 2013 Plan related to the provision of water or water utilities, Westchester Joint Water Works operations, or the Westchester County Airport in the Town/Village of Harrison.

Westchester County 2017 Airport Master Plan

The 2017 Airport Master Plan reviews the Airport layout and assesses the need for future improvements to the airport facilities. Phase 1 of the Master Plan includes the expansion of General Aviation Hangars, and parking in the area adjacent to the Project Site. As depicted in the Master Plan, the expansion of these facilities would slightly encroach into the proposed Project Site.

Since the adoption of the Airport Master Plan, the additional General Aviation Hangars, and the parking areas shown in **Figure 3A-5, 2017 Airport Master Plan Preferred Layout** have been constructed per Phase I of the Draft Master Plan. As constructed, these new facilities do not encroach into the proposed Project Site. Construction of the other improvements identified in Figure A-5 were to take place in three (3) phases with the third phase projected to occur in 2030. No expansion is proposed for the area adjacent to the Exchange Parcel.

Westchester County submitted a letter (**Appendix B, Legal Documentation**) on July 6, 2018, to the Federal Aviation Administration stating that the County is undertaking a supplemental Airport Master Plan process. There are currently no drafts of this supplemental plan available for public review.

b) POTENTIAL IMPACTS

2013 Town/Village of Harrison Comprehensive Plan

The Proposed Action is consistent with the recommendations of the Town/Village of Harrison Comprehensive Plan.

On page 7 of the Comprehensive Plan, it states *“seek ways to use energy-efficient products and incorporate green building practices in new municipal projects and consider updating the Town ordinance to encourage sustainable design practices.”*

The Project would incorporate green-building and energy-saving design components as outlined in **Chapter 4 Other Environmental Impacts** of this DEIS.

Page 7 of the Comprehensive Plan also states, *“retain mature trees, stone walls, and other natural and built features which contribute to the character of the [Purchase] area, and limit curb cuts along Anderson Hill Road, Lincoln Avenue, and Purchase Street.”*

The landscape plan (**Appendix C, Site Plans**) pays particular attention to the retention of existing buffer vegetation and enhancement of the landscape using a native planting plan. The gateway to the site from Purchase Street incorporates the surrounding landscape and architectural vernacular by incorporating a stone wall and trees which flank the entry drive, creating a shaded, screened, and natural entrance, consistent with the surrounding neighborhood. A single curb cut is proposed for the Project Site, which is not excessive for a new individual use. This curb cut would be one of three curb cuts along an approximately 2,000-foot stretch of Purchase Street from the intersection at Lake Street to Tower Road, which receives minimal traffic to the Airport.

Westchester County 2017 Airport Master Plan

The Project Site is not considered a critical area of expansion within the *Westchester County 2017 Airport Master Plan*. In addition, the Airport Master Plan is currently being updated by Westchester County and the County. The County has provided WJWW with a non-binding Memorandum of Understanding (**Appendix B, Legal Documentation**) for the Proposed Action.

c) MITIGATION MEASURES

The Proposed Action is not anticipated to have any significant adverse impacts to the land use in the Town/Village of Harrison and along Purchase Street. The Proposed Action is consistent with the Town/Village zoning and the Comprehensive Plan. The change in the land use at the Project Site from airport use to a utility infrastructure use would not result in significant adverse impacts with respect to land use, zoning, and public policy. The Proposed Action would not impact any proposed Airport improvement projects and it would incorporate landscaping and design that are contextual with the surrounding neighborhood. The Proposed Action would be consistent with the Comprehensive Plan; therefore, no additional mitigation measures are necessary.

B. COMMUNITY CHARACTER AND VISUAL IMPACTS

I. EXISTING CONDITIONS

a) PROJECT SITE AND SURROUNDING LAND USES

The Project Site is currently undeveloped and vegetated. Today, the Project Site consists primarily of Successional Southern Hardwood forest vegetation, interspersed with remnants of prior site disturbance from past uses. Dominant tree species include Norway maple (*Acer platanoides*) and black locust (*Robinia pseudoacacia*), which comprise approximately 55 percent of the trees identified, both of which are located on the NYSDEC invasive species list.¹² A low stone wall lines the western property boundary of the Project Site along Purchase Street and is likely associated with a dwelling that was located just south of the subject property until the 1940s. An intermittent south-to-north flowing stream and adjacent emergent freshwater wetland are present near the easterly property boundary. A small clearing lined by invasive Norway maple trees and a concrete slab are present near the center of the Project Site. Slopes generally descend from south to north at an average gradient of 2.5 percent. The northeastern portion of the Project Site has a small area containing steep slopes with grades ranging between 15 percent and 25 percent and a small area that has slopes with grades exceeding 25 percent. Views of the interior of the Project Site are mostly obscured from public view by deciduous forest growth.

The adjacent 702-acre airport to the east of the Project Site contains two landing strips, taxiways, and several large one-, two- and three-story warehouse-style buildings used as hangers and other airport related uses. Airport access roads, expansive asphalt parking lots for automobiles and airplanes, and a control tower are also present and contribute to the overall visual setting east of the Project Site. The airport is generally flat or gently sloping and consists mostly of a mix of pavement, buildings, and mowed grass.

Land to the west of the Project Site consists primarily of Purchase Street which forms the westerly boundary of the property, low-density/large lot R-2-zoned one-family residential development, and fragmented woodlands with scattered lawns and landscaping. Farther to the west is Interstate 684 and to the northwest and immediately west of Interstate 684, is Rye Lake.

Land to the north of the Project Site include a two (2)-story wood-frame one-family home, the Purchase Friends Meeting House, a small cemetery at the southeast corner of the intersection of Purchase Street and Lake Street, and fragmented woodlands, lawns, and landscaping.

Land to the south of the Project Site includes two airport utility buildings, Tower Road, Wolfe Lane, a one-family home, the north end of the Golf and Country Clubs of Purchase, a WJWW water supply facility containing a pump station and two large water storage tanks, and woodlands.

Figure 3B-1, Project Site and Surrounding Land Aerial Map, is an aerial photograph showing the Project Site, airport, and other noteworthy features that contribute to the visual character and setting of the area.

¹² See https://www.dec.ny.gov/docs/lands_forests_pdf/isprohibitedplants2.pdf

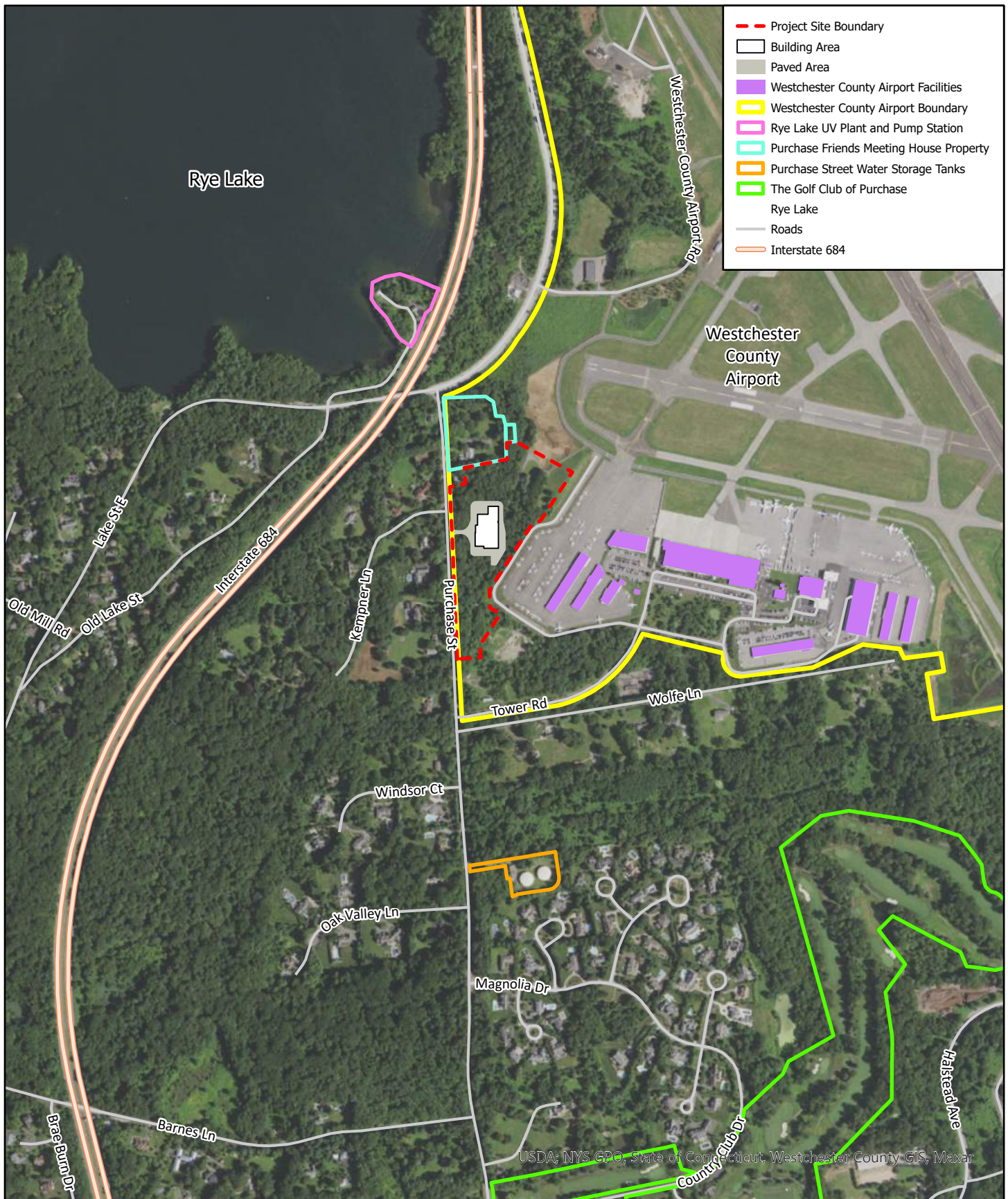


Figure 3B-1: Project Site and Surrounding Land Aerial Map

Sources: Westchester County GIS, 2020
Scale: 1 inch equals 900 feet



Westchester Joint
Water Works
Water Filtration Plant

b) PURCHASE STREET CORRIDOR

The approximately 3,525 feet (0.67 mile) stretch of Purchase Street (NYS 120) between Oak Valley Lane and Lake Street is a two-lane (one lane in each direction) north/south oriented roadway. The 13.4-acre Project Site has approximately 1,620-foot (0.31-miles) of frontage along Purchase Street, which would provide the single access to the Project Site and is, along with the airport, the primary vantage point, from which the property is seen by the public. The roadway provides one 11-foot-wide travel lane in each direction. The posted speed limit along this section of Purchase Street is 45 miles per hour. In the vicinity of the Project Site, there are no sidewalks, curb ramps, or on-street parking in either direction of Purchase Street.

East Side of Purchase Street

As stated previously, the east side of Purchase Street, including the Project Site, consists primarily of deciduous forest from Oak Valley Lane, north, to Lake Street, except for limited areas of development and clearing. South of the Project Site at the northeast corner of Purchase Street and Tower Road there are two utility structures situated within a small open area of grass. A one-family home is present south of the utility structures, at the southeast corner of the intersection of Purchase Street and Wolfe Lane. A stone wall associated with this property borders Purchase Street.

North of the Project Site, a stone wall, landscaping, and signage are present along the east side of Purchase Street (**Figure 3B-2, View looking east from Purchase Street**). The approximately 1,620 feet of Project frontage along Purchase Street can be primarily described as deciduous woodlands. Two fire hydrants were also noted on the east side of Purchase Street, one which is along the frontage of the Project Site.



Figure 3B-2: View looking east from Purchase Street

North of the Project Site, on the east side of Purchase Street, is a two (2)-story detached one-family home and north of that the Purchase Friends Meeting House (**Figures 3B-3 to 3B-4, views looking east to one-family residence**). A small cemetery exists to the north of the Meeting House at the southeast corner of Purchase Street and Lake Street. The residential property and Purchase Friends Meeting House have open lawn areas and the cemetery has scattered trees and grass among the grave markers (**Figures 3B-5 to 3B-6, views looking east to the Purchase Friends Meeting House**).



Figure 3B-3: View looking east from Purchase Street to the neighboring one-family residence



Figure 3B-4: View looking east from Purchase Street to the neighboring one-family residence



Figure 3B-5: View looking east from Purchase Street to the Purchase Friends Meeting House



Figure 3B-6: View looking east from Purchase Street to Purchase Friends Meeting House

West Side of Purchase Street

The west side of Purchase Street from Oak Valley Lane to Lake Street is lined by utility poles, overhead utilities, intermittent pole-mounted streetlights, and low density one-family residential development, most of which is setback from the road and visually buffered by stone walls, fencing, or vegetation. The west side of Purchase is also characterized by widely spaced driveway entrances, stone driveway entry columns, and driveway gates, property fences and stone walls, and a mix of landscaping, lawns, and fragmented forest. **Figures 3B-7 and 3B-8** show views along Purchase Street from Oak Valley Lane and Windsor Court, respectively. There is also one dead-end residential street (Kempner Lane) off of the west side of Purchase Street, opposite the Project Site, which serves a small low density one-family residential neighborhood.

The Purchase Street and Oak Valley Lane intersection is mostly wooded. Belgian block curbing lines Oak Valley Lane and a stone wall lines the north and south sides of the street entrance along Purchase Street. Nearby to the north of Oak Valley Lane is a residential driveway off Purchase Street. Northeast of the Oak Valley Lane intersection is the WJWW water supply facility which is comprised of a building and two water storage tanks. Several large boulders line the south side of the entrance. There is a facility building that is set back approximately 275 feet from the road and the water storage tanks are 330+ feet from the road. Part of the building can be seen from the street looking east down the driveway; however, a deep wooded buffer blocks views of most of the facility from Purchase Street.



Figure 3B-7: View of Purchase Street from Oak Valley Lane



Figure 3B-8: View of Purchase Street from Windsor Court

c) PURCHASE STREET AND LAKE STREET INTERSECTION

The Purchase Street and Lake Street intersection is mostly undeveloped (**Figure 3B-9, View from the intersection of Purchase Street and Lake Street**). Lake Street is a two-lane road (one lane in each direction) west of the intersection and four lanes (two lanes in each direction) east of the intersection. The Purchase Friends Meeting House cemetery is located at the southeast corner of the intersection but is mostly screened from view from Lake Street by deciduous woodlands. A one-family residence with front porch and a small open lawn is located on the west side of Purchase Street across from the cemetery and near the street. The area north of the intersection is wooded and is lined by a guardrail and traffic signage.



Figure 3B-9: View from the intersection of Purchase Street and Lake Street

d) PURCHASE STREET AND TOWER ROAD INTERSECTION

The northeast corner of the intersection of Purchase Street and Tower Road, south of the Project Site, there are two small windowless one-story utility structures, lawn, and woodlands. The perimeter of the site is bordered by a chain-link fence. There are two wooden utility poles adjacent to the site along Purchase Street, outside of the fenced area, and a large pad mounted utility cabinet on a low berm between the two poles (**Figure B-10, View from the intersection of Purchase Street and Tower Road**). A fire hydrant is present on Tower Road, near the northeast corner of Purchase Street and Tower Road. There is a shallow drainage ditch, swale or grassed shoulder containing cobble riprap in a few areas along the east side of Purchase Street.



Figure 3B-10: View from the intersection of Purchase Street and Tower Road

e) *VISUAL RESOURCES*

Existing visual conditions on and near the Project Site are described above and the possible presence of significant visual resources and noteworthy features that contribute to the character of the community are discussed below. As part of the analysis, the New York State Office of Parks, Recreation and Historic Preservation's (NYSOPRHP's) Cultural Resource Information System (CRIS) was reviewed, a Phase 1 Archaeological Survey of the Project Site was completed, and coordination with the NYSOPRHP to request input on historic landmarks and structures of architectural significance was conducted (**Appendix K, Historic and Archaeological Resources**). Based on these actions, it was determined that no historic, cultural, archaeological, or architectural resources of significance are present on or near the Project Site. **Chapter 3-J, Archeological and Historical Resources**, of this DEIS provides additional details on the investigations of the Project Site. One noteworthy structure in the area, the Purchase Friends Meeting House, was previously assessed by NYSOPRHP and was classified as "Not Eligible" for listing on the State and Federal Registers of Historic Places. As such, the building and site are not considered significant from State or Federal perspectives.

The Purchase Friends Meeting House does, however, have some local significance and is considered by the Harrison History Preservation Board to be a local historical landmark despite it being a relatively recent construction.¹³

¹³ <https://www.harrison-ny.gov/historian>

The Town/Village's website notes that:

*New owners [of land formerly comprising the Harrison's Purchase] were Quakers who settled in Purchase where they built their first Meeting House in 1727. This was later destroyed by fire, but a replica was erected on the same foundation, also to be destroyed by fire on January 1, 1973. The Friends now meet in another building near the site, which has been cleared.*¹⁴

Further investigation into the potential for visual resources or community character impacts revealed that the Project Site is not within, along, adjacent, or near any designated:

- Scenic Areas of Statewide Significance;
- Wild, Scenic or Recreational Rivers;
- New York State Scenic Roadways;
- State Forests or State or local parks;
- State or National Scenic Trails or Natural Scenic Trails;
- State or local scenic or visually significant resources; or
- Unique topographic or geologic features.

A search of designated Critical Environmental Areas (CEA) in the area did reveal that the site and surrounding area are within the Westchester County Airport 60 Ldn Noise CEA; however, this CEA deals primarily with potential negative effects of noise on community character from airport operations rather than issues of visual and aesthetic impacts. According to Chapter 694, Critical Environmental Areas, of the Laws of Westchester County "the County CEA designation of the area within the 60 Ldn contour is for the purpose of insuring that the noise impact compatibility of proposed land uses would be assessed." See **Chapter 3-L, Noise** of this DEIS for more information on the Airport 60 Ldn Noise CEA.

II. POTENTIAL IMPACTS

There are no state or federally designated landmarks and no designated visual resources onsite, contiguous to or in the immediate area of the site that would be significantly affected by the Proposed Project. As noted previously, the Purchase Friends Meeting House has some local historical significance due to the group's long history in the Town/Village. However, based on the Project location; siting of the proposed building; compliance to required yard setbacks and maximum building height standards; proposed landscaping, vegetative screening, and buffers; exterior light controls, and architectural design, significant impacts are not expected to this land use or any other use or feature. A visual impact analysis of the filtration plant was undertaken from 11 different viewpoints (**Figure 3B-11, Visual Analysis Locations**). The results are presented in **Appendix D, Visual Impact Analysis**. Views of the filtration plant would primarily be seen during the winter months and in close proximity of the Project Site. In views 5-8 of the visual analysis in **Appendix D, Visual Impact Analysis** the building can be observed. Careful consideration was made to strategically landscape the site to minimize the visual impacts of the filtration plant. This includes the planting of 302 new trees.

¹⁴ <https://www.harrison-ny.gov/historian/pages/harrison-legends-and-facts>

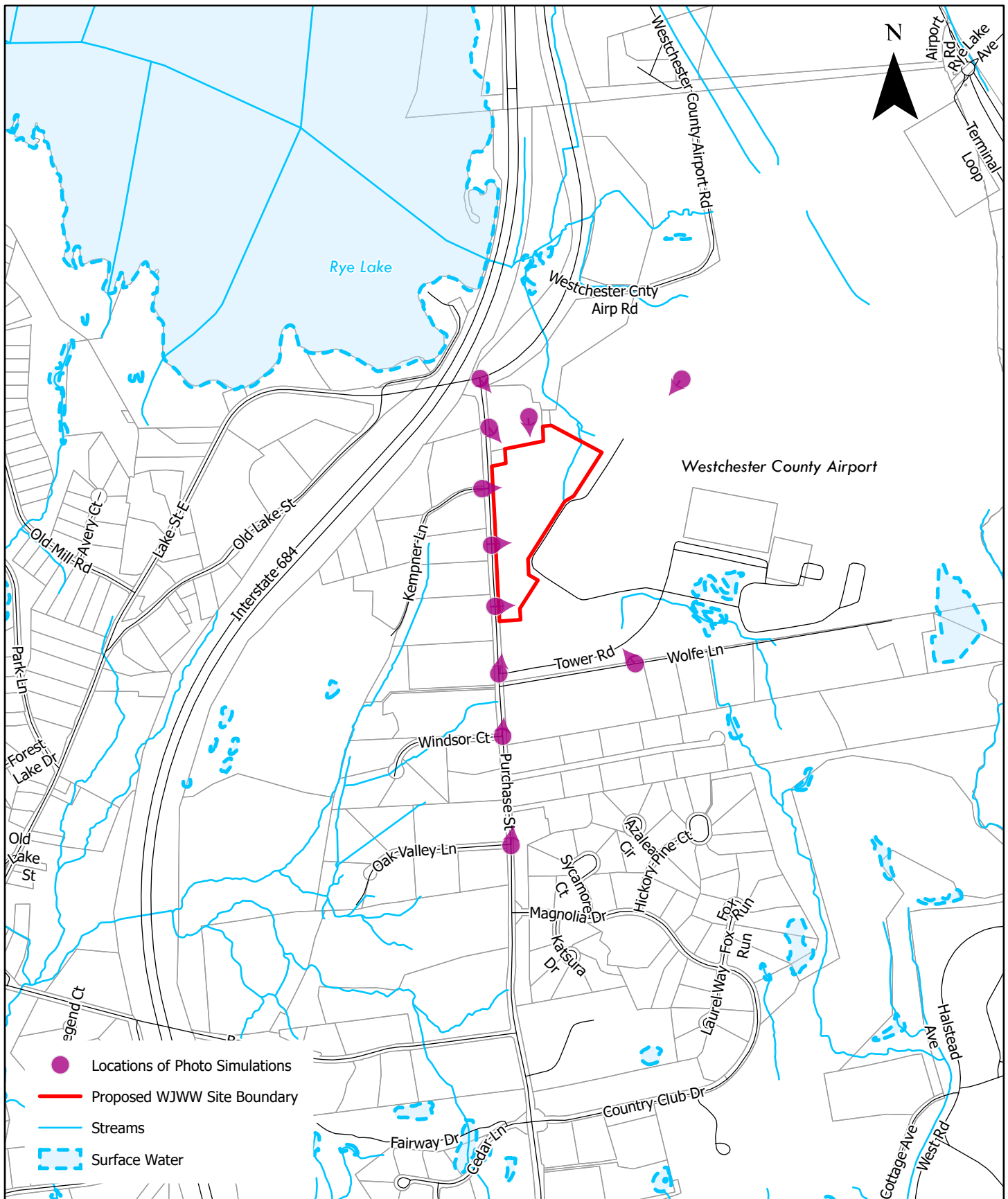


Figure 3B-11: Visual Analysis Locations

Sources: Westchester County GIS 2020;
Scale: 1 inch equals 1,000 feet

Westchester Joint
Water Works
Water Filtration Plant

Building Architecture

The proposed building would include exterior granite and quartzite stone veneer on part of the facade to match the stone walls along Purchase Street and stone pier accents would be constructed next to the property gate consistent with other development along the street. Neutral or muted building colors (cadet grey and almond suede siding) would be used to help the structure blend in and be more compatible with its surroundings. A gabled roof line would be provided, and front façade glazing, and translucent panels would be installed to improve architectural quality and reduce visual monotony.

Appendix D, Visual Analysis contains building elevations and visual simulations of post construction conditions.

The height of the proposed building, based on the average height of the pitched roof, would be 30 feet in accordance with Town/Village Code (§ 235-4 and the Town/Village's "Business Districts Table of Dimensional Regulations") with a maximum height of 39 feet at the peak of the roof. The building would be located near the center of the property and would be compliant with the Town/Village's yard setback requirements so that it does not physically or visually encroach on to adjacent property. The maximum height and siting of the building would be such that mature trees are expected to screen the full vertical profile of the structure, including long distance views of the site. The building would be further screened by existing mature trees and a dense woodland understory, and proposed landscaping, which includes both deciduous and evergreen species.

The average height of the building would be comparable to neighboring buildings as shown in **Figure B-12, Height Comparison** and additional detail is provided in **Appendix D, Visual Impact Analysis**. Views of the building from the street would be largely obstructed and parts of the site would be landscaped and designed to assimilate into the natural and landscaped environments. Additional plantings are proposed along the northerly property line to help block views of the Project Site from the Purchase Friends Meeting House and adjacent one-family home.

Landscaping

The main views of the building would be from Purchase Street looking east down the site entrance, but extensive landscaping would be planted at key locations throughout the Project Site, including 302 primarily native deciduous and evergreen trees (**Figure B-13, Landscape Plan**). Shrubs and herbaceous plants would provide screening, scenic variety, and would beautify the Project Site and development. Many of the plantings would be planted along the site entrance and in front of the proposed building as infill and to soften the building's appearance from the primary view corridor of the site. Plants proposed along the sides of the driveway entrance include a mix of ornamental shrubs and grasses. A 100-foot-deep wooded buffer consisting of existing growth and new plantings would be present within the frontage of the property where only a 50-foot building setback is required. Species proposed to replace and supplement parts of the wooded buffer include white oak (*Quercus alba*), American hornbeam (*Carpinus caroliniana*), American holly (*Ilex opaca*), American sweetgum (*Liquidambar styraciflua*), Southern magnolia (*Magnolia virginiana*), eastern redbud (*Cercis canadensis*), eastern red cedar (*Juniperus virginiana*), and red chokeberry (*Aronia arbutifolia*). Additional trees shrubs, plants, and vines would be planted along the front façade of the building to further screen the structure and enhance its physical attractiveness. The building would be visible from Purchase Street from the driveway access. A black ornamental security gate would be visible from this vantage point as well. The three remaining sides of the building including near the property's north and northeasterly property boundaries would also be augmented with vegetative screening to increase the density of vegetation between the Project

Site and the adjacent home and Purchase Friends Meeting House. **Appendix C, Site Plans** contain detailed landscape and grading and drainage plans.

Outdoor Lighting

The outdoor lighting plan is designed to provide a safe and secure site and prevent light trespass, excessive glare, light pollution, and restricted visibility of the night sky (skyglow), adverse effects on nocturnal wildlife, and inefficient use of energy resources. The lighting plan strategically locates lighting only where it is essential or required, such as along walkways, building entrances, access ways, and critical emergency and security areas. Lighting would be shielded, directed downward, and equipped with motion sensors, photoelectric sensors, and automatic timers as allowed by NYS Building Code. All egress paths are required to remain illuminated at all times per the NYS Building Code. LED lighting would be installed, and all lighting would comply with NYS Energy Code. Maximum illumination at the interior of the property near the building would be 9.8 footcandles and there would be no encroachment of the exterior lighting onto the neighboring property boundaries. **Appendix C, Site Plans** contain detailed outdoor lighting plans.

The Town/Village does not have a separate ordinance or section of the Town/Village Code regulating outdoor lighting; however, two applicable standards from the Code were identified. Section 235-17(M)(6), of the Zoning chapter, requires that outdoor lighting for public facility uses “be limited to that necessary for operational and security reasons and shall be so designed as to not be incompatible with surrounding land uses.” The project design addresses this standard and would not result in any significant outdoor light-related visual, aesthetic, or nuisance impacts.

In addition, Section 235-18(A)(9) of Article VI, Supplemental Use and Dimensional Regulations, of the Zoning chapter states that “[n]o overall floodlighting or general area lighting shall be located in a required yard, except where required by law; further, any light source used for such purposes in other portions of a lot shall not be visible from the lot line and shall be so directed as to light only the ground area or building walls and not the general environment.” The proposed lighting design would meet this requirement.

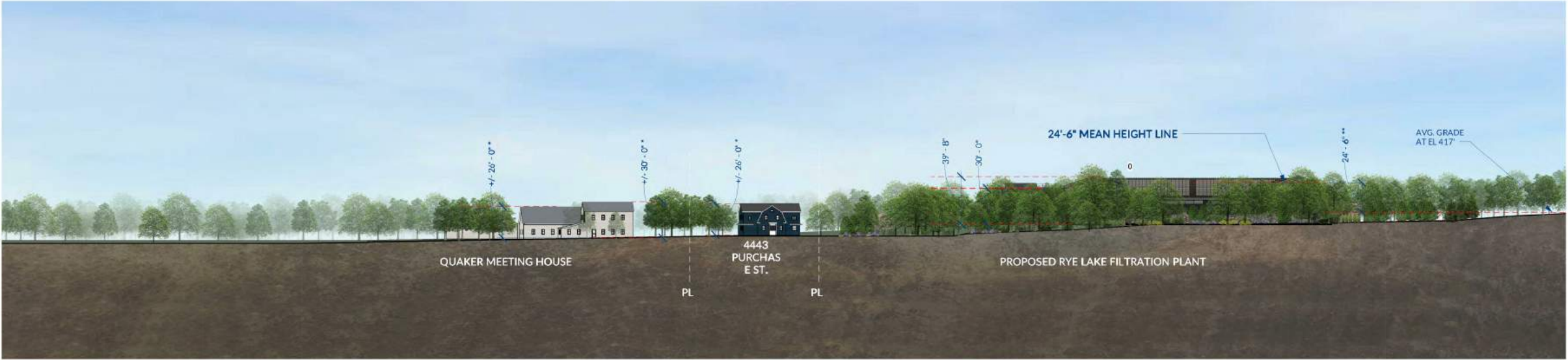
No significant impact is expected to any neighboring property from the proposed outdoor lighting plan, while still providing the lighting necessary to ensure a safe and secure environment.

Compliance with Federal Aviation Administration Requirements

The project team is aware of the need to coordinate its plans with the Federal Aviation Administration (FAA) to ensure that the proposed facility would not obstruct, impede, or otherwise adversely affect normal flight operations, and if an issue is identified, would address that concern to the satisfaction of the FAA prior to Project development. The FAA has been provided all SEQR materials to date and would continue to receive all required submissions.



1 SITE SECTION CROSSING PURCHASE ST. (A-A)
1" = 50'-0"



2 SITE ELEVATION FROM PURCHASE ST. (B-B)
1" = 50'-0"

NOTES

PL = PROPERTY LINE
CL = CENTERLINE

* DISTANCES ARE PROFESSIONALLY APPROXIMATED BASED ON GRAPHICS OBTAINED FROM GOGGLE EARTH & WESTCHESTER GIS

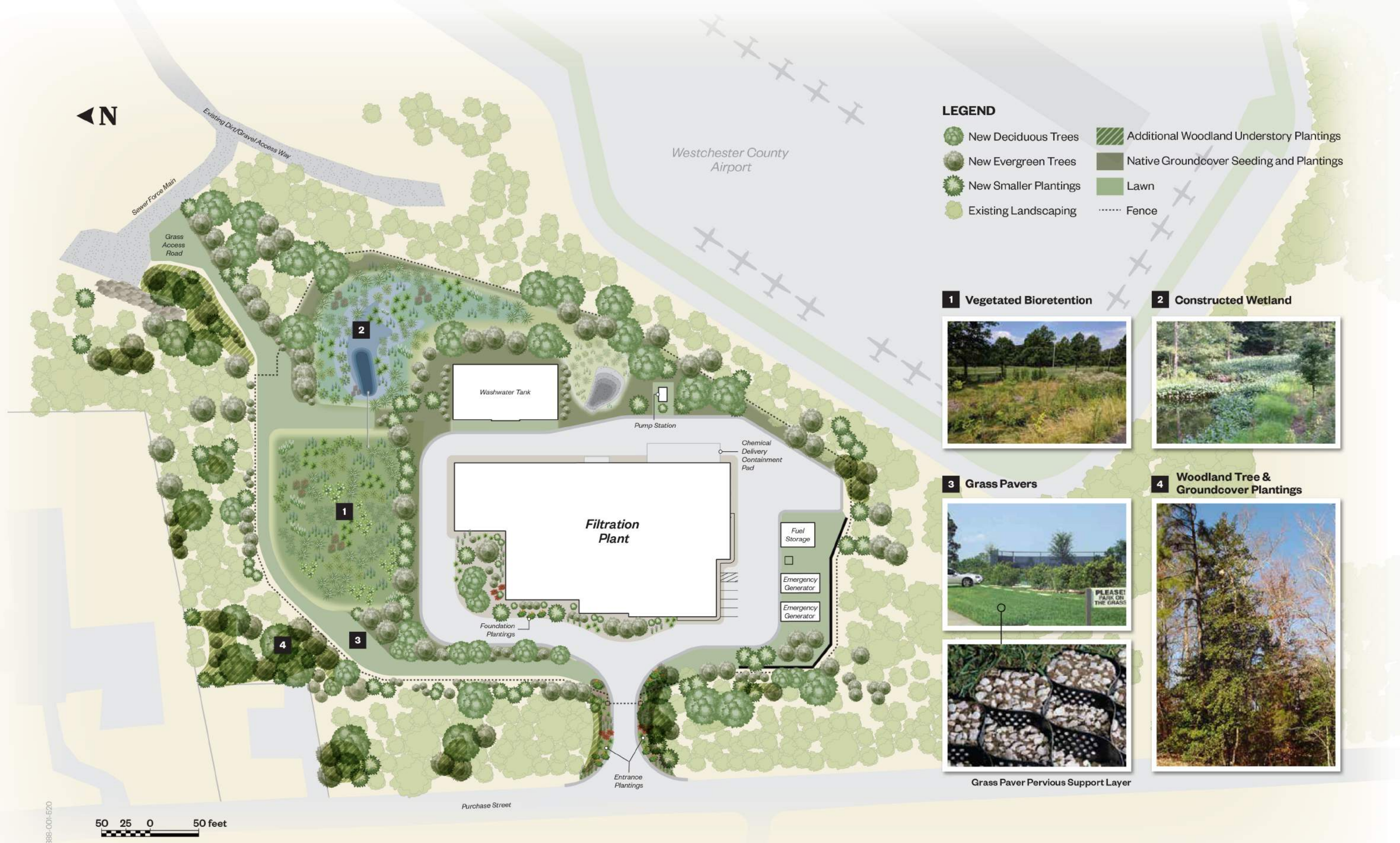
** AVERAGE ROOF HEIGHT MEASURE FROM AVERAGE GRADE (EL 417') TO MIDPOINT OF HIGHEST ROOF

SCALE: 1" = 50'-0" Image not to scale



LOCATIONS OF SECTION CUTS NOTED ON CONTEXT AERIAL

RYE LAKE WATER FILTRATION PLANT
WEST HARRISON, NY
WEST CHESTER JOINT WATER WORKS
WAMAKOONICK, NY



NPV

Figure B-13: Rye Lake Water Filtration Plant Landscaping

Source: Hazen and Sawyer, 2022

**Westchester Joint
Water Works**

III. MITIGATION MEASURES

Various measures are proposed to reduce the visibility of the facility from offsite locations while at the same time improving the appearance of the Project. No significant adverse impacts to visual resources and community character are expected from the project based on project siting, design and identified mitigation measures as summarized below:

- As depicted on the site plan in **Appendix C, Site Plans**, the Project would restrict the area of clearing to only what is necessary to provide the space needed for essential equipment, project infrastructure, and suitable indoor and outdoor workspaces that ensure a safe and fully functional facility.
- A landscaping plan, including the installation of approximately 300 trees, is proposed to replace some of the vegetation that would be cleared, enhance the visual quality of the development with diverse indigenous species, screen man-made structures from the street and other public vantage points, while retaining natural vegetation along the street as a buffer.
- The proposed building would comply with the dimensional zoning standards of the SB-0 District including yard setbacks, building height, and building lot coverage, so that the building is contained within the requisite zoning envelope. Variances would be sought from the Zoning Board of Appeals for the height of the security fence, which must be ten (10) feet in height to meet the requirements of New York State Department of Health for security purposes; and to locate a gate at the entrance of the site, within the 100-foot buffer along Purchase Street. This gate is also required to ensure the safety and security of the Project Site.
- An exterior lighting plan was prepared. The purpose of the plan was to provide the necessary outdoor lighting to ensure a safe and secure environment without unnecessary and wasteful illumination or negative impacts on the visual character of the area. Walkways, building entrances, access ways, and critical emergency and security areas are among those locations that must be lit.
- Lighting shall be shielded and directed downward, energy efficient, and not illuminate off-site areas or parts of the site that do not require or need to be lit. Exterior fixtures would be provided with motion sensors, photoelectric sensors, and automatic timers. LED lighting would be installed, and all lighting would comply with NYS Energy Code standards.
- The façade of the building would include a partial stone veneer that resembles the stone used in walls along the street and the building would be of muted colors to blend into its surroundings. A gable roof would be provided rather than a flat roof to make the building look less commercial, and the building would comply with applicable zoning standards including maximum building height and maximum building coverage. The front façade would include windows and translucent panels to provide visual interest.
- Coordination would continue with the FAA to ensure that the proposed facility would not obstruct visibility, impede, or otherwise adversely affect normal flight operations, and if an issue is identified, the Project Sponsor would address that concern to the satisfaction of the FAA prior to construction.

C. FISCAL AND ECONOMIC IMPACTS

I. EXISTING CONDITIONS

The Project Site is currently owned by Westchester County and is part of a 304-acre Westchester County airport property, tax parcel ID 0971.-8. Westchester County is a tax-exempt public authority, and therefore does not pay real property taxes except for the Purchase Fire District #4 tax. The 2021 Purchase Fire District #4 tax for Westchester County is \$35,360.75, as identified in **Table 3C-1**.

Table 3C-1: Current Taxes Paid on Project Site Property				
District	Parcel	Assessed Value	Tax Rate per \$1,000 Assessed Value	Current Tax
Fire District #4	0971.-8	\$735,100	\$48.103315	\$35,360.75

The Exchange Parcel is currently owned by WJWW, a non-profit public benefit corporation. It is also tax-exempt from real property taxes, except for the Purchase Fire District #4 and the Blind Brook Sewer District taxes, as identified in **Table 3C-2**.

Table 3C-2: Current Taxes Paid on Exchange Parcel Property				
District	Parcel	Assessed Value	Tax Rate per \$1,000 Assessed Value	Current Tax
Fire District #4	0961.-1	\$6,700	\$48.103315	\$322.25
Blind Brook Sewer	0961.-1	\$6,700	\$32.020112	\$214.53

II. POTENTIAL IMPACTS

a) LOCAL AND COUNTY TAXES

The Proposed Action would not result in a material change in taxation for Westchester County Airport property as a result of the land swap because the land swap would entail an equal exchange of land, and both properties involved in the swap do not currently contain any on-site structures or infrastructure. Therefore, the Westchester County Airport property's assessed value and taxes owed would not change materially as a result of the Proposed Action.

Once developed, the Project Site would increase in its assessed value beyond what WJWW is currently paying on the Exchange Parcel because the Exchange Parcel is now assessed as vacant land. The Project Site would be assessed based on the New York State Property Type and Classification Codes as a Water Treatment Facility. It is unknown what the final assessed value would be for the Project Site after the construction of the plant. The Town/Village of Harrison Assessor would determine its full market value.

The Proposed Action would not result in any changes to other local, county, and school tax revenue, as both the Project Site and Exchange Parcel are exempt from paying these taxes due to the tax-exempt status of Westchester County and WJWW. Both the County and WJWW would be exempt from paying these taxes when the land swap is finalized, and the Project is complete.

b) WATER RATES

WJWW estimates that the total construction cost of the filtration plant is 108 million dollars. This includes both hard costs (land preparation, construction, equipment, and infrastructure) and soft costs (engineering, design, and other technical services). The Project would most likely be funded through bond financing by the member municipalities, and the financing is likely to entail a 25 to 30-year bond period. Each member municipality (Village of Mamaroneck, Town of Mamaroneck, and Town/Village of Harrison) is in a different financial situation with respect to their water fund surplus and the water rates currently charged. Each member municipality sets rates to provide for some surplus in their water funds to address future contingencies such as the Proposed Action.

The cost of the Project would be shared by the member municipalities and split as follows: 27.7 percent Village of Mamaroneck, 16.7 percent Town of Mamaroneck, and 55.6 percent Town/Village of Harrison. The allocation of the cost share is based upon the share of total water sold per the audited financial statements existing at the time the project was authorized by the WJWW Board of Trustees.

As stated previously, each member municipality has its own water fund and sets its own water rates, and each municipality has control over the use of their respective water fund balances. If no fund balance is applied to the current water rates, it is estimated that there would be a 35 to 40 percent retail customer rate increase from current rates over a five (5) year period for the construction of the filtration plant. It is anticipated that the member municipalities would opt to use some of the fund balance in their respective water funds to mitigate and disperse the rate increases for the initial five (5) year period. With the use of water fund surplus, water rates may increase by 25 percent to 30 percent from current rates over the initial five (5) year period, instead of 30-35 percent.

WJWW supplies water on a retail basis to its member municipalities and to portions of the City of Rye and the City of New Rochelle. In 2021, the retail customer cost of water was on average approximately \$9.44 per thousand gallons or about nine tenths of a cent per gallon. Holding all other operating costs constant, retail rates are likely to increase over the next five (5) years in total by 30 to 35 percent (without use of any water surplus funds) as a result of the incremental debt service generated by the Proposed Action. This would yield a rate of between \$12.27 and \$12.74 per thousand gallons as a result of the Proposed Action. In addition to the water rate increases due to the Proposed Action, growth in WJWW operating expenses, increases in New York City water rates and debt service on other capital projects will also add to the annual rate increases. These combined expenses could add an additional four (4) to six (6) percent to the rate increase each year.

WJWW also sells water on a wholesale basis to the Village of Larchmont and Suez Water Westchester. In 2021, the wholesale cost of water on average was about \$3.20 per thousand gallons or three-tenths of a cent per gallon. It is anticipated that, as a result of the Proposed Action, the wholesale water rate could rise to about \$4.50 per thousand gallons over the next five (5) years. Similar to the member municipalities, growth in WJWW operating expenses, increases in New York City water rates and debt service on other capital projects will add to the annual rate increases in addition to the water rate increases due to the Proposed Action. These combined expenses could add an additional four (4) to six (6) percent to the rate increase each year.

c) EMPLOYEES

The Project would not generate a robust employee population that would significantly contribute to the local economy through direct or indirect spending. Once fully operational, the Project would have at most two (2) employees during the day shift and one (1) employee during the evening and night shifts.

III. MITIGATION MEASURES

The Proposed Action would result in a net positive impact for the Purchase Fire District #4 and the Blind Brook Sewer District taxing districts. The Project Site is anticipated to generate a higher amount of taxes than the current taxes at the Exchange Parcel. The final assessed value would be determined by the Assessor of the Town/Village of Harrison. No significant adverse fiscal and economic impacts are anticipated as a result of the Proposed Action, and therefore no mitigation is necessary.

With respect to the water rate increases and the Proposed Action, the member municipalities may use accumulated water fund balance to spread the impact of water rate increases over a longer period of time. WJWW will also be pursuing grant opportunities that could lessen the overall increases in water rates necessary to support the Proposed Action.

The Project would have at most two (2) employees during the day shift and as a result, no significant adverse fiscal and economic impacts are anticipated, and therefore no mitigation is necessary.

D. COMMUNITY SERVICES

I. DEMOGRAPHICS

a) *EXISTING CONDITIONS*

WJWW's member municipalities are the Town/Village of Harrison, Village of Mamaroneck, and the Town of Mamaroneck. **Table 3D-1** summarizes the population of the member municipalities. The Proposed Action would be located in the Town/Village of Harrison.

Table 3D-1: Member Municipality Population Count	
Municipality	Population Count
Harrison, Town/Village	27,351
Mamaroneck, Village	19,217
Mamaroneck, Town	12,123
TOTAL	58,691
<i>Source: American Community Survey, 2019, 2020 U.S. Census</i>	

In addition, WJWW supplies water on a retail basis to portions of the City of Rye and the City of New Rochelle. WJWW also provides water on a wholesale basis to the Village of Larchmont and to the for-profit water company Suez Water Westchester. In all, WJWW provides drinking water to some 120,000 consumers in Westchester County.

b) *POTENTIAL IMPACTS*

The Project would include the construction of a 30-MGD Dissolved Air Flotation/Filtration plant to serve the WJWW's water source from Rye Lake. The filtration plant would have the capacity to meet the maximum day water supply-demand of the WJWW's entire water distribution system.

The Proposed Action would not induce an increase in the population in any of the municipalities in WJWW's service area or to the Town/Village of Harrison because the Proposed Action would be implemented to address existing water quality issues along with compliance with the Administrative Order issued by the USEPA and the Court Order issued by the New York State Supreme Court. The Proposed Action is not proposing any residential units, nor would it cause additional residential developments to the Town/Village of Harrison.

c) *MITIGATION MEASURES*

The Project is a proposed upgrade to the current water supply system. Thus, the Proposed Action is not expected to generate an increase in the population of any communities in WJWW's service area, and therefore no significant demography-related adverse impacts to community services are anticipated. No mitigation is necessary.

II. POLICE, FIRE, AND EMERGENCY MEDICAL SERVICES

a) *EXISTING CONDITIONS*

Emergency Medical Services

The Project Site is located in the service district of the Harrison Emergency Medical Services (EMS). The Harrison EMS is located at 2 Pleasant Ridge Road, Harrison, New York. Harrison EMS is approximately seven (7) miles from the Project Site and has both volunteer and paid staff.

A phone interview was conducted with Robert Calandruccio, Executive Director of Harrison Emergency Medical Services, on April 23, 2021. The Harrison EMS has 35 employees, four (4) of which are active EMS personnel. In addition, a paramedic supervisor is available twenty-four hours a day, seven (7) days a week. Two advanced life support (ALS) ambulance vehicles are also available twenty-four hours a day, seven (7) days a week, to support the EMS personnel. The Harrison EMS receives an average of 3,000 calls per year and received approximately 2,400 calls in 2020. According to Executive Director Robert Calandruccio, the Harrison EMS can support an additional 600 calls without any changes to services.

An annual response time practice run is conducted by Harrison EMS for the Westchester County Airport every year. The average response time to Westchester County Airport is 6 minutes, 15 seconds. It is anticipated that the response time to the Project Site would be approximately the same time as the response time to the Airport. The nearest hospital to the Site is Greenwich Hospital, which is approximately seven (7) miles from the Project Site, and White Plains Hospital is approximately 7.5 miles from the Project Site. Mutual aid is accessible with EMS services in White Plains, Mamaroneck, and Port Chester/Rye.

Fire Department

The Purchase Fire Department is located at 614 Anderson Hill Road, Purchase, New York, approximately 2.6 miles from the Project Site.

The Purchase Fire Department is a fully volunteer organization. The Fire Department's firefighting apparatus consists of four (4) fire trucks: two (2) engines, one (1) ladder, and a rescue truck. Service letters were sent to the Purchase Fire Department on April 15, 2021. WJWW officials and project team consultants met with Rocco Germani, the Acting Fire Marshal of the Harrison Fire Prevention Department, on the following dates: June 23, 2021; August 3, 2021; August 11, 2021; and October 8, 2021. The meetings were held to confirm that the Purchase Fire Department would have adequate emergency access to the proposed facilities at the Project Site. The proposed layout meets all New York State Fire access requirements (**Appendix C, Site Plans**).

Police Department

A service letter was sent to the Harrison Police Department on April 15, 2021. A final response was received on October 26, 2021 (**Appendix E, Community Service Letters and Responses**).

The Harrison Police Department is located just off the Hutchinson River Parkway at 650 North Street Harrison, New York. The facility houses all of the Police Department's operations, including the Patrol Division; Communications, Traffic Division; Detective Division; MIS Division; Training Division; and the Records Division. The facility is approximately 5 miles from the Project Site. The average response time to the Project Site is less than 3 minutes.

There are 65 sworn members of the Harrison Police Department, in addition to several civilian employees. **Table 3D-2** below summarizes the organizational structure of the Harrison Police Department.

Table 3D-2: Town/Village of Harrison Police Department Organizational Structure	
Position	Number of Employees
Chief of Police	1
Captain/Deputy Chief	1
Lieutenants	4
Sergeants	8
Detectives	4
Police Officers	47
Civilian Parking Enforcement Officer	1
Civilian Clerks	6
Civilian Employees - MIS Division	2
Civilian Employee - Traffic Division	1
Civilian School Crossing Guard	14
Total Staff	89

Source: Service Letter provided by Chief Vasta, October 2021

b) POTENTIAL IMPACTS

Emergency Medical Services

A service letter was sent to the Harrison Emergency Medical Services (EMS) on April 15, 2021, and Robert Calandruccio, Executive Director of the Harrison EMS, returned a call on April 23, 2021. The three (3) WJWW employees at the filtration plant would not significantly impact the EMS services based on the number of calls received per year. According to a phone conversation with Executive Director Robert Calandruccio, the EMS can easily accommodate an increase of three (3) persons, which the Proposed Project would add to the service area. Furthermore, Executive Director Calandruccio estimates that Harrison EMS can support an additional 600 calls without changes to services. Additionally, mutual aid is accessible with EMS services in White Plains, Mamaroneck, Port Chester/Rye, all of which could respond within 6 or 7 minutes, depending on traffic. The Fire Department would respond within 6 or 7 minutes.

Fire Department

The Fire Department has a response time of 6 to 7 minutes. The additional three (3) employees at the filtration plant would not significantly impact the services to be provided by the Fire Department. The Fire Department was consulted regarding truck turning radius following dates: June 23, 2021; August 3, 2021; August 11, 2021; and October 8, 2021. The Project would comply with all local and State fire access regulations.

The fire suppression systems for the filtration plant would be designed to comply with the rules and regulations of the NYS Building and Fire Codes. Fire extinguishers would be placed throughout the building per State and local requirements.

An automatic wet sprinkler system would be installed in all areas required by NYS Building and Fire Codes except for the following locations which are exempt from these requirements:

1. Electrical Room
2. SCADA Room
3. Confined spaces (ex: inside tanks)
4. Directly over open DAF/Filter basins

Instead of a wet sprinkler system, a clean agent system would be utilized for fire suppression in the Electrical Rooms and SCADA Room.

The Project would include a fire alarm control panel located at the main entrance. The use of fire-resistance-rated construction separation of adjacent spaces would safeguard against the spread of fire and smoke within the building. Egress components, including exit stairways, corridors, and vertical shafts, would be designed with fire-rated assemblies in accordance with State and local building code requirements. Doors at fire-rated walls would be fire-rated with self-closing hardware. All allowable openings and penetrations through fire-rated construction would be sealed with an approved fire-stopping system.

Police Department

The additional three (3) WJWW employees at the filtration plant would not significantly impact the services to be provided by the Police Department. In a letter dated October 26, 2021 (**Appendix E, Community Service Letters and Responses**), Chief Vasta stated, "I do not anticipate an increased demand for service on the final project."

c) MITIGATION MEASURES

Emergency Medical Services

No mitigation measures would be necessary as there would be no significant adverse impacts on the services to be provided by the Harrison EMS.

Fire Department

No mitigation measures would be necessary as there would be no significant adverse impacts on the services to be provided by the Fire Department. WJWW would continue its coordination with the Fire Department to address any other items of concern. In addition, fire safety measures and fire-rated

building materials would be installed during the construction of the filtration plant. As a result, no significant adverse impacts to fire safety are anticipated as a result of the Project.

Police Department

No mitigation measures would be necessary as there would be no significant adverse impacts on the services to be provided by the Police Department.

III. SOLID WASTE

a) EXISTING CONDITIONS

The Project Site does not currently produce any on-site sewage discharge.

b) POTENTIAL IMPACTS

The anticipated on-site sewage discharge from the Proposed Action includes sanitary waste, water collected from floor drains, and centrate from the residuals dewatering process. The sewage would be primarily liquid sewage with low solids and conveyed to the Blind Brook Wastewater Treatment Plant.

The average solids produced would be less than 6 cubic yards (CY) per day, with a maximum of 22 CY per day. The maximum level of production would only occur temporarily and could occur up to a week at a time. However, the maximum solid generation would be directly dependent on intake water quality. The solids would consist of 40 percent alum and polymer; 60 percent naturally total suspended solids and total organic carbon from raw water; and 0.12 percent solids. The average solids collected would be equivalent to two (2) to three (3) dumpster per week. This solid waste would consist of 67 percent alum and polymer, 33 percent natural total suspended solids and total organic carbon from raw water, and 0.08 percent solids.

Construction activities from the Proposed Action would generate 33 tons of solid waste per month, and the operation of the Proposed Action would generate an average of 113-135 tons of solid waste per month under average operating conditions.

The construction waste would be disposed of at the Charles Point Resource Recovery Plant in Peekskill, NY. The worker-generated solid waste would also be disposed of at the Charles Point Resource Recovery Plant in Peekskill, NY, in accordance with local requirements. Treatment by-product solids would be hauled offsite for disposal at an approved facility. The Passaic Valley Sewerage Commission in Newark, New Jersey would be utilized for disposal of solid waste generated at the Project Site from the treatment process.

c) MITIGATION MEASURES

The amount of new solid waste is not anticipated to overburden municipal facilities or create adverse impacts. No mitigation is necessary.

E. UTILITIES

I. EXISTING CONDITIONS

This chapter focuses on the utility components of the Project, including water supply, sanitary sewer, electric, telephone, and cellular data connections. The discussion of these services includes a description of existing conditions and connections on the Project Site; identifies available utilities and infrastructure in the area; presents the estimated demands of the Proposed Action; discusses system capacities and service capabilities; and identifies the ways in which existing resources and infrastructure would meet the project-generated demand or can be mitigated to address system capacity issues.

This chapter of the DEIS also includes a discussion of required upgrades that must be provided by WJWW pursuant to EPA Administrative Order (Index No. SDWA-02-2020-8001) dated November 2019, Judgement of and Order by New York Supreme Court (Index No. 13364-99, Justice Louis A Barone) dated June 9, 2004, and the Project's compliance with these orders.

The Project Site is currently undeveloped and consists primarily of vegetation and forest cover and therefore is not currently utilizing nearby utilities. An inventory of existing surface and subsurface utilities was conducted to identify the availability and accessibility of services in the area and their expected ability to serve the Project.

a) **WATER SUPPLY**

The water supply for the WJWW system is obtained from the upstate Catskill and Delaware watersheds of the New York City water system. WJWW draws its water from two sources: Shaft 22 of the NYCDEP Delaware Aqueduct in Yonkers and Rye Lake, the eastern portion of the Kensico Reservoir, in the Town/Village of Harrison. The Proposed Action is related to the filtration of the water drawn from the Rye Lake WJWW water source.

The water from WJWW's Rye Lake water source is currently treated with gaseous chlorine for disinfection, sodium silicofluoride for fluoridation, blended orthophosphate for corrosion control at the Rye Lake WJWW water source site and sodium hydroxide (caustic soda) for corrosion control at Purchase Booster Pump Station before being conveyed to the Purchase Street Storage Tanks where sodium hydroxide is added for pH adjustment. Over time excess organic matter in Rye Lake WJWW water source has interacted with treatment chemicals, forming Disinfection Byproducts (DBPs), specifically trihalomethanes (TTHM) and haloacetic acids (HAA5). While the presence of DBPs have been detected in WJWW's water system at concentrations that do not constitute an immediate health hazard, the USEPA warns that long-term exposure to DBPs above federal regulatory standards could pose health risks.

Due to these risks, the USEPA adopted a Stage 2 Disinfectants and Disinfection Byproducts Rule in 2006. Because WJWW serves a retail population of between 50,000 to 99,999 people, compliance with these new provisions is mandatory. Starting October 1, 2012, WJWW was required to monitor the maximum contaminant levels for total trihalomethanes and haloacetic acids.

The Maximum Contaminant Levels (MCL) for TTHM and HAA5 are 0.080 milligram per liter (mg/L) and 0.060 mg/L, respectively, on a Locational Running Annual Average basis. The results submitted for the first, second, and third quarters of 2019 exceeded the MCL for HAA5. The *2019 Water Quality Report*

(**Appendix F, Utilities**) issued by Westchester Joint Water Works indicates that, of the contaminants tested, only two (2) tested at a level higher than New York State allows: total coliform and halocetic Acids. Three (3) MCL violations were issued by Westchester County Department of Health for the HAA5 violations, and notices were mailed to customers on March 15, May 24, and September 3, 2019, to alert them of the violation. Additionally, on March 28, 2019, WJWW was issued an Administrative Order by the USEPA requiring a Corrective Action Plan (CAP) to address the violations for HAA5, and on July 11, 2019, a certified letter was issued by the EPA requiring WJWW to submit an updated CAP detailing interim and long-term measures to mitigate these violations. Beginning in late 2019, WJWW implemented interim mitigation measures for these violations, including a water main flushing program. The proposed long-term measures for mitigation include the construction and operation of a water filtration facility, the Proposed Action.

On November 26, 2019, USEPA issued another Administrative Order, requiring WJWW to commence design for construction of a Filtration Plant and begin the SEQR process by January 31, 2020, with construction commencing by January 1, 2022, and the facility operational by October 15, 2024. To achieve and demonstrate compliance with this Administrative Order, WJWW initiated the SEQR process on January 31, 2020, and commenced design of the water filtration facility.

b) WATER AND SEWER INFRASTRUCTURE

Water

The Project Site is not connected to the local water supply; however, an existing 20-inch finished (treated water) water main is present along Purchase Street from Purchase Booster Pump Station. The Project proposes to install a looped eight (8)-inch water main to connect to the 20-inch finished water main which would supply potable water for purposes of fire protection and for domestic facilities in the filtration plant (**Appendix C, Site Plans**).

A 36-inch water transmission main is also present along Purchase Street and is currently used to convey partially treated water from the Rye Lake Pump Station to the Purchase Street Storage Tanks. This transmission main currently conveys water treated with UV disinfection, chlorine, fluoride, and corrosion inhibitor. As part of the Project, the 36-inch transmission main would be rerouted in the street by a new raw water connection that would divert water from the transmission main to the treatment facility to undergo the filtration process (**Appendix C, Site Plans**). After treatment, at the filtration plant, the filtered water would be discharged back into the 36-inch transmission main via a second new connection for delivery to the Purchase Street Storage Tanks. Once the water arrives at the Purchase Street Storage Tanks, it would be potable water for public use and consumption (**Figure 3E-1, Proposed Sewer Line** for location of the storage tanks).

The existing water transmission main that runs from Rye Lake WJWW water source to the Purchase Street Storage Tanks currently conveys a maximum of 22 million gallons per day (mgd). In the future with the Project, the existing 36-inch water transmission main would convey up to 30 mgd. The same existing line would run from the filtration plant to the Purchase Street Storage Tanks would convey up to 30 mgd.

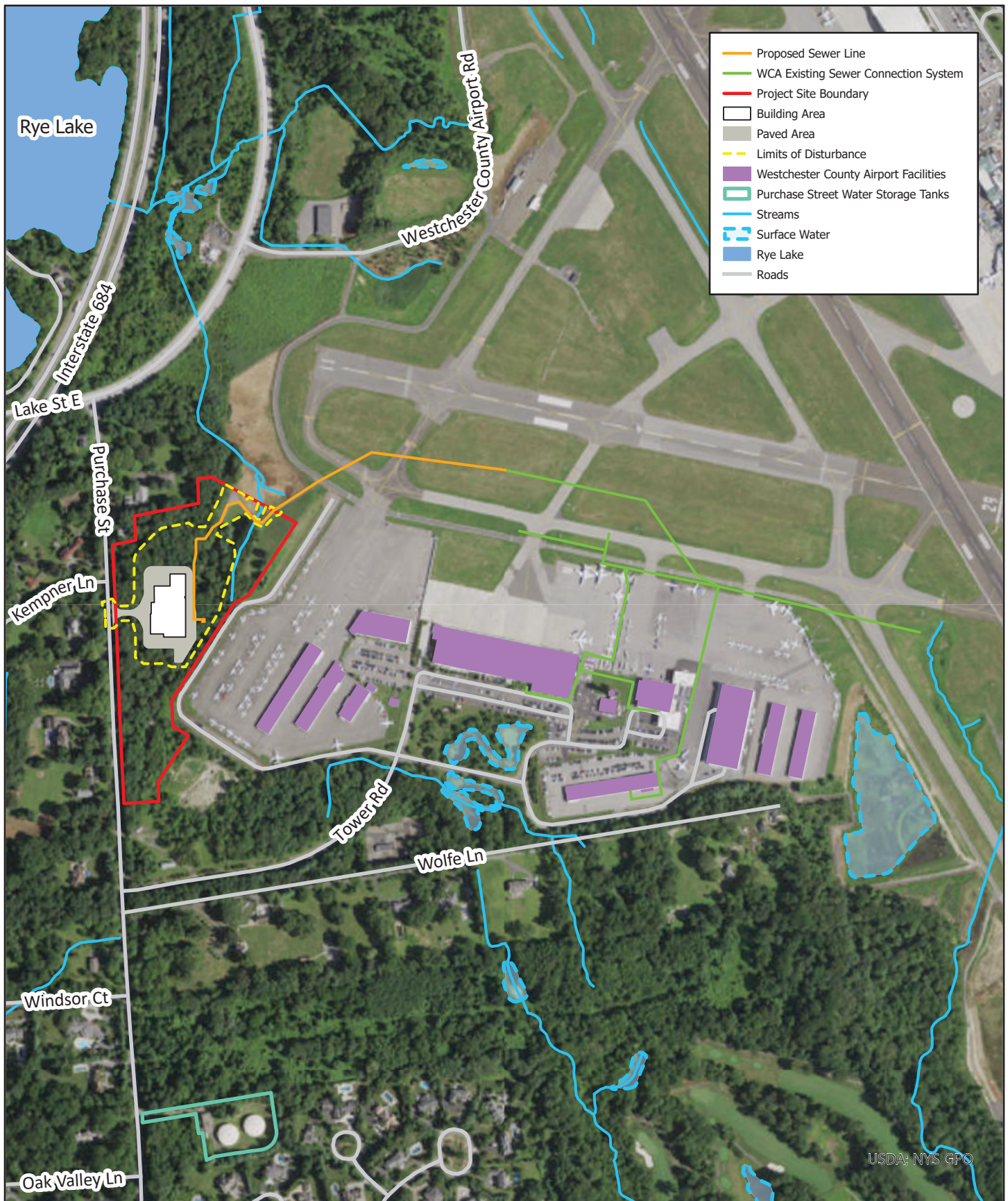


Figure E-1: Proposed Sewer Line

Sources: Westchester County GIS, 2020
Scale: 1 inch equals 600 feet



Westchester Joint
Water Works
Water Filtration Plant

The proposed facility would use an average of 3,300 gpd of potable water for its operations. Approximately 3,150 gpd would be used for water treatment processes and 150 gpd would be used for domestic operations (e.g., handwashing, toilets for personnel).

Sanitary Service

The Project Site is currently not served by public or private sanitary sewer collection and treatment facilities. However, an existing sanitary sewer collection system is located approximately 2,000 feet northeast of the Project Site on the Westchester County Airport (WCA) property. As proposed, the Project's sanitary service line would connect to the sewage collection system on the County Airport property, which feeds into a County trunk line that leads to the Westchester County owned and operated Blind Brook Wastewater Treatment Plant in Rye where treatment is provided. The proposed service connection to the WCA collections system would be made using a new four (4)-inch force main that would carry the estimated average of approximately 9,000 gpd of wastewater and the maximum total peak of 12,000 gpd from the Project Site to the WCA collection system (**Figure 3E-1, Proposed Sewer Line**). The proposed pump has a capacity of up to 50,000 gpd of wastewater. Based on discussions with Westchester County Department of Environmental Facilities (DEF), no changes or upgrades to the airport collection system, County trunk line, or the Blind Brook Wastewater Treatment Facility are anticipated as a result of the Proposed Action. All sanitary sewer wastewater would be transported from the site, as explained above, and treated outside of the Kensico Watershed.

c) ELECTRIC, TELEPHONE, AND CELLULAR DATA UTILITIES

The Project Site is vacant and does not currently have existing electric, telephone, and cellular data connections. To power the facility, the Project would connect to electric utilities provided by Consolidated Edison Company of New York by way of existing overhead powerlines located along Purchase Street. The exact type of electrical service provided would be determined by Con Edison upon analysis of the final load letter to be submitted during the final project design. An underground electric line is also present adjacent to the easterly boundary of the site, on the WCA property, and crosses over the south end of the Project Site. This electric line would not be used to power the facility.

WJWW would utilize liquid propane for heating purposes. Due to the Westchester natural gas moratorium on new uninterruptible natural gas connections imposed by Con Edison as of March 15, 2019, propane would be used instead of natural gas. Propane would be stored onsite in two 2,000 gallon above ground storage tanks (total of 4,000 gallons) that would be designed to comply with applicable standards and requirements of the NYSDEC.

The finished operating facility is projected to consume an estimated 7,210,000 kWh/yr. of energy and 20,000 gal./yr. of propane which equates to a specific energy consumption of approximately 700 kWh per million gallons (MG) of treated water. The projected totals compare favorably to other regional

water treatment facilities that consume over 800 kWh/MG^{15,16,17,18}. **Chapter 4, Other Environmental Impacts**, of this DEIS provides additional information on the Project's energy consumption.

Telephone service would be provided from Purchase Street.

II. POTENTIAL IMPACTS

a) WATER SUPPLY

WJWW is responsible for supplying drinking water to a significant population of residents in Westchester County. WJWW provides water to its member municipalities which include the Village of Mamaroneck, Town of Mamaroneck, and the Town/Village of Harrison. In addition, WJWW supplies water on a retail basis to a portion of the City of Rye and the City of New Rochelle. WJWW is also responsible for selling water on a wholesale basis to the Village of Larchmont and Suez Water Westchester, which supplies water to the City of Rye, Village of Rye Brook, and Village of Port Chester. In total, WJWW supplies safe and reliable drinking water to approximately 120,000 consumers from over 14,600 service connections in the lower Westchester County area.

The construction of a filtration plant is necessary for WJWW to continue serving residents with high quality drinking water on a long-term basis. Due to the number of customers that WJWW serves, it is required to monitor the MCLs for total HAA5 and TTHM. As was previously discussed, the results for the first, second and third quarters of 2019 showed that water samples exceeded HAA5 MCLs. While the presence of these DBPs do not constitute an immediate health hazard, the EPA warns that long-term exposure to HAA5 and TTHM above federal regulatory standards may pose health risks. In response, the USEPA issued two administrative orders, resulting in an obligation to commence design of the proposed Rye Lake Filtration Plant. WJWW had previously been issued a Court Order in 2004 from the New York State Supreme Court to construct a filtration plant. The Court found WJWW in violation of N.Y.C.R.R. § 5-1.30 "by failing to construct and operate a filtration plant to filter the potable water that it sells to its customers from the Rye Lake System". The Order was upheld on appeal in 2005 and remains in effect today. For the protection of public health and safety and to comply with New York State's Court Order, the Safe Drinking Water Act and the USEPA Administrative Order, WJWW proposes to construct and operate a 30-MGD Dissolved Air Flotation/Filtration (DAFF) water filtration plant (plant) at WJWW's Rye Lake (Kensico Reservoir) water source.

In addition to meeting the obligations required of WJWW by New York State and USEPA, construction of a water filtration plant is a long-term solution to the issue of DBPs affecting the WJWW water source. The filtration plant would include enhanced coagulation to remove disinfection byproduct precursors to TTHM and HAA5, giving WJWW a greater ability to routinely comply with the maximum contaminant levels for TTHM and HAA5 as required by USEPA standards. The Proposed Action would ensure a safe and reliable drinking water source for the WJWW customer base and would benefit the public by significantly reducing the risks of long-term exposure to DBPs.

¹⁵ Carlson, S. W., & Walburger, A. (2007). Energy index development for benchmarking water and wastewater utilities. AWWA Research Foundation Report, New York State Energy Research and Development Authority (NYSERDA) Report Number 07-08. 1P-5C-91201-12/07-NH.

¹⁶ Goldstein, R., & Smith, W. E. P. R. I. (2002). Water & sustainability (volume 4): US electricity consumption for water supply & treatment-the next half century. Electric Power Research Institute

¹⁷ Griffiths-Sattenspiel, B., & Wilson, W. (2009). The carbon footprint of water. River Network, Portland

¹⁸ Sowby, R. B., & Burian, S. J. (2018). Statistical model and benchmarking procedure for energy use by US public water systems. Journal of Sustainable Water in the Built Environment, 4(4), 04018010.

b) WATER SERVICE

To operate the water filtration plant, the Proposed Action would result in an increase in total water demand by an average of 3,300 gpd but an increase in population or construction is not anticipated as a result of the proposed water filtration plant. Thus, land-use development patterns in WJWW client communities would not change or be otherwise affected as a result of the Proposed Action.

Moreover, the filtration plant would be able to accommodate future growth within the Town/Village of Harrison as detailed in **Chapter 4, Other Environmental Conditions** of this DEIS.

Adequate water quality, volume, and supply duration would be available to satisfy the demand of the automatic fire protection system and comply with all State and local building and fire code requirements. **Chapter 3-D, Community Services** of this DEIS provides additional information on the fire safety codes.

Plants proposed for landscaping would consist of non-invasive and primarily native species that require minimal fertilization and irrigation. Further, the Project proposes to install modern water efficient fixtures in restrooms to conserve water at the facility.

b) SANITARY SERVICE COLLECTION, TREATMENT AND DISPOSAL

A sanitary sewer line connection is proposed from the Subject Property to the existing WCA Sewer Collection System on the WCA property. The proposed four (4)-inch diameter force main would connect to the east side of the proposed filtration plant and extend in a northerly and then easterly direction over a total distance of approximately 2,000 feet before connecting to the existing WCA Sewer Collection System (**Figure 3E-1, Proposed Sanitary Sewer Line**). From there, wastewater would be conveyed to a County trunk line and to the Blind Brook Wastewater Treatment Plant in Rye for treatment and disposal. Construction of the proposed sanitary force main from the Project Site to the Westchester County Airport would include open cut trenching and installation of a bypass system for an existing culvert crossing. This crossing would be located within the freshwater wetland adjacent area between two delineated wetland areas on the northeast side of the project site but is not anticipated to disturb the wetlands. For additional detail on the potential impacts to the wetland adjacent area, refer to Section A, Wetlands, Waterbodies, Watercourses and Floodplains of this EIS.

The anticipated discharge from the Project Site would include sanitary waste, water collected from floor drains, and centrate from the residuals dewatering process (centrifuge dewatering). The four-inch force main would accommodate the projected average sewage flow rate from the facility of approximately 9,000 gpd and the projected maximum flow rate of approximately 12,000 gpd. Sewage from the site would be primarily liquid sewage with low solids. This would consist of 67 percent alum and polymer; 33 percent natural total suspended solids and total organic carbon from raw water; and 0.08 percent solids.

Overall, the proposed sanitary main, WCA collection system, Westchester County trunk line, and Blind Brook Wastewater Treatment Plant would be accepting liquid sanitary waste from the filtration plant, and the Passaic Valley Sewerage Commission would be receiving dewatered solids from the site.

c) ELECTRIC, TELEPHONE, AND CELLULAR DATA UTILITIES

The type of electrical service that would be provided would be determined by Con Edison upon review of the final load letter to be submitted during final project design. Space has been made available for two utility transformers if Con Edison chooses to provide a second feeder. It is anticipated that the number of transformers provided by Con Edison would be sufficient to satisfy the full power requirements of the facility.

The finished operating facility is projected to consume an estimated 7,210,000 kWh/yr. of energy and 20,000 gal./yr. of propane which equates to a specific energy consumption of approximately 700 kWh per MG of treated water. Propane would be stored in two on-site above ground 2,000-gallon storage tanks (total of 4,000 gallons of storage) and be used to heat the facility.

The Project would also include the installation of an approximately 18,900 sq. ft., 340-kilowatt (kW) roof-mounted photovoltaic system to partially offset the energy needs of the site with clean and renewable energy that would be generated on-site. Project engineers have estimated that the photovoltaic system would generate approximately 445,300 kWh of power per year. Energy conservation techniques, such as LED light fixtures with motion sensors, photoelectric sensors, and automatic timers to ensure lights are shut off when they are not needed, would be universally implemented in the facility's design and operation, and would comply with the 2020 Energy Conservation Code of New York State. **Chapter 4, Other Environmental Impacts**, of this DEIS provides additional information on the renewable energy proposed for the Project.

As a backup to the electric system, two diesel-fueled standby power generators would also be installed on the site for emergency purposes and uninterrupted water treatment during power outages once the construction is completed and the facility is operating. Each of the proposed generators is rated at 1,250 KW, 480V, 3PH, 3W, 60HZ. The generators would have a combined capacity to energize the entire plant. In the event of the loss of normal electrical power to the switchboard, the generators would automatically start, and supply power to an individual fuel tank in the subframe (belly) of each generator. Each tank would have the capacity to provide at least 24 hours of continuous, full-load plant operation. Generator switchgear would be provided to distribute power from the emergency generators to the motor control centers located in the facility's electrical rooms. One 1,250 kilovolt-ampere (KVA) load bank would be provided to exercise (test) each generator for no more than one (1) hour per week.

Telephone and cellular connections would have no appreciable impact on the environment.

III. MITIGATION MEASURES

The primary purpose of the Proposed Project is to improve the quality of the public drinking water system and to meet obligations now required of WJWW by the New York State Supreme Court and the USEPA. Based on the above analyses and considering the following mitigations already proposed in the Project design, significant adverse impacts on public utilities or from proposed infrastructure are not expected. Mitigation measures to reduce impacts on utilities are already proposed in the Project design as follows:

- Non-invasive, native, and well adapted plants for site conditions would be used as part of the proposed landscaping plan to reduce the demand for seasonal irrigation and fertilization.
- Install modern water efficient fixtures in restrooms to conserve water at the facility.
- The Proposed Project would connect to an existing sanitary main on the airport property via a four-inch force main to the Westchester County Airport West Side Sewer System to eliminate the need for onsite sewage discharge. Treatment of the wastewater would occur at the Blind Brook Wastewater Treatment Plant, which is outside of the Kensico Watershed.

- Three photovoltaic arrays would be installed on the roof of the proposed building to reduce demand for nonrenewable energy resources and partially offset related energy and climate related impacts.
- Energy conservation techniques would be universally implemented in the facility's design and operation and would comply with the 2020 Energy Conservation Code of New York State.
- Means for monitoring and managing energy use would be built into major electrical equipment and computer control systems to ensure consistent and reliable energy conservation and opportunities for system adjustments and rapid responses to system inefficiencies.

F. STORMWATER

I. EXISTING CONDITIONS

Existing Drainage Infrastructure

The Project Site is 13.4 acres, is undeveloped, and almost entirely vegetated. There are no existing onsite drainage structures, swales or other man-made features to control runoff; however, parts of the east shoulder of the Purchase Street right-of-way, along the frontage of the Project Site, contains a shallow overgrown drainage ditch or swale that is partially lined with rip rap in some areas. The drainage swale apparently accepts, recharges and/or conveys sheet runoff from the street, preventing runoff from the street to enter the property, but does not directly serve the Project Site. The slope of the drainage ditch descends gradually along the shoulder from south to north toward Rye Lake WJWW water source and in the direction of the mouth of the unnamed stream that lines the easterly boundary of the Project Site.

Approximately 5.2 percent (0.7 acres) of the 13.4-acre Project Site is covered by impervious or compacted surfaces. The easterly forested area generally slopes from southwest to northeast towards a small stream that intermittently flows in a generally northerly direction through regulated freshwater wetlands. The stream eventually discharges into Rye Lake WJWW water source to the north of the Project Site along the east shore of the Lake. The western portion of the Project Site slopes from south to north along Purchase Street and discharges into the drainage ditch mentioned above. The drainage ditch eventually connects to the eastern stream prior to discharging into Rye Lake WJWW water source. **Figure 3F-1** provides a visual representation of slopes found on the Project Site and the existing natural drainage pattern on the site. Slopes at the south end of the site, south of the Project Site and proposed areas of disturbance generally descend from the west side of the property to the east side.

Drainage Patterns and Hydrologic Characteristics

Drainage areas were delineated for pre- and post-construction conditions to assess stormwater runoff quality and quantity impacts (**Figure 3F-2 Pre-Development Drainage Area and 3F-3, Post Development Drainage Area**). As part of the drainage area delineation, an analysis point was identified for the drainage area that is inclusive of the Project Site. Drainage Area Point of Analysis 1 (AP-1) is located within the easterly unnamed stream and was selected to encompass all runoff from the delineated drainage area, including runoff leaving the Project Site's area of disturbance for pre- and post-development conditions. The unnamed stream ultimately discharges to Rye Lake WJWW water source.

Existing Drainage Area 1 (EDA1) was delineated for the area draining to AP-1. This area includes the predominately wooded Project Site, and the neighboring parcels to the north. To separate the Project Site impacts from the Westchester County Airport development, only the western side of the stream was delineated for AP-1. **Figure 3F-2** displays the pre-development drainage area map.

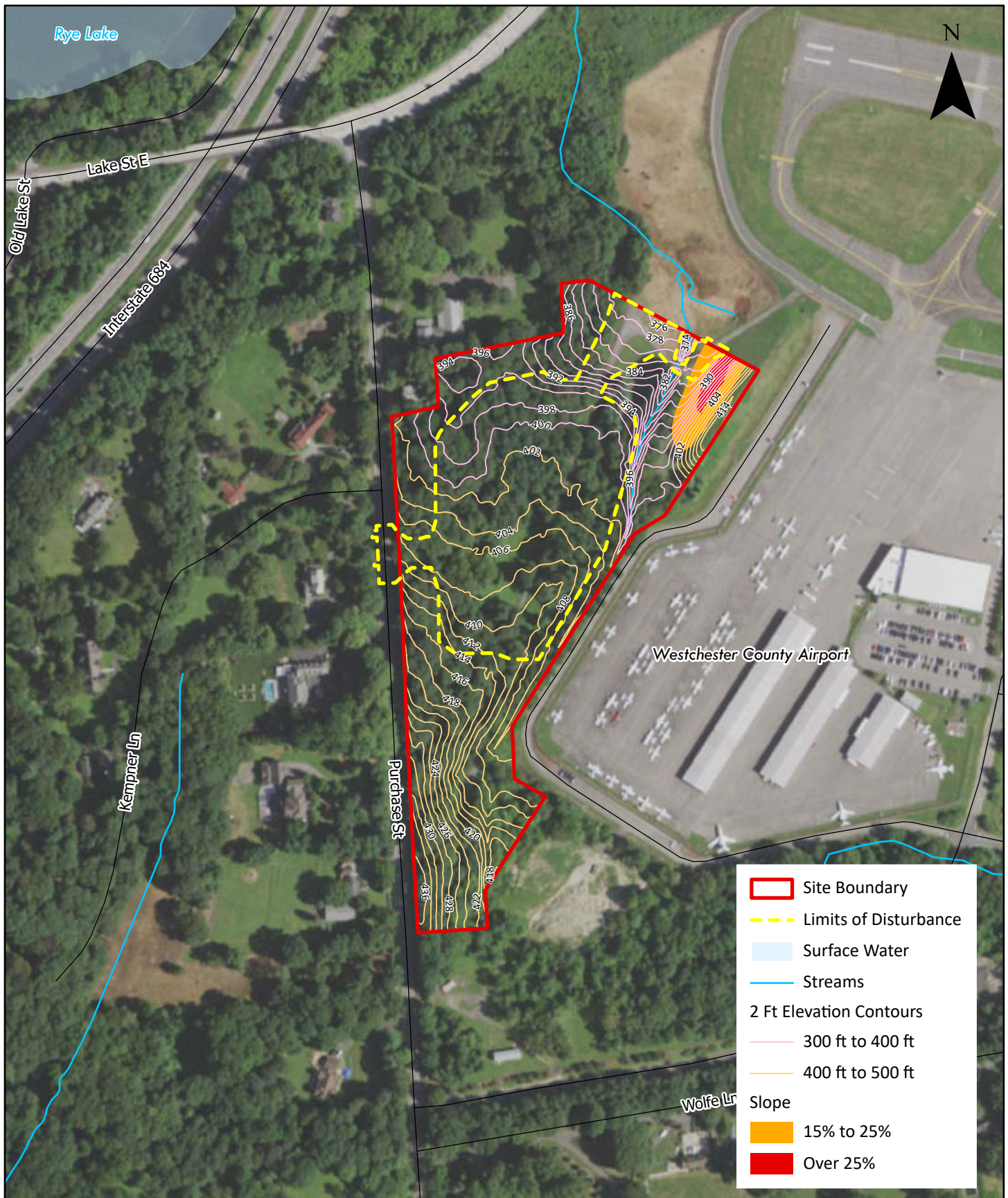
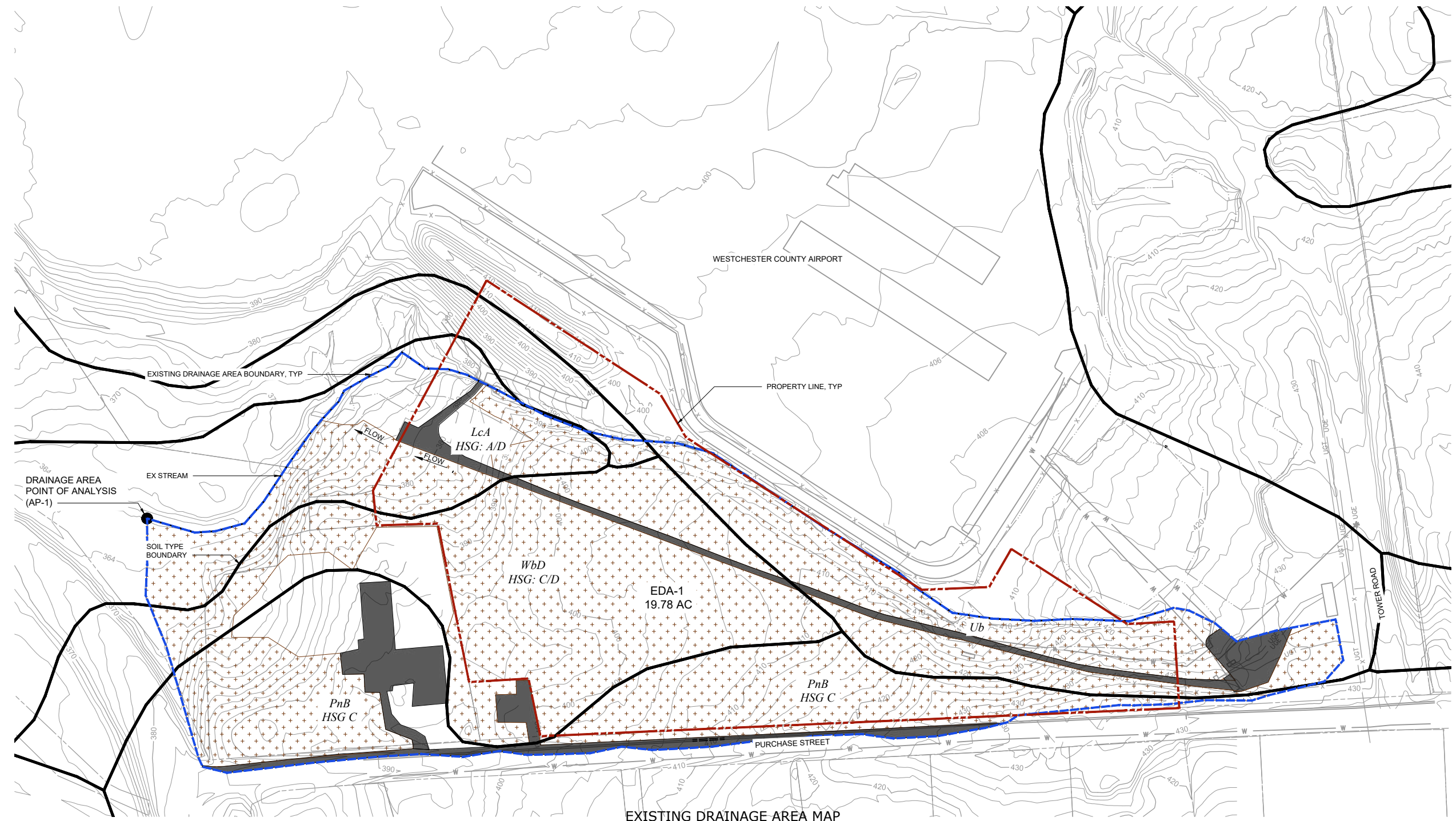
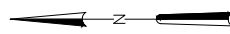


Figure 3F-1: Existing Topography

Sources: Westchester County GIS 2020;
Scale: 1 inch equals 300 feet

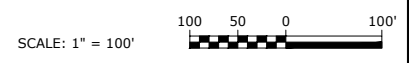
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LEGEND

	WOODS
	IMPERVIOUS AREAS
	GRASS
	DRAINAGE AREA BOUNDARY
	PROPERTY LINE

EXISTING DRAINAGE AREA MAP
SCALE: 1" = 100'

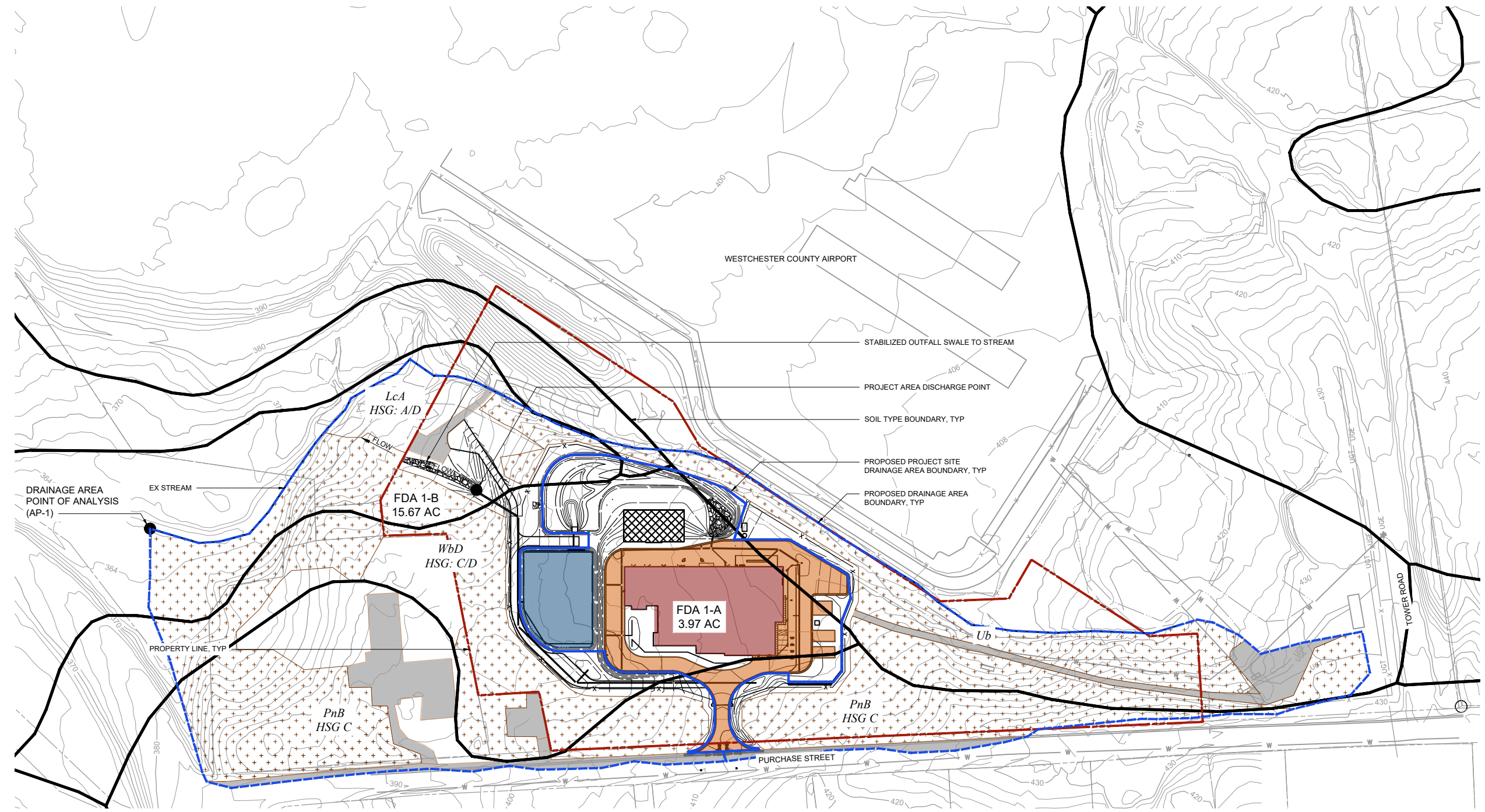
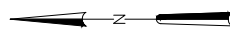


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Figure 3F-2: Predevelopment Drainage Area

Source: Hazen and Sawyer, 2022



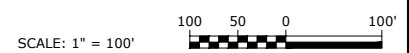
LEGEND

	WOODS
	IMPERVIOUS AREAS (ROOF)
	IMPERVIOUS AREAS (OTHER)
	EX IMPERVIOUS AREAS
	BIORETENTION SURFACE (HSG B GRASS)
	OPEN TANK (SEE NOTE 1)
	GRASS (HSG D)
	DRAINAGE AREA BOUNDARY
	PROPERTY LINE

NOTES:

1. COMBINED WASH WATER TANK AREA IS AN OPEN-AIR TANK CONNECTED INTO THE PLANT TREATMENT SYSTEM. RAINWATER OVER THE TANK WILL BE RECYCLED TO THE HEAD OF THE PLANT AND WILL NOT CAUSE ANY RUNOFF. WITH THIS IN MIND, THE TANK AREA (0.14 ACRES) HAS BEEN REMOVED FROM THE SITE'S POST-DEVELOPMENT DRAINAGE AREA

PROPOSED DRAINAGE AREA MAP
SCALE: 1" = 100'



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Pre-development Hydrologic Analysis

The New York State Stormwater Management Design Manual (NYS SMDM) Unified Stormwater Sizing Criteria for quantity control includes an analysis of the following:

- Channel Protection Volume (CP_v) for 24-hour extended detention of post-developed 1-year, 24-hour storm event;
- Overbank Flood Flow (Q_p) for the attenuation of the post-developed 10-year, 24-hour storm peak discharge to pre-development rates; and
- Extreme Storm Flow (Q_f) for the attenuation of the post-developed 100-year, 24-hour peak discharge to pre-development rates.

In order to design detention practices to meet the above *NYS SMDM* criteria, the pre-development peak rates were first determined. In addition to the required one (1), ten (10), and 100-year storm calculations the 25-year storm was calculated to ensure the post-development site discharge is below pre-development levels. Although there are currently no regulatory requirements to analyze or design the Project Site's stormwater management practices for the 500-year storm, the 500-year storm pre-development peak flow rates were calculated as part of this project.

To analyze pre-development stormwater runoff, the NRCS TR-55 method was used in conjunction with the computer program *HydroCAD* to model and assess stormwater runoff volume, peak rates of discharge, and hydrographs. The Northeast Regional Climate Center (NRCC) Extreme Precipitation Tables were used to determine the design rainfall depth. **Table 3F-1** displays a summary of the 1, 10, 25, 100, and 500-year storm events.

Table 3F-1: Pre-Development Peak Flow Summary		
Design Storm (year)	Rainfall Depth (inches)	Peak Runoff (cfs)
1	2.83	10.33
10	5.11	29.34
25	6.42	40.55
100	9.05	63.30
500	13.55	101.38

Soil Coverage and Hydrologic Groups

Figure 3F-4, Soils Map of the Project Site, shows the locations, spatial pattern, and relative sizes of soil types that are present on the Project Site as documented by the United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS). A brief description of applicable soil drainage characteristics from the Putnam Westchester Soil Survey prior to development, site engineering, and drainage controls are as follows. Portions of the site that would be developed consist primarily of areas containing Woodbridge Loam (WdB) and smaller areas containing Paxton Fine Sandy Loam (PnB) and Udorthents, smooth (Ub) soils (**Table 3F-2**).



Figure 3F-4: Soils Map of Project Site

Sources: Westchester County GIS 2020; USDA Soil Survey;
Scale: 1 inch equals 300 feet

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Water Filtration Plant

Table 3F-2: Project Site Soil Survey

Soil Type	Drainage Class	Acres	Percent
Leicester Loam, (LcA)	Deep, nearly level, somewhat poorly drained and poorly drained, moderately to moderately rapid permeability in the surface layer and moderate to rapid in the substratum	1.6	11.8%
Paxton Fine Sandy Loam, (PnB)	Very deep, gently sloping and well drained, moderate permeability in the surface layer and subsoil and slow to very slow in the substratum	2.3	17.0%
Sun Loam (Sn)	Very deep, nearly level and poorly drained or very poorly drained, slow permeability in the surface layer and very slow in the substratum	0.8	6.0%
Udorthents (Ub)	Very deep, smoothed, excessively drained to moderately well drained soil that has been altered by cut and fill	3.9	28.7%
Woodbridge Loam (WdB)	Very deep, gently sloping, moderately well drained, moderate permeability in surface layer and subsoil, slow to very slow in the substratum	4.8	36.5%

Source: USDA Soil Survey

In addition to the USDA NRCS data, geotechnical investigations including soil borings and test pits were performed to evaluate subsurface conditions throughout the site. **Chapter 3-G, Geology, Soils, and Topography** of this DEIS provides additional information on the geotechnical investigations.

There were three soil groups identified in Web Soil Survey that had Dual Hydrologic Soil Groups (A/D, B/D, C/D). Based on the proximity of the wetlands and evidence of groundwater observed in geotechnical investigations, the Project Site is assumed to be in the undrained condition, and therefore a HSG D classification was utilized for the dual soils for stormwater calculations purposes. **Table 3F-3** describes drainage characteristics of each Hydrologic Soil Group.

Table 3F-3: - Hydrologic Soil Group (HSG) Descriptions

Group	Description
Group A	Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.
Group B	Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained, or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.
Group C	Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.
Group D	Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high-water table, soils that have a clay pan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.
Dual Hydrologic Soil Groups	There are three dual classes, A/D, B/D, and C/D, where the first letter is for drained areas and the second is for undrained areas. Only the soils that are in group D in their natural condition are assigned dual classes.

Source: Soil Survey Staff, NRCS, USDA. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/> accessed February 24, 2021.

II. POTENTIAL IMPACTS

Drainage Collection System

The proposed drainage collection system would consist of the following primary elements:

- Constructed wetland
- Bioretention cell
- Underground stormwater detention structure

Stormwater runoff from onsite impervious surfaces would be captured via curb inlets and roof drains and conveyed through the piped stormwater system. Flow would be conveyed to a proposed constructed wetland for water quality volume treatment, and then discharged to a bioretention cell. Following the bioretention cell, flow would be conveyed through a piped system to the underground stormwater detention structure to reduce the peak flow during storm events. A diversion structure would divert larger flows from larger stormwater events around the bioretention cell. Runoff from these larger storm events would be piped directly to underground stormwater detention structures. Flow from the project site would be discharged to a stabilized swale via the Project Area Discharge Point (outfall), which flows to the unnamed stream, and ultimately flows to Rye Lake WJWW water source (**Figure 3F-3, Post-Development Drainage Area**).

Stormwater Quality and Quantity

To replicate pre-development hydrology, NYSDEC's SPDES General Permit for Stormwater Discharges from Construction Activity (General Permit) requires stormwater quality control. The General Permit has requirements for the Water Quality Volume (WQv) that are intended to improve water quality by capturing and treating runoff from small, frequent storm events. It is runoff from these smaller storms that tend to contain the highest pollutant concentrations. The Project is also located within the Kensico watershed, which triggers requirements to treat a greater volume of the site runoff as WQv and NYCDEP's review of the Project's stormwater management.

The Project Site would achieve pollutant removal from the WQv through media filtration, biological uptake, and increased settling time. Additionally, a portion of the site's WQv is required to be treated as Runoff Reduction Volume (RRv). Meeting the RRv regulations replicates pre-development hydrology by infiltration, groundwater recharge, reuse, recycling, and evaporation/ evapotranspiration. The Project Site has been designed to include two structural stormwater management practices (SMPs) in series (pocket wetland and bioretention cell) to meet both the WQv and RRv regulations, which would help replicate pre-development water quality.

The pocket wetland consists of a forebay, marsh zones with permanent water depths ranging up to 18 inches, and a deepwater micro pool. Water is collected from the developed area via drain inlets and roof drains and is piped to a forebay for pretreatment. Runoff then flows through the wetland marsh zones and into a deepwater micropool. At the end of the deepwater micropool, a compound outlet structure directs the WQv to the bioretention cell; flow above the WQv would be directed to the underground stormwater detention chambers. While most of the WQv is stored in the pocket wetland's permanent pool, a portion of the WQv is treated as extended detention. A low flow orifice is designed to provide the 24-hour extended detention of the remaining WQv. Once stormwater flows through the WQv orifice

it enters a pipe to convey water from the wetland to a gravel trench. The gravel trench is designed as a “bubble-up” level spreader to diffuse flow across the bioretention surface evenly.

The bioretention cell is downstream of the pocket wetland and serves as the second SMP in series. The bioretention cell is composed of multiple layers, including a planting soil bed, a surface mulch layer and a surface ponding area, to treat stormwater runoff. The stormwater is treated as it filters through the mulch and planting bed layers. Treated stormwater that is not absorbed into the surrounding soil flows into detention chambers located directly beneath the bioretention cell. Excess stormwater in the ponding area enters overflow inlets within the bioretention cell, which connect directly into the detention chambers.

The General Permit also requires stormwater quantity control through the Overbank Flood Control (Qp) and Extreme Flood Control (Qf) criterion. The Qp and Qf require an analysis of the ten (10) and 100-year design storms, respectively, and ensure the site would not alter the hydrology when compared to pre- and post-development conditions. Additionally, the General Permit also has Stream Channel Protection Volume (CPv) requirements for the one (1)-year storm. The CPv requirement is designed to protect stream channels from erosion, which is achieved by providing 24-hour extended detention for the one (1)-year, 24-hour storm event. By meeting the CPv, Qp, and Qf requirements, no adverse changes to the water quantity are proposed as part of this project.

To meet the General Permit’s water quantity requirements, a series of underground stormwater chambers are provided beneath the bioretention cell. The Project Site is highly constrained, and there is no additional space to accommodate the required footprint of the detention system. Therefore, the stormwater chambers are stacked beneath the bioretention cell. This configuration allows the stormwater management area to be as space efficient as possible, in order to avoid or minimize disturbance to the wetlands, streams, and their buffers, existing woods, steep slopes, and property line setbacks. The chambers are separated from the bioretention media by a layer of choker stone. The chambers themselves are embedded in clean washed stone, with a layer of stone above, below, and around the chamber perimeter. The chambers have side perforations and open bottoms, allowing the surrounding stone to provide additional storage volume. The chambers would function as an underdrain, allowing any water that is not absorbed by the soil media to be captured in the chamber. There are also overflow inlets above the bioretention ponding surface that connect directly into the detention chambers. As previously mentioned, the wetland outlet structure doubles as a diversion structure, and has piped connections to send larger storm events directly to the detention structures.

Stormwater is stored in the chambers and released slowly via the chamber outlet structure. The chamber outlet structure sends flow through a piped outfall, the Project Area Discharge Point, to a stabilized swale and ultimately discharges to the unnamed stream, a tributary of Rye Lake WJWW water source located northeast of the site.

Appendix C, Site Plans shows the proposed drainage system for the Project Site.

Post-development Hydrologic Analysis

Consistent with the pre-development stormwater peak runoff analysis, the post-development peak runoff rates were also calculated using the NRCS TR-55 method within *HydroCAD*. The same Northeast Regional Climate Center (NRCC) Extreme Precipitation Tables values for rainfall depth were utilized in

post-development calculations. See **Table 3F-4** below for a comparison of the pre- and post-development peak runoff rates.

Table 3F-4 – Pre-Development Peak Flow Summary				
Design Storm	Rainfall Depth (in)	Pre-Development Peak Runoff (cfs)	Post-Development Peak Runoff (cfs)	Delta (Post – Pre)
1-yr.	2.83	10.33	9.66	-0.67
10-yr.	5.11	29.34	27.86	-1.48
25-yr.	6.42	40.55	39.21	-1.34
100-yr.	9.05	63.30	62.03	-1.27
500-yr.	13.55	101.38	106.71	5.33

Stormwater management facilities for the proposed project are designed in accordance with the applicable NYSDEC regulations and *Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and Its Sources* and would manage the 1-, 10-, and 100-year design storm. As shown in **Table 3F-4**, the project would result in an increase in the peak runoff rate for the 500-year storm event. This increase of 5.33 cubic feet per second (cfs) in the peak runoff rate post-development is a five (5) percent increase over the pre-construction peak runoff rate. This increase in peak flow for the 500-year storm would result in a minor increase in depth (0.3 inch, 0.03 ft.) within the unnamed stream at AP-1. This would be a minimal increase in depth and would be comparable to existing conditions.

Stormwater Pollution Prevention Plan and Compliance with State, City and Local Stormwater Regulations

All construction activities would be performed in accordance with NYSDEC's technical standards for erosion and sediment control to minimize potential adverse effects to surface waters, including Kensico Reservoir. Potential sediment and erosion control measures, including silt fencing, inlet (catch basin) protection, and covering stockpiled fill and/or excavated materials, would be implemented in accordance with an approved Stormwater Pollution and Prevention Plan (SWPPP). These measures would reduce erosion or runoff potential in the event of a storm and would provide dust control in dry weather. In addition, all construction activities that would take place adjacent to regulated NYSDEC freshwater wetlands would be completed in accordance with any conditions required by NYSDEC under Articles 15 and 25 of the NY Environmental Conservation Law, or through equivalent approvals.

The proposed plant would be designed and operated in compliance with the *Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and Its Sources*. As the Project would construct a new facility (i.e., the Rye Lake Water Filtration Plant) used in connection with the operation of a public water supply system, prohibitions on the construction impervious surfaces within limiting distances to watercourses, wetlands, reservoirs, reservoir stems, or controlled lakes would not apply. It should be noted that the project proposes limited impervious surfaces within the limiting distances to watercourses and wetlands¹⁹. WJWW has been coordinating with NYCDEP throughout the course of this project, as the project is located within the New York City's water supply watershed. WJWW is committed to continuing this coordination to ensure protection of the high-quality waters from which the City's water supply is drawn and preserve it from degradation.

¹⁹ New York City Water Supply Rules and Regulations Section 18-39(a) Stormwater Pollution Prevention Plans and Impervious Surfaces limits construction of impervious surfaces within the limiting distance of 100 feet of a watercourse or wetland, unless it is made necessary by the construction of a new facility or alteration of an existing facility used in connection with the operation of a public water supply system.

In addition, post-construction stormwater management controls would be designed and implemented to comply with NYSDEC and NYCDEP regulations.

Access, Ownership, and Responsibility for Maintenance of Stormwater Facilities

During construction the contractor would be responsible for the implementation, ownership, and access to all erosion and sediment control practices. The contractor would have a trained contractor on-site to inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area, daily, to ensure that they are maintained in effective working condition at all times. If deficiencies are identified, the contractor would begin implementing corrective actions within one business day and shall complete the corrective actions within a reasonable time frame. A qualified inspector would also be provided throughout construction to conduct site inspections at least once every seven days and within 24 hours of any storm event producing 0.5 inch of precipitation or more, or as otherwise required in the General Permit.

Post-construction, WJWW would be responsible for the ownership and maintenance of the stormwater management facilities. Per Chapter 130 of the Town/Village of Harrison Town/Village Code, WJWW shall execute a maintenance easement agreement with the Town/Village prior to the stormwater management design approval. The maintenance easement provides the Town/Village of Harrison access to the SMPs for periodic inspection. WJWW shall also formalize a binding maintenance agreement with the Town/Village of Harrison.

Storm Sewer Capacity and Connections to Existing Storm Sewers and Watercourses

A storm sewer network is designed to collect and convey runoff from new impervious areas to the SMPs. Per the Rules and Regulations of the NYC Water Supply, the storm sewer network was designed, at a minimum, to convey the 10-year storm.

The storm sewer system daylight to the SMP treatment train. After passing through the two SMPs in series, stormwater runoff enters an underground stormwater detention chamber, which provides peak flow attenuation. The underground stormwater detention chamber discharges runoff to a stabilized swale via a piped outfall (Project Area Discharge Point) north of the developed area. From the outfall, the stormwater runoff surface flows to the adjacent, unnamed stream and ultimately reaches Rye Lake WJWW water source. This drainage pattern is consistent with the pre-development condition. The stormwater detention chamber provides adequate attenuation so that the ultimate post-development discharge to the neighboring stream and Rye Lake WJWW water source is consistent with the pre-development levels. There are no direct connections to an existing storm sewer proposed as part of this project.

III. MITIGATION MEASURES

The proposed stormwater control system, as described above and shown on the proposed plans, is expected to address potential water quality and quantity impacts from the proposed project, including reductions in post-development peak runoff volumes from the one (1), ten (10), 25- and 100-year design storms. The drainage design provides for temporary detention, settling of solids, biological uptake, surface evaporation, subsurface filtration, and components for temporary overflow storage and delayed discharge to provide a high-quality discharge into the stream channel via the Project Area Discharge Point. This proposed drainage system, along with the facilities maintenance requirements listed above, are

expected to suitably address potential adverse environmental impacts on water quality and ensure that runoff from the proposed project is properly controlled to prevent flooding. Based on the foregoing, no further mitigation is recommended. As stated above, the Project would result in an increase in the peak runoff rate for the 500-year storm event. This increase of 5.33 cubic feet per second (cfs) in the peak runoff rate post-development is a five (5) percent increase over the pre-construction peak runoff rate. This increase in peak flow for the 500-year storm would result in a minor increase in depth (0.3 inch, 0.03 ft.) within the unnamed stream at AP-1. This would be a minimal increase in depth and would be comparable to existing conditions; therefore no mitigation of significant adverse impacts would be required.

G. GEOLOGY – SOILS AND TOPOGRAPHY

I. EXISTING CONDITIONS

a) REGIONAL BEDROCK AND GEOLOGY

According to the 2021 Geotechnical Engineering Report (**Appendix H, Soils and Geology**), the geologic characteristics of the proposed site consist of Glacial Till deposits. These deposits consist of a mixture of sand, gravel, silt clay, and boulders of a variety of textures. The Project Site is underlain by Manhattan Formation bedrock, which is a metamorphic schist bedrock of the Ordovician age.

b) SOIL CHARACTERISTICS

Soil types are determined based on several factors, such as the granularity of the soil, texture, sorting, drainage capacity, color, and slopes. The Proposed Site has a total of five (5) soil types, with 36.5 percent of the subject property consisting of Woodbridge Loam soils, 28.7 percent consisting of Udorthents soils, 17.0 percent consisting of Paxton Fine Sandy Loam soils, 11.8 percent consisting of Leicester Loam soils, and 6.0 percent consisting of Sun Loam soils (**Figure 3G-1, Soils Map of Project Site**). Approximately 82 percent of the Project Site contains well to moderately drained soils, while the remaining portion of the Project Site is classified as poorly drained. **Table G-1** summarizes the soil types found at the Proposed Site, including the drainage class. Soil data were provided by the U.S. Department of Agriculture Natural Resource Conservation Service soil survey.

Woodbridge Loam and Paxton Fine Sandy Loam are moderately well drained and well drained soils, respectively. These soils are more suited for development than the poorly drained Leicester and Sun Loams that are present in the northeast corner of the site and have water at or near the surface. Soil characteristics of each soil type are indicated below in **Table 3G-1**.

Table 3G-1: Project Site Soil Survey

Soil Type	Drainage Class	Acres	Percent
Leicester Loam, (LcA)	Deep, nearly level, somewhat poorly drained and poorly drained, moderately to moderately rapid permeability in the surface layer and moderate to rapid in the substratum	1.6	11.8%
Paxton Fine Sandy Loam, (PnB)	Very deep, gently sloping and well drained, moderate permeability in the surface layer and subsoil and slow to very slow in the substratum	2.3	17.0%
Sun Loam (Sh)	Very deep, nearly level and poorly drained or very poorly drained, slow permeability in the surface layer and very slow in the substratum	0.8	6.0%
Udorthents (Ub)	Very deep, smoothed, excessively drained to moderately well drained soil that has been altered by cut and fill	3.9	28.7%
Woodbridge Loam (WdB)	Very deep, gently sloping, moderately well drained, moderate permeability in surface layer and subsoil, slow to very slow in the substratum	4.8	36.5%

Source: USDA Soil Survey



Figure 3G-1: Soils Map of Project Site

Sources: Westchester County GIS 2020; USDA Soil Survey;
Scale: 1 inch equals 300 feet

Westchester Joint
Water Works
Water Filtration Plant

II. POTENTIAL IMPACTS

The filtration plant would be constructed in an area that is gently sloping and contains Woodbridge Loam and Paxton Fine Sandy Loam soils. This area is near the center of the property and is considered the most suitable site based on topography and soil characteristics (**Figure 3G-2, Topography**). The main factor associated with constructing the facility on the site is the need to ensure proper drainage. A preliminary grading and drainage plan has been prepared for the Project to ensure site gradients are suitable for construction and site drainage (**Appendix C, Site Plans**).

a) *PRELIMINARY CUT AND FILL ANALYSIS*

A steep slope and topography map of the Proposed Site has been prepared that shows topography at two-foot contour intervals (**Figure 3G-2, Topography**). The topography does not vary much on the Project Site, and only the northeast corner of the site contains slopes greater than 15 percent.

The 2021 Geotechnical Engineering Report analyzed many aspects of the Proposed Action, including the need for cut and fill on-site (**Appendix H, Soils and Geology**). Based on existing conditions and test borings from previous subsurface exploration, 12 inches of topsoil stripping depth is proposed for construction planning purposes within the limits of disturbance prior to placement of grading fill. The actual depth of topsoil stripping would be dependent on the depths encountered in the field. Removal of silt-sand and other soil materials is proposed within the footprint of the proposed water filtration plant.

Suitably textured granular fill, including sand-gravel and crushed stone would be used as fill material. All fill material would be free from ice and snow, roots, sod, rubbish, and other deleterious or organic matter and be of suitable texture. Based on the Geotechnical Engineering Report, the criteria for each proposed fill material are outlined in **Table 3G-2, Fill Material Criteria**.

Generally, fill material would be compacted to at least 95 percent of its maximum dry density. Prior to commencing with fill placement, the fill subgrades would be properly compacted and proof-rolled with a loaded dump truck or other heavy, wheeled equipment to assess the suitability of the material. Excess soil that cannot be used would be disposed off-site in accordance with Town/Village of Harrison, New York State, and federal regulations.

Dewatering to maintain the groundwater at an elevation at least two (2) feet lower than the excavation bottom elevation would be required in the vicinity of the new filtration plant during the construction of the foundation for the facility. The dewatering would be designed to avoid settlement of adjacent roadways and utilities. A contingency plan to address the discharge of groundwater would be developed by a specialty subcontractor based on the site conditions, the planned excavation extents, and the data presented in the Geotechnical Engineering Report. Based on the groundwater sampling, a treatment system may be required to treat and control the discharge of dewatering effluent.

Temporary groundwater discharge permits would be required from NYSDEC for any dewatering operations. In addition, review and approval of temporary groundwater discharges would be coordinated with NYCDEP in accordance with the Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and its Sources. Any treatment (such as settling tanks or filtration of dewatering effluent) would be provided based on

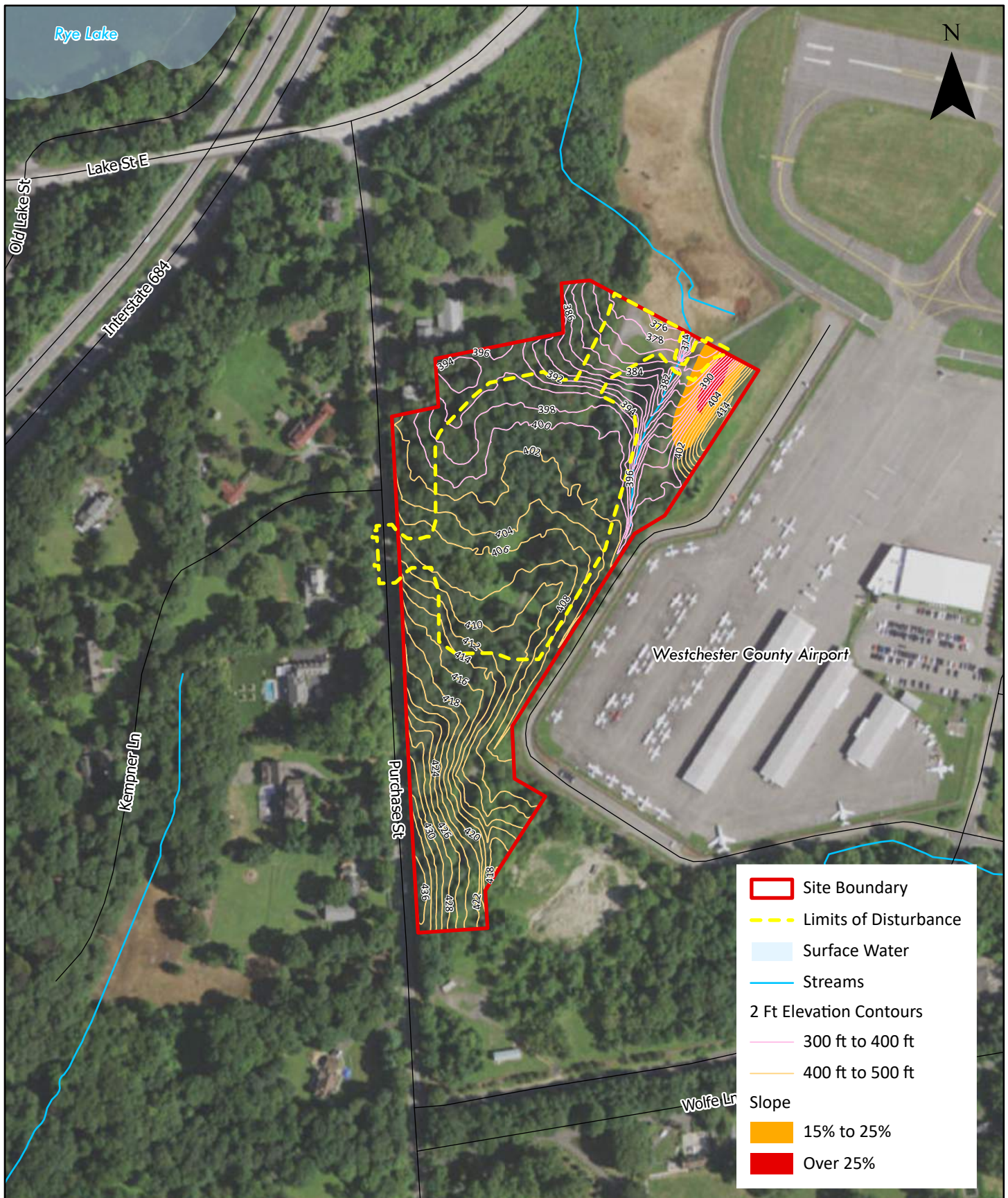


Figure 3G-2: Topography

Sources: Westchester County GIS 2020;
Scale: 1 inch equals 300 feet

Westchester Joint
Water Works
Water Filtration Plant

water quality of the effluent and permit conditions. In addition, monitoring of groundwater effluent may require additional sampling to verify compliance prior to discharge pending permit conditions.

The maximum depth of excavation would be 35 feet in the area in which the washwater tanks would be installed. The total volume of net material anticipated to be removed from the Project Site would be approximately 49,900 CY. This estimate has a 20 percent uncertainty factor applied to it.

Table 3G-2: Fill Material Criteria		
Fill Material	Sieve Size	Percent Finer by Weight
Granular Fill	2/3 of the loose lift thickness	100
	No. 10	30-95
	No. 40	10-70
	No. 200	0-15, 0-8 when used behind walls
Sand-Gravel	3 inches	100
	1/2 inch	50-85
	No. 4	40-75
	No. 40	Oct-35
	No. 200	0-8
Crushed Stone	1 inch	100
	3/4 inch	90-100
	1/2 inch	Oct-50
	3/8 inch	0-20
	No. 4	0-5
	No. 200	0-1

b) SOIL REUSE

Project engineers estimate that in the worst-case scenario, 70 truck trips per day for a span of approximately three (3) months would be required to complete the necessary excavation to construct the facility. A Phase I Environmental Site Assessment (ESA) of the site was conducted in 2019 to identify any soil or groundwater contamination at the site (**Appendix O, Environmental Site Assessment**). The assessment revealed the following evidence of Recognized Environmental Conditions (RECs), Historical Recognized Environmental Condition (HREC), Controlled Recognized Environmental Condition (CREC) and Business Environmental Risks (BER) in connection with the Project Site and surrounding property that could affect soil and water quality:

- Since approximately 2001, a groundwater monitoring program has been implemented at the airport property to periodically monitor and determine groundwater quality beneath the airport and the potential for groundwater migration off-site. Volatile organic compounds (VOCs), ethylene glycol, propylene glycol, Target Analyte List (TAL) metals, including aluminum, barium, calcium, chromium, copper, iron, lead, manganese, magnesium, nickel, potassium, sodium, thallium, vanadium, zinc, and sodium have been detected in samples collected at the airport property. Although, the metals identified were attributed to naturally occurring factors,

the 2019 Phase I report concluded that they are also likely due to historic anthropogenic contamination. Additionally, given the likelihood that the geologic formation beneath the airport property and Project Site are potentially the same, the potential exists for metals to be present beneath the Project Site and this constitutes a potential REC.

- In addition, emerging contaminants of concern (COC) such as Per- and Polyfluoroalkyl Substances (PFAS): Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) have been detected at the Parent Property/Airport above the United States Environmental Protection Agency (USEPA) recommended guidance value (70 parts per trillion). Six (6) underground storage tanks (USTs)/aboveground storage tanks (ASTs) and one spill incident are currently listed in the database report with case status of “in service” or “not reported”.

The regulatory case status of the remaining USTs/ASTs and the Leaking aboveground or underground storage tanks spill listings is “closed/removed.” The 2019 Phase I report concluded that the PFOA and PFOS, and the database listings with “closed/removed” regulatory status represent an HREC. It also recommended continued monitoring of the existing wells and groundwater management at the airport property in accordance with governmental regulations.

- Illegally dumped solid waste and discarded miscellaneous debris/waste were identified in several locations on the Project Site. The report concluded that the illegal dumping and discarded miscellaneous debris/waste on the Project Site constitute a BER. The Phase I report recommended that the solid wastes or miscellaneous debris/waste either be isolated/ segregated, characterized, recycled/salvaged (where possible) or excavated/ removed and transported offsite for proper disposal.
- The Westchester County Airport Former DPW Staging Area (a.k.a Harrison SubResidency Landfill Site and Petroleum Spill Area) is an adjacent/surrounding property that was identified as having soil, sediment and groundwater contamination and this condition represents a REC. A combined 24-inch-thick soil and vegetative cover, and permanent erosion and sediment controls were constructed on this adjacent/surrounding property in 2007 and this constitutes a CREC. PFOS and PFOA were detected above the USEPA Health Advisory Levels for drinking water and therefore represent a BER within the Westchester County Airport Former DPW Staging Area. Based on factors, including ongoing groundwater monitoring, separation distances, hydrogeologic conditions (cross gradient), and the intervening development, the Phase I report concluded that the PFOS and PFOA detected at the Westchester County Airport Former DPW Staging Area are not anticipated to represent a REC to the Project Site at this time. However, the report recommended that periodic inquiries be made with the NYSDEC to track and confirm environmental monitoring and potential contamination migration that could impact the Subject Property.

In addition, a preliminary subsurface exploration program was completed on November 22, 2019, and groundwater samples were collected on December 13, 2019, for the Preliminary Geotechnical Report (**Appendix O, Environmental Site Assessment**). Two test pits and three test borings were performed at the Proposed Site to obtain preliminary environmental conditions. Soil samples were tested for a number of compounds which were all detected below NYS DEC Environmental Remediation Program criteria for unrestricted use soil cleanup objectives; therefore, there are no restrictions for the reuse of excavated subsoil and glacial till on- or off-site. Groundwater was also tested for volatile organic compounds (VOCs) and SVOCs as well as perfluorinated alkyl acid (PFAA) compounds, which are a sub-

set of per- and polyfluoroalkyl substances (PFAS). None of these compounds were detected above laboratory detection limits; therefore, no treatment for these compounds is warranted.

A Phase I reassessment was conducted in August 2021 and included information on additional groundwater testing conducted in July 2021. The three (3) additional groundwater samples were collected to assess the groundwater quality at the Project Site. The groundwater samples resulted in no detected volatile organic compounds, pesticides, or PCBs. However, several semi-volatile organic compounds and metals were detected in separate groundwater samples that exceeded their respective NYSDEC TOGS 1.1.1 Water Quality Standards for class GA (fresh) groundwater. These results would not affect the water that would be treated by the proposed filtration plant because the WJWW water source is from Rye Lake and processed at the Proposed Site in a closed loop system.

The existing soil material on-site would be evaluated for suitability as fill material to be re-used. Clean material would be properly compacted and proof-rolled with a loaded dump truck or other heavy, wheeled equipment. Excess soil and earth materials that cannot be re-used would be disposed off-site in accordance with Town/Village of Harrison, New York State and federal regulations and the recommendations of Phase I and Geotechnical Engineering report provided in the Mitigations section below.

c) **STEEP SLOPES**

The Project would comply with all applicable local laws regarding impacts to and from soils. The Town/Village of Harrison has a Steep Slope Protection Law. This ordinance defines “steep slope” as “a slope within a topographical gradient equal to or greater than 15 percent but less than 25 percent.” In addition, “very steep slope” is defined as a “slope with a topographical gradient equal to or greater than 25 percent but less than 35 percent.” An “excessively steep slope” is defined as a “slope with a topographical gradient equal to or greater than 35 percent.” Disturbance of any steep slopes in the Town/Village of Harrison requires a Steep Slope Permit.

The northeastern portion of the Project Site has a small area that is classified as steep slopes (**Figure 3G-2, Topography**). This area has slopes with grades between 15-25 percent and a very small area that has slopes with grades that are over 25 percent. The area that is considered steep slopes is located outside of the limits of disturbance for the construction of the facility and would only be slightly impacted during the installation of the new sewer line.

Construction activities can create the potential for the transportation of sediment in stormwater flows. A Stormwater Pollution Prevention Plan (SWPPP) and Sediment and Erosion Control Plan would be prepared and implemented for the Project Site to mitigate potential impacts (**Chapter 3F, Stormwater**, of this DEIS).

III. **MITIGATION MEASURES**

No significant adverse impacts to the soils, topography, or steep slopes on the Project Site are anticipated to result from the implementation of the Project based on the geotechnical and environmental assessments and recommendations presented in this section of the DEIS. The Project would include the following measures:

- Identify limits of clearing prior to site preparation and construction. Limit total site clearing to only what is necessary for building construction, parking, access, staging, equipment, and space for required operations.
- Install temporary fencing (limits of disturbance) as needed to prevent encroachment of clearing and other work into areas that are to remain natural/undisturbed and utilize silt fencing to prevent soil from being transported off the development site, on to streets, private properties, into drainage structures, or into the stream and wetlands.
- Grade or stabilize cleared slopes as soon as possible after clearing and grubbing by developing the site (paving and building construction) and/or seeding and landscaping as soon as possible after disturbance.
- Incorporate any clean and suitably textured soils from excavations back into the site as possible to ensure suitable grades for development while reducing the need for off-site shipments and disposal.
- Prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) that meets the standards and requirements of the State and Town/Village pursuant to Chapter 130, Stormwater Management and Erosion Control.
- All erosion and sediment control measures would be installed as appropriate per the SWPPP.
- Utilize dust control practices including stabilized construction entrance, applying water and or calcium chloride to bare soil periodically if and as necessary and maintaining low onsite construction vehicle speeds (posting an onsite speed limit of ten (10) mph).
- Ensure that dump trucks are covered when exporting from the site.
- Designate material staging areas and designated temporary stockpile locations onsite as needed and measures taken to prevent erosion and sedimentation from stockpiles as warranted.
- Provisions would be made during the construction phase to have excavated water and sediments pumped, containerized, and disposed of in accordance with applicable regulations and guidelines, including hazardous waste management policies and procedures, if applicable. All excavated materials and water from the Project Site would meet all regulatory requirements including the requirements of 6 NYCRR Part 360 for off-site disposal facilities. All analytical results developed during the project development stage would be used to facilitate selection of a suitable disposal facility. If excavated materials require additional characterization depending on the acceptance requirements of the selected disposal facility permit, such additional characterization would be conducted at that time.
- Solid wastes or miscellaneous debris encountered during the construction process would be isolated/ segregated, characterized, recycled, or salvaged where possible. All remaining materials or wastes or debris would be excavated, removed, and transported offsite for proper disposal.
- Install drainage infrastructure that meets the design and capacity requirements necessary to serve the site, ensure proper drainage and prevent flooding, and protect slopes, wetlands, and watercourses in accordance with Chapter 130 of the Town/Village Code. Proposed drainage management practices currently include green infrastructure such as a constructed wetland, bioretention area, and an underground stormwater detention structure.

H. VEGETATION AND WILDLIFE

I. EXISTING CONDITIONS

a) VEGETATION

This chapter discusses existing ecological conditions at the Project Site and potential impacts that the Proposed Project may have on Vegetation and Wildlife. Information and analyses contained herein and located in (**Appendix I, Vegetation and Wildlife**) are based on:

- Several tree surveys and Site inspections conducted between August 14, 2019, and April 5, 2021, and on December 3, 2021;
- Wetland inspections and delineations completed on May 18 and 19 of 2021; and
- Information from published sources and plant and animal databases, including:
 - the NYS Breeding Bird Atlas Project;
 - Checklist of Amphibians, Reptiles, Birds and Mammals of New York State;
 - U.S. Fish and Wildlife Service Information Planning and Consultation (USFWS IPaC) records; and
 - New York State Department of Environmental Conservation's (NYSDEC's) Environmental Mapper/Natural Heritage Program (NHP) database.

Site visits were used to identify general habitat conditions, inventory the species of vegetation and habitat cover-types on-site, identify the presence of water features and wetlands, and make opportunistic observations of wildlife species that may inhabit, frequent, or occasionally visit the Project Site.

The Project Site is 13.4-acres in area. The land uses in the immediate area include an airport, streets, single-family homes, and a house of worship. The Site is currently located on Westchester County Airport property, which contains multiple buildings and structures, runways, taxiways, and large parking lots. The airport is vegetated primarily with grass that is maintained by the airport. There are a few wooded areas located on the periphery of the Airport property, one of which is the Project Site. The adjoining neighborhood to the west is characterized as suburban with single-family homes, residential lawns, and fragmented forest.

According to prior reports, the Project Site was almost entirely cleared and graded during the construction of Westchester County Airport in the 1940s;²⁰ however, aerial imagery show that the Site has revegetated since the 1960s (**Appendix O, Environmental Site Assessment**). Today, the Project Site consists primarily of Successional Southern Hardwood forest vegetation, interspersed with remnants of prior Site disturbance from past uses. Dominant tree species include Norway maple (*Acer platanoides*) and black locust (*Robinia pseudoacacia*), which comprise approximately 55 percent of the trees identified, both of which are located on the NYSDEC invasive species list²¹. Co-dominant tree species include red maple (*Acer rubrum*), sugar maple (*Acer saccharum*), black cherry (*Prunus serotina*), white ash (*Fraxinus americana*), and tree of heaven (*Ailanthus altissima*), which comprise

²⁰ 2019 Phase 1 Environmental Site Assessment Report for 4300 Block of Purchase Street, Harrison, New York 10577 (Block 971, Lot 8)

²¹ See https://www.dec.ny.gov/docs/lands_forests_pdf/isprohibitedplants2.pdf

approximately 36 percent of the trees identified.²² Most trees on-site have a diameter at breast height (DBH) ranging from four (4) to 20 inches. Multiflora rose (*Rosa polyantha*) is the dominant shrub species; however, the tree canopy is fairly dense throughout the Proposed Site, preventing a significant shrub layer from forming. The herbaceous layer consists primarily of Japanese honeysuckle (*Lonicera japonica*), garlic mustard (*Alliaria petiolata*), pokeweed (*Phytolaca americana*), poison ivy (*Toxicodendron radicans*), porcelain berry (*Ampelopsis brevipedunculata*), and mile-a-minute vine (*Persicaria perfoliata*), which generally occur at the canopy edges. Aside from poison ivy and pokeweed, all of the species within the herbaceous layer are non-native and invasive to New York State². The 2020 Site Investigations report discussing Site vegetation and wildlife is provided in **Appendix I, Vegetation and Wildlife**.

Instances of dumping of organic and household waste was observed in sporadic areas across the Project Site, including the northern, western periphery, and eastern portions. A stone property fence lines the western property boundary of the Project Site and is likely associated with a dwelling that was located just south of the subject property until the 1940s. A small clearing lined by invasive Norway maple trees and a concrete slab were observed in the central portion of the Site.

A tree survey was conducted at the Project Site to determine if any environmentally significant species are present that warrant special consideration. The survey recorded the common name, scientific name, and tree diameter breast height (DBH) for each regulated tree. According to the Town/Village of Harrison's code (Chapter 220: Trees), a regulated tree is "any living, woody plant, its root system and the area within the outer limit of its branches, which is four inches or more in diameter of its trunk measured at breast height."

The tree survey revealed a total of 1,896 trees with a DBH of four inches or greater. The largest DBH surveyed was a Cottonwood (*Populus deltoides*) at 66.4". Of note, four trees were measured with DBHs at 33.5" (Norway Maple); 34.2" (Norway Maple); 36.5" (Red Maple); and 41.8" (Norway Maple). The smallest trees surveyed had DBHs of four inches. In total, there were twenty-one different tree species identified on-site (**Table 3H-1**); however, the tree surveys concluded that there are no tree species that would warrant special consideration during the proposed construction of the filtration plant. Furthermore, based on the several Site inspections and review of available published reports and databases, the Site contains no rare trees, plants, or significant natural communities. Of the 1,896 trees found on the Project Site, 56 percent of them are invasive.

²² Hazen and Sawyer, 2020. Westchester Joint Water Works Rye Lake Water Filtration Facility Site Investigations. HZ: New York, NY. February

Table 3H-1: Summary of All Tree Species Identified Within the Proposed WJWW Filtration Plant Project Area (2019-2021)

Common Name	Scientific Name	Diameter at Breast Height (inches)				Total
		4-12	12-20	20-28	>28	
Norway Maple*	<i>Acer platanoides</i>	477	157	32	4	670
Black Locust*	<i>Robinia pseudoacacia</i>	255	110	5	0	370
Red Maple	<i>Acer rubrum</i>	228	58	18	2	306
Sugar Maple	<i>Acer saccharum</i>	189	27	8	0	224
Black Cherry	<i>Prunus serotina</i>	57	23	2	0	82
White Ash	<i>Fraxinus americana</i>	22	11	6	1	40
Tree of Heaven*	<i>Ailanthus altissima</i>	29	8	1	0	38
Norway Spruce	<i>Picea abies</i>	36	2	0	0	38
White Pine	<i>Pinus strobus</i>	10	14	2	0	26
Cottonwood	<i>Populus deltoides</i>	8	7	2	2	19
Pin Oak	<i>Quercus palustris</i>	7	5	0	0	12
Sassafras	<i>Sassafras albidum</i>	7	2	0	1	10
Red Elm	<i>Ulmus rubra</i>	6	2	2	0	10
Smooth Alder	<i>Alnus serrulata</i>	9	0	0	0	9
Tulip Poplar	<i>Liriodendron tulipifera</i>	2	0	3	3	8
Sycamore	<i>Platanus occidentalis</i>	2	1	3	0	6
Crabapple	<i>Malus spp.</i>	5	0	0	0	5
Serviceberry	<i>Amelanchier spp.</i>	5	0	0	0	5
Red Cedar	<i>Juniperus virginiana</i>	5	0	0	0	5
Yellow Birch	<i>Betula alleghaniensis</i>	4	0	0	0	4
Red Oak	<i>Quercus rubra</i>	3	0	0	0	3
Scarlet Oak	<i>Quercus coccinea</i>	1	1	0	0	2
Paper Birch	<i>Betula papyrifera</i>	2	0	0	0	2
American Arborvitae	<i>Thuja occidentalis</i>	1	0	0	0	1
Black Gum	<i>Nyssa sylvatica</i>	1	0	0	0	1
Total		1,371	428	84	13	1,896
*New York State Invasive Species						

An unnamed stream runs along the east side of the Project Site and part of the property is located within a State Regulated Wetland Zone. The National Wetlands Inventory maps characterize the two types of wetlands within the Project area as Riverine and Palustrine (ie. emergent freshwater wetlands).

According to the August 2021 Wetland Delineation Report (**Appendix J, Wetlands**), dominant vegetation identified include red maple (*Acer rubrum*), pin oak (*Quercus palustris*), and American elm (*Ulmus americana*) in the canopy; southern arrowwood (*Viburnum dentatum*), silky dogwood (*Cornus sericea*), and Russian olive (*Elaeagnus angustifolia*) in the understory; and field horsetail (*Equisetum*

arvense), New England aster (*Symphyotrichum novae-angliae*), and soft rush (*Juncus effusus*) in the herbaceous layer.

The Project Site also includes common reed (*Phragmites australis*), skunk cabbage (*Symplocarpus foetidus*), sensitive fern (*Onoclea sensibilis*), and soft rush (*J. effusus*) in the herbaceous layer. A list of Obligate (OBL) and Facultative Wetland (FACW) plants identified on-site is provided in **Table 3H-2**. The locations of the emergent wetlands and stream corridor on the Site and an inventory of tree and plant species identified in these wetlands are also provided in the Wetland Delineation Report (**Appendix J, Wetlands**).

Table 3H-2: Wetland Species Found on the Site (Obligate and Facultative Wetland)	
Name (Common)	Name (Scientific)
Skunk cabbage	<i>Symplocarpus foetidus</i> (OBL)
Wheat sedge	<i>Carex atherodes</i> (OBL)
Soft rush	<i>Juncus effusus</i> (OBL)
Swamp white oak	<i>Quercus palustris</i> (FACW)
American elm	<i>Ulmus americana</i> (FACW)
Red osier dogwood	<i>Cornus sericea</i> (FACW)
Jewelweed	<i>Impatiens capensis</i> (FACW)
New England aster	<i>Symphyotrichum novae-angliae</i> (FACW)
Sensitive fern	<i>Onoclea sensibilis</i> (FACW)
Reed canary grass	<i>Phalaris arundinacea</i> (FACW)
Common reed	<i>Phragmites australis</i> (FACW)

b) WILDLIFE

During the tree and wetland surveys, limited wildlife was observed. Eastern chipmunk (*Tamias striatus*) and grey squirrel (*Sciurus carolinensis*) were the only mammals seen. Other mammals that are common to Westchester County's forests and are expected at the Project Site include white-tailed deer (*Odocoileus virginianus*), striped skunk (*Mephitis mephitis*), red fox (*Vulpes vulpes*), white-footed mouse (*Peromyscus leucopus*), little brown bat (*Myotis lucifugus*), eastern cottontail (*Sylvilagus floridanus*), raccoon (*Procyon lotor*), and possibly others, especially those that are tolerant of human activity. Seven species of birds were observed. The most common bird sightings were the American Robin (*Turdus migratorius*) and Blue Jay (*Cyanocitta cristata*). A full list of the wildlife species identified during the tree surveys, either by direct observation or call identification, are provided in Table 2 of 2020 Site Investigations Report (**Appendix I, Vegetation and Wildlife**).

Information regarding federally listed threatened and endangered species and their designated critical habitat was obtained through an online database search of the United States Fish and Wildlife Service (USFWS). The USFWS's Information for Planning and Consultation (IPaC) website identified one species of significance that could potentially occur within or adjacent to the Project Site on August 8, 2019. This species is the Indiana Bat (*Myotis sodalist*) which is classified as an endangered species (**Appendix I, Vegetation and Wildlife**). The USFWS's *Guidance on Developing and Implementing an Indiana Bat Conservation Plan* recommends that all tree removal within known Indiana bat habitat – regardless of amount – only occurs between October 15 to March 31 for project areas affecting

Indiana bat summer habitat.²³ In New York, however, this species' distribution is limited to known wintering locations with caves or mines that are used for hibernation. They are known to move up to 40 miles from their hibernacula to summer roost locations on their foraging grounds which can occur in both rural and suburban landscapes²⁴. Hibernation begins as early as September and extends almost into June. According to the NYSDEC, there are eight hibernacula currently known to exist in New York and these are located in Albany, Essex, Warren, Jefferson, Onondaga and Ulster Counties. NYSDEC management efforts focus on protecting hibernacula while USFWS also recommends seasonal restrictions for tree clearing within known Indiana bat summer habitat; neither hibernacula nor known Indiana bat summer habitat are present at the Project Site.²⁵ However, further consultation with USFWS would be conducted to determine the presence of Indiana Bat at the site and the need for seasonal tree clearing restrictions.

In addition, the Project Site was not identified as critical habitat for the Northern long-eared bat which is a rare species but is commonly flagged as being potentially present in many areas within New York State. The NYCDEC recommends that forest clearing, and management activities in New York State occur during the bat's hibernation period²⁶ (Nov. 1 and March 31).. However, as the Project Site is not located within five miles of a known hibernation site or 1.5 miles of a documented summer occurrence, NYSDEC does not impose restrictions on tree cutting. The Project Site also did not contain critical habitat for threatened Bog turtles, which are usually found in high-quality wetland areas.

There were no federally designated critical habitats identified by USFWS within or adjacent to the Site, but the USFWS IPaC website identified eleven birds of conservation concern that could potentially occur within or adjacent to the project area (**Table 3H-3**). These birds are also commonly found throughout the Westchester area. A formal request was made to the NYSDEC's New York Natural Heritage Program to obtain information on New York State listed threatened and endangered species and significant natural communities. NYNHP responded on May 23, 2021, and indicated that its search did not identify any threatened or endangered species within the Site (**Appendix I, Vegetation and Wildlife**). There were no New York State-designated critical habitats identified by NYNHP within or adjacent to the Site.

Table 3H-3: USFWS Listed Birds of Conservation Concern with Potential to Occur Within or Adjacent to the Site	
Name (Common)	Name (Scientific)
Bald Eagle	<i>Haliaeetus leucocephalus</i>
Black-billed Cuckoo	<i>Coccyus erythrophthalmus</i>
Bobolink	<i>Dolichonyx oryzivorus</i>
Canada Warbler	<i>Cardellina canadensis</i>
Golden Eagle	<i>Aquila chrysaetos</i>
Lesser Yellowlegs	<i>Tringa flavipes</i>
Long-eared Owl	<i>Asio otus</i>
Prairie Warbler	<i>Dendroica discolor</i>
Rusty Blackbird	<i>Euphagus carolinus</i>
Semipalmated Sandpiper	<i>Calidris pusilla</i>
Wood Thrush	<i>Hylocichla mustelina</i>

²³ See https://www.fws.gov/northeast/pafo/pdf/IBAT_conservation_plan_guidance_PAFO_072611.pdf

²⁴ See <https://guides.nynhp.org/indiana-bat/>

²⁵ See <https://www.dec.ny.gov/animals/6972.html>

²⁶ See <https://www.dec.ny.gov/animals/106713.html>

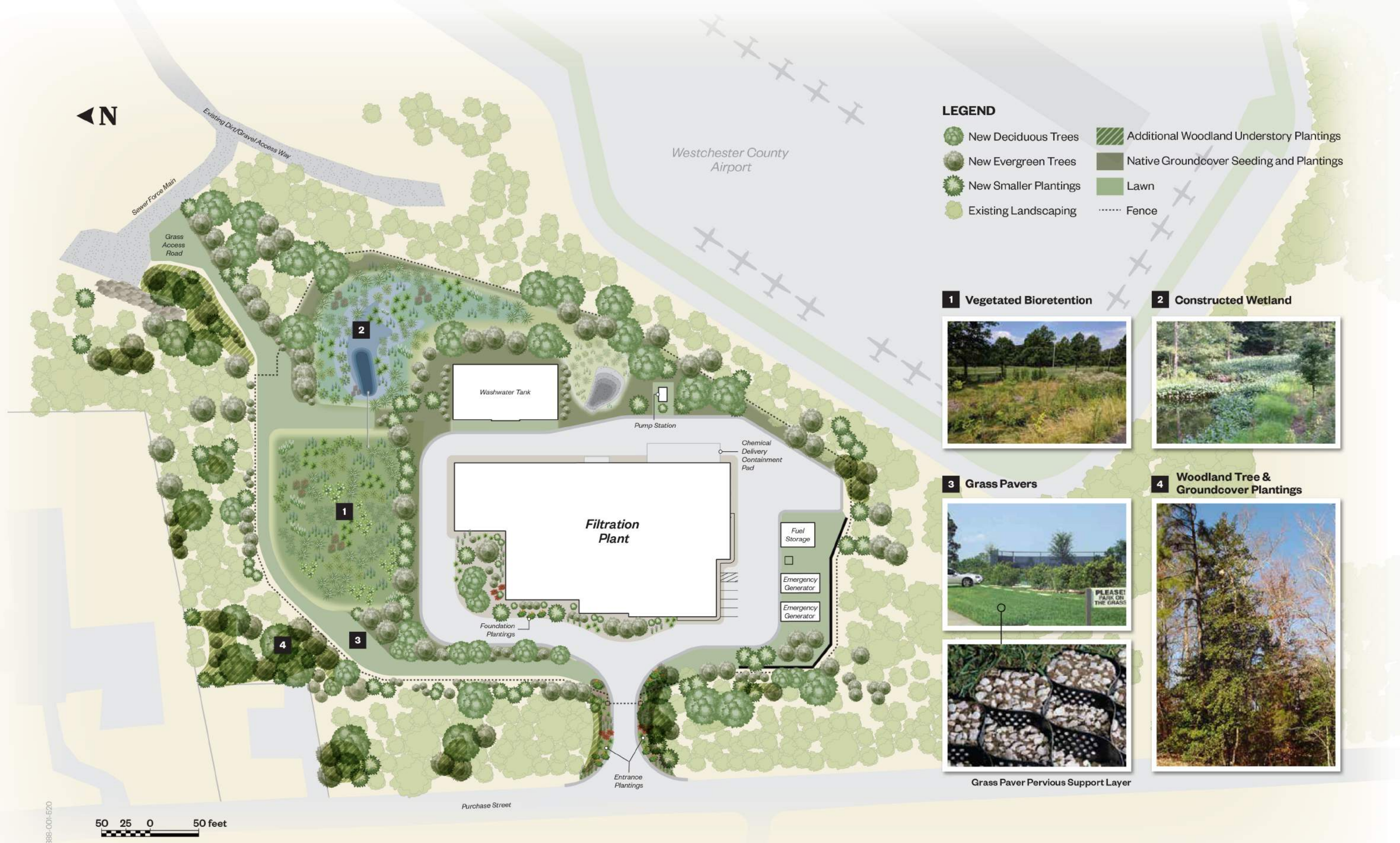
II. POTENTIAL IMPACTS

The Proposed Action would take place on a 13.4-acre Project Site that had been significantly disturbed in the past and consists of Successional Southern Hardwood forest, and contains a mix of native, non-native, and invasive species and limited understory. Approximately 6.16 acres would be cleared and developed including the building footprint, driveway, a small parking lot, walkways, and supporting utilities and ancillary features. Approximately 579 trees would be removed from the Project Site (**Appendix C, Site Plans**). No designated critical habitats would be disturbed or altered by the Proposed Action, as USFWS confirmed the Project Site does not contain any designated critical habitats. In addition, the NYSDEC Environmental Mapper identified no records of any rare plants or significant natural communities on the Project Site. Further, noise and other human activity from the adjacent airport is expected to dissuade species that are less tolerant of human activities from inhabiting the Project Site. Proposed clearing would be limited to only what is necessary to accommodate the proposed facility and its essential structures and features, so that the remaining existing vegetation is left intact. Areas of greater environmental sensitivity, including the freshwater wetlands, stream corridor, and fringing forest line to the east would be avoided to the maximum extent practical. Since a survey by qualified professionals found the dominant tree, shrub and herb species of the Project Site to be mostly invasive to New York State, the Proposed Action would not disturb any significant natural communities or disrupt the habitat of any rare plant or wildlife species. Of the 1,896 trees found on the Project Site, 56 percent are invasive.

Clearing activities would comply with all NYSDEC and municipal standards and all temporarily disturbed areas would be restored to pre-construction conditions upon completion of the Proposed Action. Precautions would be implemented to ensure the potential impact to vegetation and wildlife is minimized. A Tree Removal Permit would be obtained from the Town/Village of Harrison prior to any implementation of the Proposed Action. In addition, the construction activity and mitigation efforts would be guided by a Stormwater Water Pollution Protection Plan (SWPPP) approved by NYSDEC that would not only address erosion and sedimentation but would assist in protecting nearby wetlands environments. If the Proposed Action is approved, continued correspondence with the NYSDEC, USFWS, the Town/Village of Harrison, and other regulatory bodies would occur as required.

Chapter 220 of the Town/Village of Harrison Code is the Tree Protection Law, which outlines permit requirements for tree removal activities within the Town/Village of Harrison. Section 220-5 of the Tree Protection chapter requires a tree permit for all tree removal as defined in Section 220-3 “any living, woody plant, its root system and the area within the outer limit of its branches, which is four inches or more in diameter of its trunk measured at breast height.” The Proposed Action would comply with all provisions found in Chapter 220. A Tree Removal Permit would be obtained from the Town/Village of Harrison Building Department before any clearing activity would occur and or any clearing of a regulated tree on the Project Site.

The conceptual landscaping plans show areas of disturbance, locations and relative spacing of proposed plantings and the species to be planted (**Figure 3H-1, Landscape Plan**). A total of approximately 302 new trees would be planted (**Table 3H-4**). Identified species include mostly native species as well as some ornamental species that are suitably adapted to Site conditions. Plantings would help to stabilize loose soils and prevent erosion, provide vegetative screening (including both deciduous and evergreen species), mitigate impacts on wildlife/wildlife habitat, and enhance the overall visual appearance of the Project Site. The landscaping plans and plant palette include a variety of native trees, as well as



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Figure H-1: Rye Lake Water Filtration Plant Landscaping

Source: Hazen and Sawyer, 2022

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appropriate large and small shrubs and herbaceous plantings for the stormwater management/bioretention areas that are proposed to ensure survivability and maximize the effectiveness of the drainage system (**Appendix C, Site Plans**).

A complete analysis of wetland impacts is provided in Section I of this DEIS ("Wetlands, Waterbodies, Watercourses and Floodplains"), and the full August 2021 Wetlands Delineation report by Hazen and Sawyer is provided in **Appendix J, Wetlands**.

Table 3H-4: Proposed Tree Types and Quantities			
Scientific Name	Common Name	Symbol	Quantity
<i>Amelanchier arborea</i>	Downy Serviceberry	AA	30
<i>Carpinus caroliniana</i>	American Hornbeam	CP	24
<i>Cercis canadensis</i>	Eastern Redbud	CC	9
<i>Cornus florida</i> 'Appalachian Spring'	Appalachian Spring Flowering Dogwood	CFA	7
<i>Ilex opaca</i>	American Holly	IO	40
<i>Ilex opaca</i> 'Jersey Princess'	Jersey Princess American Holly	IOJ	36
<i>Juniperus virginiana</i>	Eastern Red Cedar	JV	28
<i>Juniperus virginiana</i> 'Corcorcor'	Emerald Sentinel™ Red Cedar	JVC	79
<i>Liquidambar styraciflua</i>	American Sweetgum	LS	12
<i>Magnolia virginiana</i> 'Henry Hicks'	Henry Hicks Southern Magnolia	MV	8
<i>Pinus strobus</i>	Eastern White Pine	PS	13
<i>Quercus alba</i>	White Oak	QA	13
		Total	299

III. MITIGATION MEASURES

No significant adverse impacts to ecological resources on or adjacent to the Project Site are anticipated to result from implementation of the Project, based on the vegetation and wildlife analyses presented in this section of the DEIS. Nevertheless, the Project proposes to include the following measures:

- Delineate tree clearing limits and install tree protection fencing at the Project Site prior to construction to avoid inadvertent clearing and encroachment into wetlands or areas that are intended to remain natural.
- Disturbance would be minimized to the maximum extent practicable by limiting it to those areas that are essential to accommodate the facility and the limited open areas needed for facility parking, essential equipment, and space for site operations.
- Areas that are cleared but not physically developed would be stabilized as soon as possible after disturbance. These areas would be reseeded and replanted or landscaped as soon as

construction activities allow per the landscape plan. Approximately 300 native trees are proposed to be planted.

- The landscape plan would introduce to the formerly disturbed site over 55 native and site appropriate species to rebuild the local ecosystem which would begin to restore the habitat and soil health and outcompete invasive and noxious vegetation. This would reduce the need for fertilizers, pesticides, and additional irrigation. Invasive plant species that are listed under 6 NYCRR Part 575, Sections 575.3, Prohibited invasive species and 575.4, Regulated invasive species would not be utilized in the proposed landscaping plan.
- Compliance with the standards and conditions of a Town/Village of Harrison Tree Removal Permit.

I. WETLANDS, WATERBODIES, WATERCOURSES AND FLOODPLAINS

I. EXISTING CONDITIONS

NYSDEC, USACE, and Town/Village regulated freshwater wetlands are present on-site, including an intermittent/ephemeral stream that runs north and south along the easterly property boundary of the Site. A wetland delineation of the Westchester County Airport was conducted in December 2012 and December 2013. On June 28, 2014, NYSDEC validated these wetlands, including approximately two (2) acres of wetlands within the Project Site, and confirmed that these wetlands were within the agency's jurisdiction. This validation remained in place for five years and expired on June 28, 2019. U.S. Army Corp of Engineers (USACE) also has jurisdiction over wetlands on the Project Site. The National Wetland Inventory (NWI) identified Riverine and Palustrine wetlands on the property.

An updated on-site wetland delineation was conducted on May 18 and 19, 2021 which included areas on the Project site as well as areas of the Westchester County Airport that were part of the 2012-2013 wetland investigations. The 2021 delineation was performed in accordance with the three-parameter delineation methodology (vegetation, soils, and hydrology) developed by USACE *Wetlands Delineation Manual* (USACE, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual, Northcentral and Northeast Region* (USACE, 2012). In addition, the delineation methodology provided in the *NYSDEC Freshwater Wetlands Delineation Manual* (NYSDEC, 1995), which relies heavily on the presence of hydrophytic (wetlands) vegetation, was used to guide the delineation.

Soil profiles were also examined based on soil samples taken using a 2.5-inch open-face soil auger. Soil type, texture, presence of redox features, and color were identified, along with predominant obligate, facultative, and upland vegetation. Soil color was classified using Munsell soil color charts and sampling point data were recorded on USACE Northcentral and Northeast Region Wetland Determination Data Forms (**Appendix A 2022 Wetland Delineation Report in Appendix J** of this DEIS).

Seven wetland sampling points were analyzed within and adjacent to the Project Site which identified three wetland areas separated by man-made culverts and stockpiles of soil (**Figure 3I-1, Wetland Areas**). Wetland A (3 acres) was identified southeast of the Project Site and north of Tower Road on the airport property. This wetland area collects stormwater from roads surrounding the airport via culverts. Wetland B (2.6 acres) continues north of Wetland A and follows an intermittent stream bed along the eastern edge of the Project Site before entering a culvert at the northern boundary of the Project Site. Wetlands A and B are bisected by an existing stockpile and gravel access road associated with the airport facility. Wetland area C (0.6 acres) spans the northeastern boundary of the Project Site and western boundary of the airport property. This wetland likely receives stormwater flow from the airport and surrounding areas through a culvert and drains northwest toward Purchase Street, away from the airport property.

The NYSDEC validated the wetland delineation map on August 10, 2021, and confirmed that the three identified wetland areas are one contributing wetland, identified as "G-18", under NYSDEC jurisdiction. A NYSDEC jurisdictional wetlands requires a 100-foot regulatory buffer around the wetland complex, disturbance of which requires a permit from the NYSDEC (**Figure 3I-2, May 2021 Validated Wetland Delineation and Figure 3I-1, Wetland Areas**). In total the Project Site contains 1.2 acres of delineated wetlands and 4.7 acres of regulated wetland adjacent area (100-foot buffer).

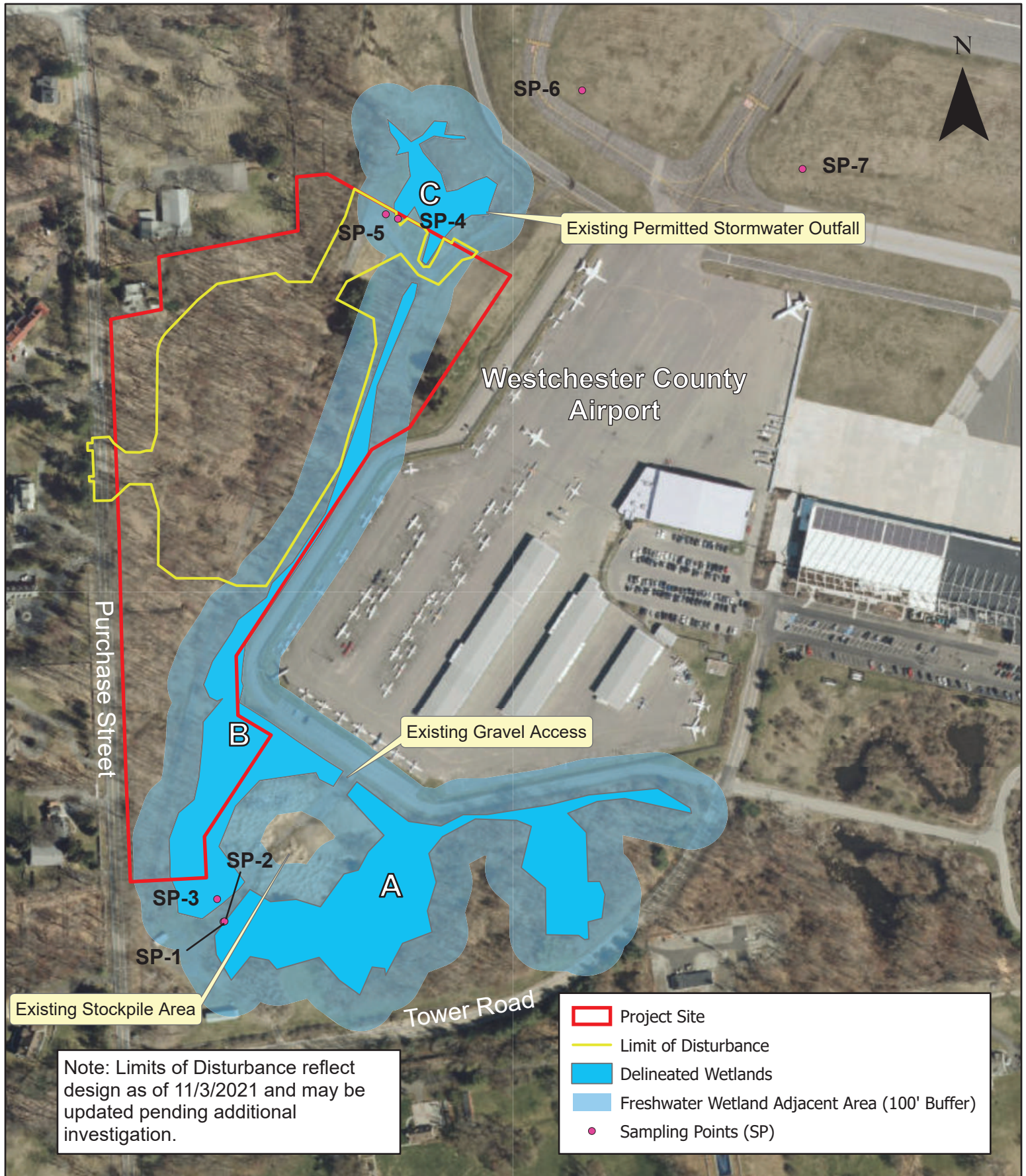


Figure 3I-1: Wetland Areas

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Source: Hazen and Sawyer
Wetland Delineation Report (2021)

0 175 350 700
Feet

Note: Only the delineated wetlands shown on this plan have been verified by NYSDEC staff. All other wetland areas need to be validated by DEC staff if any work should occur within freshwater wetlands or the 100-foot adjacent area.



NYSDEC FRESHWATER WETLAND BOUNDARY VALIDATION

The freshwater wetland boundary as represented on these plans accurately depicts the limits of Freshwater Wetland G-18 as delineated by HAZEN AND SAWYER on 5/18/2021

DEC Staff: Sarah J. Dwyer 08/10/21 Surveyor/Engineer: J. Buckley

Date Valid: 08/10/21 Expiration Date: 08/10/26 SEAL

Wetland boundary delineations as validated by the New York State Department of Environmental Conservation remain valid for five (5) years unless existing exempt activities, area hydrology, or land use practices change (e.g., agricultural to residential). After five (5) years the boundary must be revalidated by DEC staff. Revalidation may include a new delineation and survey of the wetland boundary.

Any proposed construction, grading, filling, excavating, clearing or other regulated activity in the freshwater wetland or within 100 feet of the wetland boundary as depicted on this plan requires a permit from the NYS Department of Environmental Conservation under Article 24 of the Environmental Conservation Law (Freshwater Wetlands Act) prior to commencement of work.

- NYSDEC-Regulated Freshwater Wetland
- NYSDEC Regulated 100 foot Freshwater Wetland Adjacent Area



Figure 3I-2: May 2021 Wetland Delineation

Source: Hazen and Sawyer
Town of Harrison,
Westchester County, NY

0 150 300 600
Feet

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The Project Site is not within any FEMA designated floodways, 100-year floodplains, Special Flood Hazard Areas, or 500-year floodplains. Review of Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map shows the Proposed Site is located in an area of minimal flood hazard (X Zone) which is considered an upland area. The Project Site is shown on **Figure 3I-3, Floodplain Map**.

The Exchange Parcel also had an on-site wetland delineation conducted on May 25, 2021, and **Figure 3I-4, Exchange Parcel Wetland Area**. The Exchange Parcel contains 1.2 acres of wetland areas (**Appendix J, Wetlands**, of this DEIS).

II. POTENTIAL IMPACTS

There would be no direct disturbance to any wetland on or adjacent to the Project Site (**Figure 3I-1, Wetland Areas**). The proposed limits of clearing for construction of the Project would result in temporary disturbance to approximately 1.7 acres of wetland adjacent area (i.e., within 100 feet of regulated wetlands). Disturbance would be associated with construction of the facility building, installation of Site utilities, and infrastructure, paving around the facility, grassed walkways (to reduce impervious cover where practical), and sewer line installation. Proposed impervious features on the property, including the plant building, a driveway, parking lot, walkways and supporting utilities and ancillary facilities, would total approximately 2.4 acres. Permanent impervious areas (building, equipment pad, and paving) within the freshwater wetland adjacent area would cover approximately 0.26 acres (**Figure 3I-5, Wetland Adjacent Area Encroachment**). In addition, approximately 0.4 acres within the adjacent area would be permanently disturbed; however, this area would be used to construct a green stormwater management practice (SMP), such as a constructed wetland or bioretention area to provide the required water quality volume (WQv) needed to treat the projected stormwater runoff from the requisite design storm.

Construction of the proposed sewer line (sanitary force main) from the Project Site to the Westchester County Airport property would include open cut trenching and installation of a bypass system for an existing culvert crossing. The existing culvert between Wetland B and Wetland C is in poor condition and would be replaced. Trenching would be limited to minimize impacts to the regulated wetland and adjacent area to the greatest extent possible. A bypass system would be installed during construction to convey any baseflow and stormwater flows around the area during construction to ensure that flows are maintained. After installation of the force main, the trench would be backfilled with soil and restored to pre-construction conditions. Alternately, construction of the sewer conveyance may include the use of a trenchless excavation method. If deemed feasible, trenchless methods have been used for installation of buried utilities to minimize impacts to sensitive areas by routing the pipelines under sensitive features and reducing the need for surface disturbances. If deemed feasible, trenchless technologies could be used to construct the sewer conveyance underneath the wetland area to minimize impacts to the regulated wetland and adjacent areas.

The Proposed Action would have no significant impact on the existing stream, stream channel, area wetlands or floodplains, nor is it expected to increase the likelihood of flooding on-site based on the proposed drainage infrastructure and its storage capacity (**Chapter 3-F, Stormwater**, of this DEIS). The Project Site is located in a FEMA X Zone (upland area) and, as such, is outside of any FEMA flood hazard areas. Stormwater generated on-site would be collected through a system of curbs, gutters, and roof drains and conveyed through the piped stormwater system. Flow would be directed to a series of stormwater management practices, including a constructed wetland and then a bioretention cell, to meet water quality volume and runoff reduction volume regulations. Once runoff is filtered through the

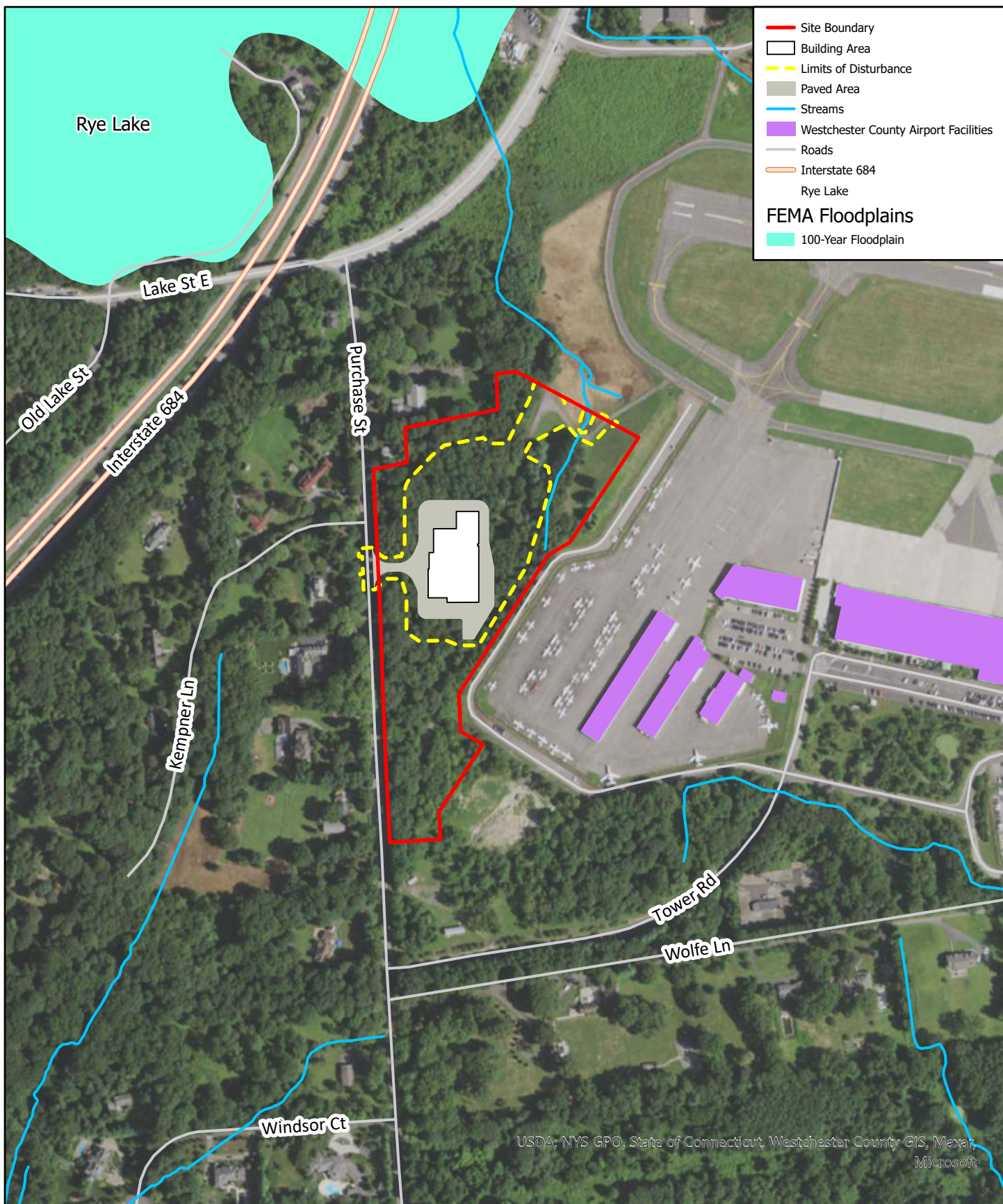


Figure 3I-3: Floodplain Map

Sources: Westchester County GIS, 2020; FEMA, 2022
Scale: 1 inch equals 417 feet



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Figure 3I-4
Exchange Parcel Wetland Area

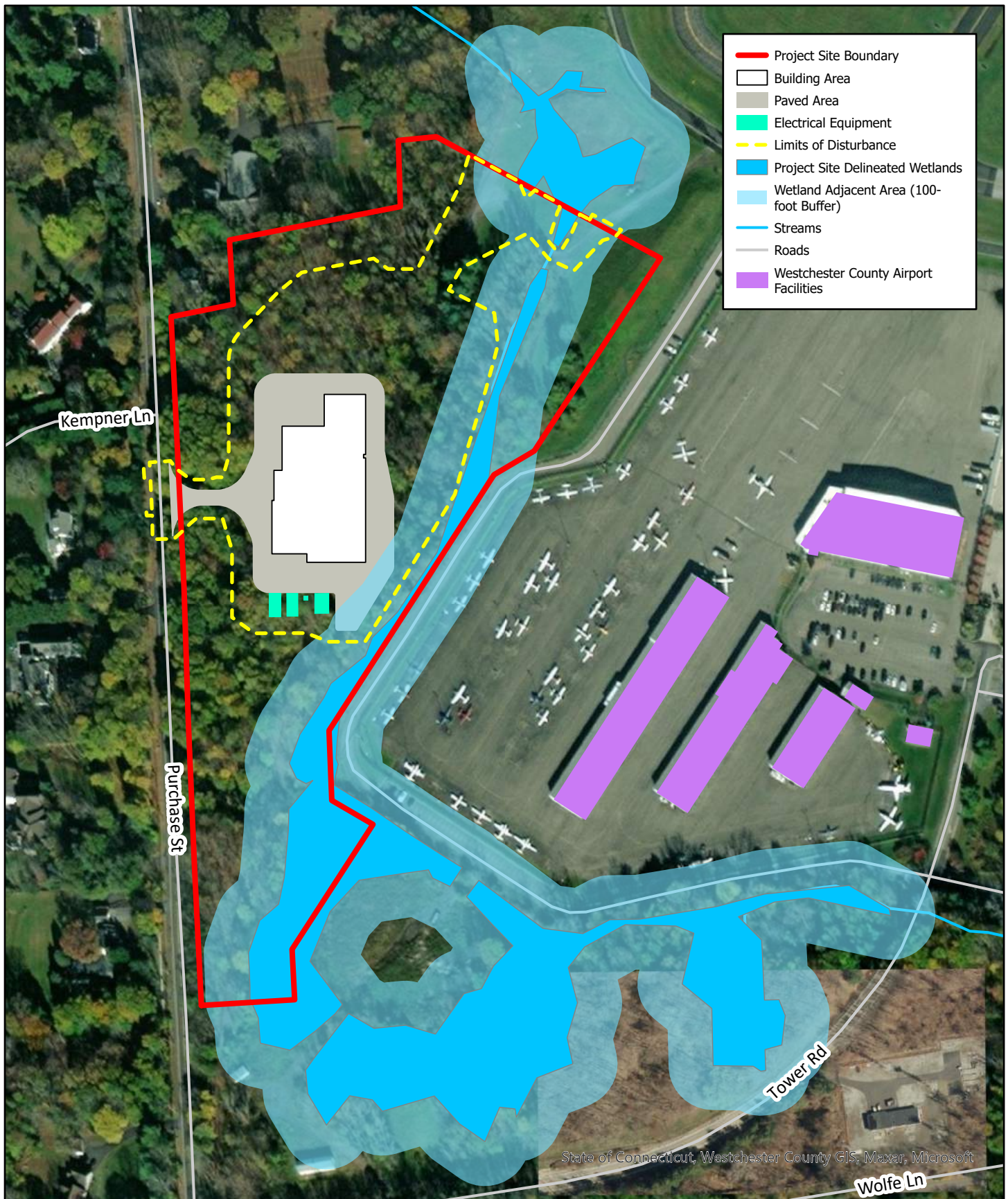
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Source: Hazen and Sawyer Wetland
Delineation Report 2021

0 150 300 600
Feet



State of Connecticut, Westchester County GIS, Maxar, Microsoft



Figure 3I-5: Wetland Adjacent Area Encroachment

Sources: Westchester County GIS 2020, Hazen and Sawyer 2021
Scale: 1 inch equals 225 feet



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bioretention cell, it flows to an underground storage detention structure to reduce peak flows. A diversion structure would also be provided to divert larger stormwater events around the constructed wetland and bioretention cell directly to the underground storage detention structure. Further information is provided in **Chapter 3-F, Stormwater**, of this DEIS.

All proposed construction activities would comply with Chapter 146, Flood Damage Prevention, and 149, Freshwater Wetlands, of the Town/Village of Harrison code. As stated in Section 149-5(a), “no person shall conduct a regulated activity on any freshwater wetland or adjacent area unless such person has first obtained a permit pursuant to this chapter.” Prior to any proposed construction, a Town/Village of Harrison Wetland Permit would be obtained. Moreover, prior to any construction activity, the applicable NYSDEC Wetlands Permit would be obtained. The Proposed Action would comply with the Clean Water Act and would follow NYSDEC protocol to avoid and minimize any potential impacts of the Project.

The wetland areas of the Exchange Parcel would remain in their current state. Westchester County anticipates using the property for wetland restoration or stormwater management, both of which would not disturb the wetland areas.

III. MITIGATION MEASURES

No significant adverse impacts to wetland, watercourses, and floodplains on or adjacent to the Project Site are anticipated to result from implementation of the Project, based on the wetland and floodplain analyses presented in this section of the DEIS. However, the Project would include several measures during construction and operation to ensure that any effects are minimized to the greatest extent practicable.

During construction, the following best practices would be implemented to ensure that any disturbance or construction activities would not result in the degradation of wetlands or waterbodies at or near the Project Site:

- Delineate by temporary fencing areas of clearing prior to disturbance to prevent accidental encroachment into wetlands or areas that are not to be disturbed.
- Minimize the area of wetland disturbance required to install the new sewer main and immediately restore the area of disturbance with indigenous wetland and facultative plant species.
- Prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) and Erosion and Sedimentation Control Plan to prevent discharges of construction-related pollutants including soil into surface waters, dry or wet stream channel, and wetlands.
- Plans shall comply with all applicable standards and requirements set forth in Town/Village Code Chapter 130, Stormwater Management and Erosion and Sediment Control, Chapter 146, Flood Damage Prevention, and Chapter 149, Freshwater Wetlands, of the Town/Village of Harrison code.
- Strictly adhere to any and all wetland permit requirements from the Town/Village, NYSDEC and USACE.
- Install the proposed sewer main within a culvert rather than directly through wetlands thereby eliminating the need to remove wetlands vegetation and disturb habitat and hydrology.

- Construction debris and solid waste generated during the construction process and future operations shall be collected, contained, and safely disposed at a facility that is approved for acceptance of these materials to prevent impacts to adjacent wetlands from debris.

The design of the plant itself, as well as anticipated operations, incorporate several measures to ensure the protection of wetlands and waterbodies and avoid adverse impacts. These measures include:

- Retain as much existing vegetation onsite as possible and revegetate disturbed areas with native species appropriate to the site, reducing the need for regular watering, maintenance, and pesticide and fertilizer application once established.
- Drainage infrastructure would be installed to manage the projected volume of stormwater runoff from the required design storms and provide pretreatment prior to discharge/to protect onsite surface water and wetlands, as well as shallow groundwater to the maximum extent practicable.
- All applicable spill prevention and chemical containment measures would be incorporated into Project Site operations, which offers further protections to on-site wetlands. Regarding on-site hazardous materials, the facility would be constructed to Federal and State standards, and safety protocols would be instituted for operators on-site.

J. ARCHAEOLOGICAL AND HISTORICAL RESOURCES

Known archaeological and historical resources include properties listed on the State and National Registers of Historic Places and properties eligible for State or National Register listing. Eligible properties include those that may meet the criteria of eligibility for State or National Register listing. As construction of the Project would require a New York State permit, a submission to the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) was made to initiate a consultation pursuant to New York State's Environmental Quality Review Act (SEQRA) and Section 14.09 of the New York State Historic Preservation Act so that archaeological and historic resources would be identified, and potential project impacts assessed.

I. EXISTING CONDITIONS

In comments transmitted through the New York State Cultural Resource Information System (CRIS) on September 19, 2019, the New York State Historic Preservation Office requested that a Phase 1 Archaeological Survey (Phase 1 Survey) of the Project Site be prepared. This would identify areas of archaeological sensitivity within the Project Site through literature research and site investigations (**Appendix K, Historic and Archaeological Resources**). Richard Grubb and Associates prepared a Phase 1 Archaeological Survey of the Project Site in December of 2019 (**Appendix K, Historic and Archaeological Resources**).

As part of the Phase 1 Survey, a reconnaissance-level walkover survey of the entire Project Site was conducted to identify areas of potential sensitivity for prehistoric or historic archaeological resources. The primary focus was the identification of level, undisturbed, well-drained areas that may have been suitable for habitation and conducive to site formation, preservation, or evidence of historic features. Of the 111 shovel test pits excavations conducted throughout the Project Site, 26 test pits contained historic cultural material and two contained prehistoric cultural material. The Phase 1 Survey resulted in the recovery of 130 historic artifacts, which were primarily found in two clusters (**Figure 3J-1: Historic Artifacts**). The Phase 1 Survey concluded that the artifacts recovered likely represented a mixture of secondary deposition and refuse disposal, possibly associated with the former Sutton house occupation, which stood to the south of the Project Site and was demolished in the 1940s. The Phase 1 Study also found material deposited that was a result of agricultural fertilization practices, and late nineteenth-through twenty-first-century refuse disposal practices. The Phase 1 Study noted that some of the material was also likely the result of construction activities associated with Westchester County Airport during the 1940s. Based upon the field investigations, the study recommended that the historic artifact assemblage did not constitute a potentially significant archaeological resource.

The Phase 1 Study also identified two isolated prehistoric flake fragments. Additional testing did not yield any prehistoric cultural material. The study concluded that the two isolated prehistoric artifacts did not constitute a potentially significant archaeological resource. Therefore, no further archaeological review was recommended within the Project Site.

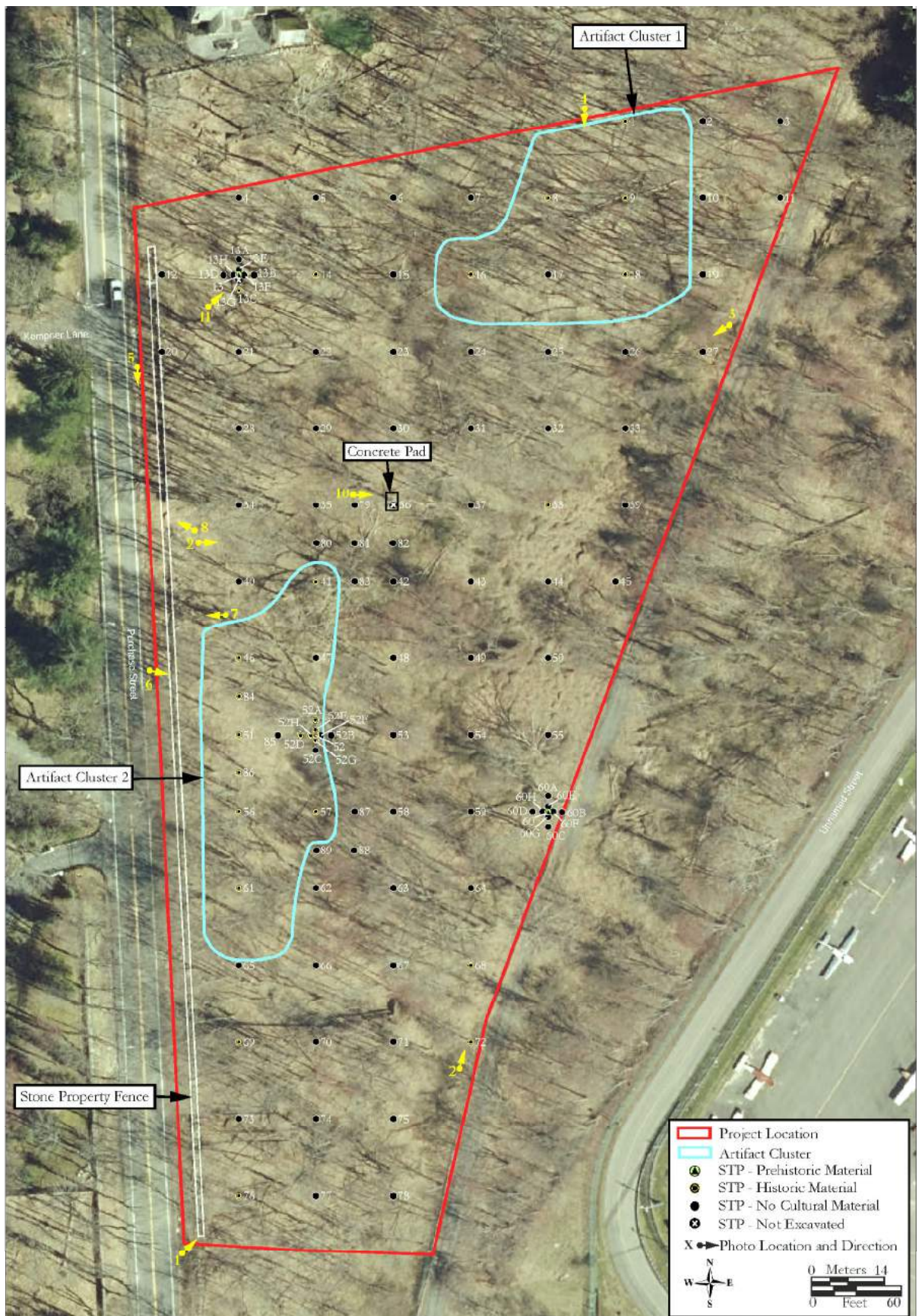


Figure 3J-1: Historic Artifacts

Sources: Richard Grubb & Associates, Inc
Scale: 1 inch equals 625 feet



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II. POTENTIAL IMPACTS

NYSOPRHP reviewed the Phase 1 Survey and concluded in a letter dated December 30, 2019, that the Project Site “contained no properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places that would be impacted by the Proposed Action” (**Appendix K, Historic and Archaeological Resources**).

The installation of a new sewer line is also proposed for the Project Site (**Figure 3J-2: Proposed Sewer Line**). A request was made to NYSOPRHP for comments on the proposed additional disturbance areas and comments were received from NYSOPRHP on April 12, 2021 (**Appendix K, Historic and Archaeological Resources**). After review of the Phase 1 Study and other submitted information, NYSOPRHP opined that no historic properties, including archaeological or historic resources would be affected by the Proposed Action.

III. MITIGATION MEASURES

NYOPRHP would continue to be consulted as part of the SEQRA process and project notification paperwork would be submitted electronically using the agency’s CRIS. Based upon responses received from NYSOPRHP to date, the Proposed Action would not have a significant adverse impact on historical or archaeological resources of the Project Site. If construction plans change, the Applicant would coordinate with NYSOPRHP and would provide all required analyses and obtain all necessary approvals. WJWW would comply with all State regulations with regards to any additional archaeological finds at the Project Site. As a result, no mitigation of the Proposed Action is necessary.

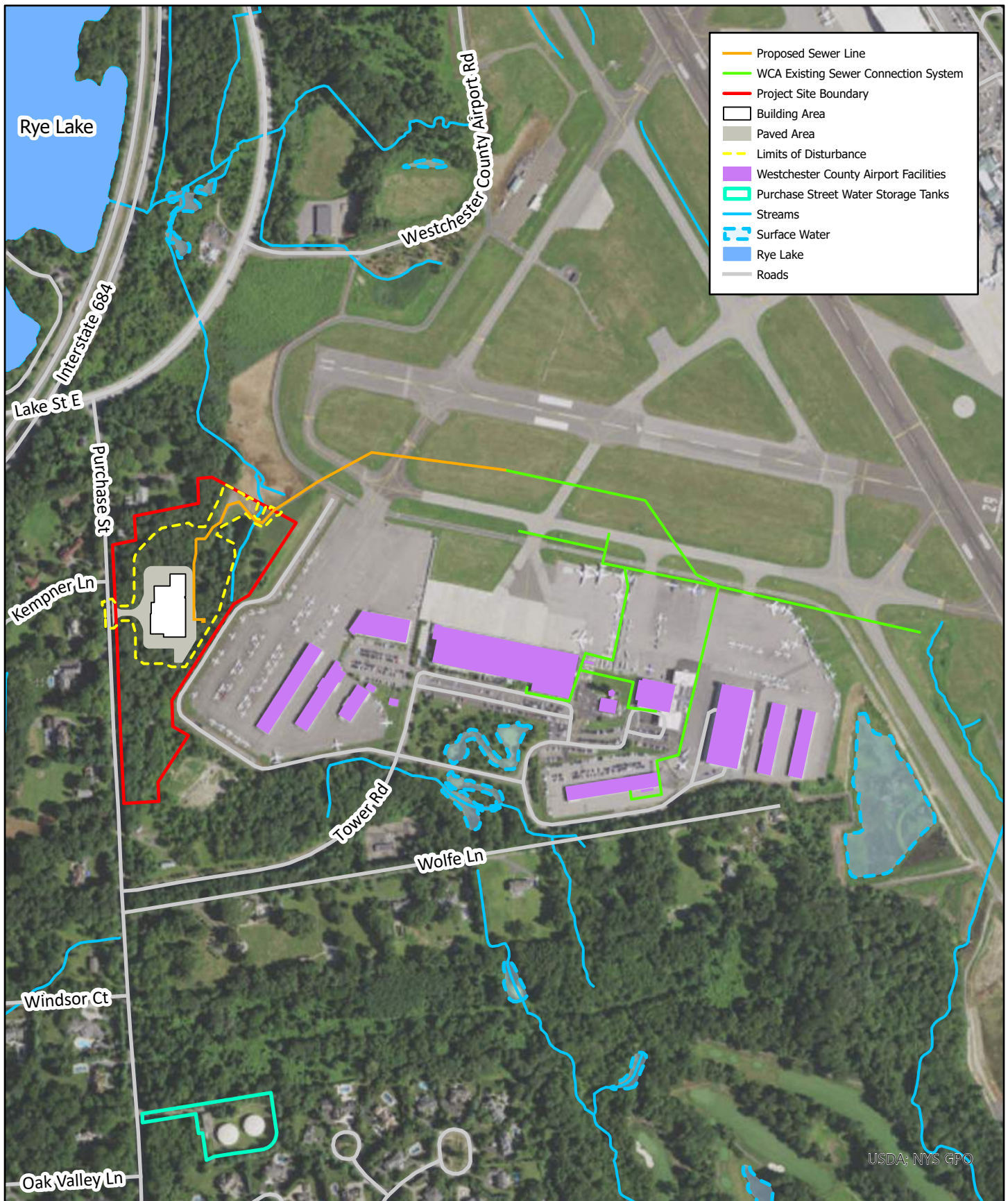


Figure 3J-2: Proposed Sewer Line

Sources: Westchester County GIS, 2020
Scale: 1 inch equals 600 feet



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K. TRAFFIC AND TRANSPORTATION

I. EXISTING CONDITIONS

a) EXISTING ROADWAY CONDITIONS

The Project Site is located on vacant property currently owned by Westchester County Airport. The Project Site is located off of Purchase Street (NYS 120), with three intersections of interest within a half-mile of the Project Site: Purchase Street at Tower Road; Purchase Street at Lake Street; and Purchase Street at the proposed access drive to the Project Site. Site visits and a subsequent Traffic Impact Study (TIS) were completed to identify and assess possible traffic issues associated with the Proposed Action and any necessary mitigation. The TIS dated November 2021 was prepared by Kimley-Horn Engineering and Landscape Architecture of New York, P.C, and can be viewed in **Appendix L, Traffic Impact Study**. The following description and discussion of the existing roadway and traffic conditions in the area of the Project Site rely on the data and findings from the TIS.

The Project would be located directly off of Purchase Street. It is classified by the New York State Department of Transportation (NYSDOT) as a “Minor Arterial” roadway. Purchase Street runs from Airport Road in the north to the Cross Westchester Expressway in the south. Throughout the half-mile from the Project Site, Purchase Street is unsignalized and under the jurisdiction of NYSDOT. The roadway provides one 11-foot-wide travel lane in each direction. The posted speed limit along this section of Purchase Street is 45 miles per hour. In the vicinity of the Project Site, there are no sidewalks, curb ramps, or on-street parking in either direction of Purchase Street.

Tower Road is located on Westchester County Airport property and is situated directly west of the airport. The roadway is approximately 2,000 feet in length and extends from Purchase Street to its terminus on the airport property. The roadway provides one travel lane for each direction and each travel lane is 12 feet in width. For both sides of Tower Road, there are no sidewalks or curb ramps; on-street parking is prohibited. The roadway is not signalized and is only used for airport operations.

Lake Street is classified by the NYSDOT as a “Minor Arterial” and runs north of the Project Site. From the southwest, the road runs northeast from North Broadway in the City of White Plains to Purchase Street in the Town/Village of Harrison. In the half-mile from the Project Site, Lake Street is under the jurisdiction of the Town/Village of Harrison. The roadway has one travel lane in each direction, and each lane is 11 feet in width. The posted speed limit is 40 miles per hour. For both sides of the roadway, on-street parking is prohibited and there are no sidewalks or curb ramps. The roadway is not signalized.

Interstate-684 (I-684) runs from White Plains in the southwest to Brewster in the northeast. I-684 runs north of the Project Site by approximately 1,000 feet. NYSDOT classifies I-684 as an “Urban Principal Arterial – Interstate”. The interstate highway is under the jurisdiction of the NYSDOT. The highway provides three travel lanes in each direction, with each lane being 12 feet in width. The posted speed limit of 65 miles per hour. There are no sidewalks, curb ramps, or on-street parking along the highway and no traffic signals.

Transit services are offered in the general vicinity of the Project Site. There are no bus routes located on Purchase Street south of the Purchase Street and Lake Street intersection. The Route 80 Loop-H Bee Line runs on Lake Street, which turns into Purchase Street north of the Purchase Street and Lake

Street- intersection. The closest bus stop to the Project Site is the Westchester County Airport Terminal located at the Westchester County Airport. The closest Metro-North train station is the North White Plains train station, approximately 6 miles west of the Project Site.

On-site parking is currently unavailable at the Project Site. This is due to the Site being vacant and undeveloped.

b) EXISTING ACCIDENT DATA

A crash analysis was conducted for the area along Purchase Street between Lake Street and Tower Road for a three-year period between January 1, 2017, and December 31, 2019. A total of eight crashes occurred during this timeframe, seven of which occurred at the intersection of Lake Street and Purchase Street. Of these seven crashes on Lake Street and Purchase Street, three (3) were rear-end collisions, two (2) involved overtaking, one (1) was classified as “other/unknown,” and one (1) was a left-turn crash. The eighth crash occurred at the intersection of Wolfe Lane and Purchase Street, which was a rear-end incident. The crashes resulted in no fatalities, and four (4) of the eight (8) crashes resulted in non-serious injuries. In addition, none of the crashes involved pedestrians or bicyclists. During this time period, no crashes occurred at the intersection of Tower Road and Purchase Street or midblock between Lake Street and Tower Road.

c) EXISTING TRAFFIC CONDITIONS

The Traffic Impact Study included the collection of turning movement counts at the Purchase Street and Lake Street, and Purchase Street and Tower Road intersections. These counts were conducted on Tuesday, April 13, 2021, between 7:45 a.m. and 10:15 a.m., and 4:00 p.m. and 6:15 p.m. The findings were adjusted using the NYSDOT hourly traffic volumes recorded between 2016 and 2019. The TIS found that weekday morning peak hour occurred between 8:00 a.m. and 9:00 a.m., and the evening peak hour between 4:15 p.m. and 5:15 p.m. **Table 3K-1** contains the 2021 existing peak hour traffic volumes for the Tower Road and Purchase Street intersection, and the Lake Street and Purchase Street intersection, which include the weekday morning and evening peak hour.

Table 3K-1: 2021 Existing Peak Hour Traffic Volume

Intersection	Turning Movement	Morning Peak Traffic Count (8:00-9:00 a.m.)	Evening Peak Traffic Count (4:15-5:15 p.m.)
Lake Street & Purchase Street	Lake Street - continue straight	150	160
	Lake Street - right turn	37	22
	Purchase Street (northbound) - right turn	65	284
	Purchase Street (northbound) - left turn	10	38
	Purchase Street (westbound) - continue straight	168	134
	Purchase Street (westbound) - left turn	295	71
Purchase Street & Tower Road	Tower Road - right turn	19	33
	Tower Road - left turn	30	29
	Purchase Street (northbound) - continue straight	56	289
	Purchase Street (northbound) - right turn	48	48
	Purchase Street (southbound) - continue straight	291	67
	Purchase Street (southbound) - left turn	41	26

Source: Traffic Impact Study: Proposed Rye Lake Filtration Facility 2021

II. POTENTIAL IMPACTS

a) “No Build” TRAFFIC VOLUMES/CAPACITY

The future “no build” conditions are the forecasted traffic conditions that are anticipated without the Project, whereas “build” conditions take into account the Project when estimating future traffic conditions. To assess the Project’s potential impact on traffic, “no build” and “build” traffic volume analyses were conducted in preparation of the TIS.

Background traffic growth is the estimated traffic growth expected without the Project and is a part of the “no build” analysis. According to data provided by the NYSDOT, the 2021 traffic volumes in the study area are estimated to increase by one (1) percent annually, which correlates to 1.06 total growth factor for the area through 2027.

The Town of North Castle and Town/Village of Harrison’s Planning Consultants were contacted to determine if any planned or approved projects were planned for the study area that may impact traffic volume. Eagle Ridge is a proposed mixed-use development located approximately four (4) miles north of the Project Site. Eagle Ridge is estimated to produce significant traffic. The Eagle Ridge Project would consist of a hotel, condos, and townhouses on the former IBM facility in Armonk, New York. A conservative number of trips were added to the study intersections based on the traffic impact study performed for that project.

The sum of the background growth volumes and area projects are incorporated into the 2027 No-Build peak hour traffic volumes. **Table 3K-2** contains the 2027 No-Build peak hour traffic volumes for the Tower Road and Purchase Street intersection, and the Lake Street and Purchase Street intersection.

Table 3K-2: 2027 No Build Traffic Conditions

Intersection	Turning Movement	Morning Peak Traffic Count (8:00-9:00 a.m.)	Evening Peak Traffic Count (4:15-5:15 p.m.)
Lake Street & Purchase Street	Lake Street - continue straight	161	173
	Lake Street - right turn	39	23
	Purchase Street (northbound) - right turn	73	308
	Purchase Street (northbound) - left turn	11	40
	Purchase Street (westbound) - continue straight	183	146
	Purchase Street (westbound) - left turn	318	79
Purchase Street & Tower Road	Tower Road - right turn	21	36
	Tower Road - left turn	32	31
	Purchase Street (northbound) - continue straight	62	313
	Purchase Street (northbound) - right turn	51	51
	Purchase Street (southbound) - continue straight	313	74
	Purchase Street (southbound) - left turn	45	29

Source: Traffic Impact Study: Proposed Rye Lake Filtration Facility 2021

b) “BUILD” TRAFFIC VOLUMES/CAPACITY

Project traffic is the estimated number of vehicular trips to be generated by the Project. When completed, the Project would have no perceptible traffic impacts, as WJWW estimates that the Project Site would be staffed by two (2) WJWW employees during the day shift, and would generate, at most, two (2) vehicles during peak hours. This would have no impact on traffic operating conditions. In addition, it is estimated that operations would require two (2) to three (3) trucks per week to remove solid waste and nine (9) trucks per month for delivery of water treatment chemicals. Thus, the “Build” traffic volume/capacity analysis focuses on traffic impacts during the construction phase of the Project.

The TIS estimated trip generation during construction of the Project. It is projected that during the a.m. peak hour (8:00 a.m. to 9:00 a.m.), there would be 18 construction personnel trips in and 34 construction truck trips in, for a total of 52 trips in. In the p.m. peak hour (4:15 p.m. to 5:15 p.m.), it is estimated that there would be 18 construction personnel trips out and 34 construction truck trips out for a total of 52 trips out. It was assumed that construction truck trips would be required to take I-684 and travel on Purchase Street to the Project Site. For construction personnel trips, it was assumed that 50 percent would travel to and from the north on Purchase Street, and 50 percent would travel to and from the south.

The TIS estimated future “build” conditions for the year 2027 by including into the analysis the background traffic growth, vicinity development trips, and trips generated by proposed construction activity during its busiest period. **Table 3K-3** contains the results of this analysis for the Tower Road and Purchase Street intersection, and the Lake Street and Purchase Street intersection.

Table 3K-3: 2027 Build Traffic Conditions			
Intersection	Turning Movement	Morning Peak Traffic Count (8:00-9:00 a.m.)	Evening Peak Traffic Count (4:15-5:15 p.m.)
Lake Street & Purchase Street	Lake Street - continue straight	161	173
	Lake Street - right turn	41	23
	Purchase Street (northbound) - right turn	90	322
	Purchase Street (northbound) - left turn	11	42
	Purchase Street (westbound) - continue straight	183	146
	Purchase Street (westbound) - left turn	342	96
Proposed Site Driveway & Purchase Street	Proposed Site Driveway - right turn	17	26
	Proposed Site Driveway - left turn	0	9
	Purchase Street (northbound) - continue straight	84	349
	Purchase Street (northbound) - right turn	9	Not Applicable
	Purchase Street (southbound) - continue straight	357	103
	Purchase Street (southbound) - left turn	26	117
Purchase Street & Tower Road	Tower Road - right turn	21	36
	Tower Road - left turn	32	31
	Purchase Street (northbound) - continue straight	71	313
	Purchase Street (northbound) - right turn	51	51
	Purchase Street (southbound) - continue straight	313	83
	Purchase Street (southbound) - left turn	45	29

Source: Traffic Impact Study: Proposed Rye Lake Filtration Facility 2021

c) LEVELS OF SERVICE ANALYSIS

The TIS analyzed traffic capacity for all intersections within the study area. Level of Service (LOS) is defined as the different operating conditions that occur at an intersection under various traffic volume loads. LOS is designated from A to F, with LOS “A” representing the best operating conditions and LOS “F” representing the worst operating conditions. In addition, Synchro 11 software was used to model the study area intersections based on LOS criteria. The synchro network model worksheets are provided in the Traffic Impact Study, which is available in **Appendix L, Traffic Impact Study**. All intersections in the study area are discussed below.

Purchase Street & Tower Road Intersection

Under existing conditions, all major street movements operate at a LOS “A” during the weekday a.m. and p.m. peak hours. In addition, the minor street movements operate at LOS “B” during the weekday a.m. and p.m. peak hours. Under future No-Build conditions, the individual movements would continue to operate at the existing LOS for both peak hour periods, while changes in individual movement delays would be 1.3 seconds or less. Under future Build conditions, which assesses the potential impact of construction traffic because the completed filtration plant would have no perceptible traffic impacts, the individual movements would continue to operate within the No-Build

LOS during both peak hour periods. Changes in the individual movement delays would be minimally affected, at 0.2 seconds or less.

Purchase Street & Lake Street Intersection

Under existing conditions, all major street movements operate at a LOS “A” during the weekday a.m. and p.m. peak hours. In addition, the minor street movements Operate at LOS “B” during the weekday a.m. and p.m. peak hour periods. Under future No-Build conditions, which assesses the potential impact of construction traffic because the completed filtration plant would have no perceptible traffic impacts, the individual movements would continue to operate at the existing LOS for both peak hour periods, while changes in individual movement delays would be 2.1 seconds or less. Under future Build conditions, the individual movements would continue to operate within the No-Build LOS during both peak hour periods. Minor street movements would begin to operate at acceptable LOS “C” conditions, while changes to individual movement delays would be minimally affected, at 2.1 seconds or less.

Purchase Street & Site Driveway

Under future Build conditions, which assesses the potential impact of construction traffic because the completed filtration plant would have no perceptible traffic impacts, the major street approaches would experience LOS “A” conditions during weekday a.m. and p.m. peak hour periods. The proposed driveway would experience LOS “A” during the a.m. peak hour, and LOS “B” during the p.m. peak hour period. Furthermore, the delays to main traffic on Purchase Street would be minimal, at 1.6 seconds or less.

d) SITE ACCESS AND CIRCULATION

Site access is provided from a proposed driveway located approximately 150 feet south of Kempner Lane on the eastern side of Purchase Street. Vehicles would enter and exit the Project Site via the proposed driveway. Vehicles would circulate the Project Site along paved roads around the filtration plant. There are four (4) proposed parking spaces located on porous pavement, which would be located in the Project Site’s southern side yard. The driveway would consist of asphalt material, and an access drive would surround the plant.

The TIS conducted sightline measurements at the proposed driveway intersection with Purchase Street. The recommended sight distances were calculated based on the 85th percentile speeds observed during the study at the driveway location, which was 56 MPH. For northbound and southbound movements on Purchase Street, the 85th percentile speed was 57 MPH. **Table 3K-4** summarizes sight distance requirements and compares these requirements to the sight distances available at the Project Site.

The proposed driveway has adequate sight distances that accommodate exiting and entering vehicles and trucks without interfering with passing traffic. All sight distances for turning movements for trucks and vehicles comply with American Association of State Highway and Transportation Officials (AASHTO) requirements, with the exception of trucks turning left from the Proposed Site onto Purchase Street. Trucks coming out of the Project Site and turning left are required to have 800 feet of sight distance. The Project Site allows for 725 feet of sight distance for this turning movement, which is slightly less than the AASHTO requirement. It is proposed that construction trucks would be prohibited from making a left turn out of the Site during the construction phase, which effectively

mitigates this issue. After construction, there would be limited truck traffic, and what truck traffic is anticipated for deliveries would not unduly interfere with road traffic.

Table 3K-4: Driveway Sight Distance Analysis*

Intersection	Movement		Intersection Sight Distance Recommended (feet)		Stopping Sight Distance Required (feet)		Sight Distance Available (feet)	
		Looking to the:	Passenger Vehicle	Construction Vehicle	Passenger Vehicle	Construction Vehicle	Passenger Vehicle	Construction Vehicle
Purchase Street at Site Driveway	WB Left	Left	630	800	540	540	725	725
		Right	630	800	495	495	900+	900+
	WB right	Left	540	700	540	540	725	750

***Recommended Sight Distance is 630 feet for passenger vehicles to left turn onto Purchase and 800 feet for trucks**

Source: Traffic Impact Study: Proposed Rye Lake Filtration Facility 2021

The Purchase Fire Department was contacted to determine if the largest emergency vehicle responding to the Project Site would be able to fully navigate around all paved portions of the Project Site. *Tower Ladder 53*, a 40-foot-long *2000 Seagrave* with a 100-foot aerial ladder was found to be the largest emergency vehicle that would navigate the Project Site. The TIS found that the apparatus is able to fully navigate around all paved portions of the Site.

The construction plan calls for triaxle dump trucks, tractor trailers, logging trucks, concrete trucks, and flatbeds to visit the Project Site during the construction process. In order to ensure that these construction trucks are able to access and navigate the Site, the turning movements for WB-67, SU-40, and 2016 MAX 12x4 were conducted. The WB-67 vehicle would be unable to fully navigate the Site once the curb is set on the paved areas around the Site. Post construction, it is unlikely that a vehicle the size of WB-67 would visit the Project Site. All other post-construction vehicles would be able to fully navigate the Site.

A vehicle maneuvering plan showing turning radii and maneuverability of construction and fire trucks for the Site can be found in the TIS, which is available for review in **Appendix L, Traffic Impact Study**.

e) POTENTIAL IMPACTS TO THE CHARACTER OF SURROUNDING STREETS

There would be no impact to the character of the surrounding streets within the study area. The Project does not propose any street widening, paving, or enhancements to the surrounding roadways.

f) PARKING ANALYSIS

There are four (4) proposed parking spaces in the parking area, which would be located in the Project Site's southern side yard. The Town/Village of Harrison off-street parking requirements can be found in §235-37 of the Zoning chapter of the Harrison Town/Village Code. The Project is classified as a "public utility use," which is not listed under §235-37. Per §235-35(G) of the Zoning Code, "if the use is not specifically listed in the schedule of such requirements, the requirement shall be the same as for the most similar use listed." The parking calculation requirement would be determined at the time of the Planning Board review. During the Site's normal operations, the facility would be staffed by up to two (2) employees during the day shift and generate, at most, two (2) trips in the busiest hour. Four (4) parking spaces are adequate to accommodate the parking capacity of the Site given the proposed

use and the number of WJWW personnel on-site. The parking area would comply with all other requirements specified in the Town/Village of Harrison Zoning Code. For related information regarding parking, **Chapter 3-O, Construction** of this DEIS discusses parking impacts during the construction phase of the Proposed Action.

III. MITIGATION MEASURES

Based on the evaluation of existing conditions and potential impacts of the Project, no significant adverse traffic or parking impacts are anticipated as a result of the Project construction or operation. To mitigate for the insufficient sight distance that does not meet AASHTO requirement, no left turns are proposed for construction trucks exiting left from the Project Site onto Purchase Street. No additional mitigation measures are necessary.

L. NOISE

I. EXISTING CONDITIONS

The Project Site is located east of Purchase Street and west of Westchester County Airport (WCA) on vacant woodlands. Immediately west of the Project Site is a residential neighborhood, and Interstate 684 (I-684) is less than a quarter mile west of the Site. A sound level analysis study was performed, and a report was produced in March 2022 by B. Laing Associates which provides data on existing ambient sound levels and analyzes potential noise impacts from the Proposed Project (**Appendix M, Sound Level Analysis**). The following description of existing ambient sound conditions on and near the Project Site relies on the data, findings, and conclusions from the March 2022 *Sound Level Analysis Report*.

Sound waves are created when changes in pressure are produced in the air. These pressure changes are expressed as decibels (dB). Sound measurements on and around the Project Site were performed using a Cirrus Research noise meter, which was set to measure A-weighted decibel levels, which are weighted toward those portions of the frequency spectrum to which the human ear is most sensitive.

NYSDEC's 2001 report titled *Assessing and Mitigating Noise Impacts* provides guidance and policy recommendations on noise measurement and management. According to this document, sound level increases of zero (0) to five (5) dB(A) have no significant impact on receptors; however, increases of five (5) to ten (10) dB(A) may have adverse impacts when the most sensitive receptors²⁷ are present. Increases of more than 10dB(A) or more usually require closer analysis based on existing noise levels and surrounding land uses. Increases of ten (10) dB(A) or more also warrant the consideration of mitigation measures. According to *Assessing and Mitigating Noise Impacts*, the addition of operational noise sources in non-industrial settings should not raise the ambient noise level above 65 dB(A) but ambient noise in industrial or commercial areas may exceed 65 dB(A) but should not exceed 79 dB(A). Per *Assessing and Mitigation Noise Impacts*, based on initial noise measurement standardized at 50 feet from the sound source, every doubled distance would decrease the noise level by approximately six (6) dB(A).

In addition, the U.S. Department of Transportation Federal Highway Administration (USDOT FHWA) provides guidance on noise abatement criteria for specific land use categories, as defined in 23 CFR 772. **Table 3L-1** summarizes these standards. For the Project, the majority of the receptors and land uses east of the Project Site fall into land use Category C and the majority of the receptors to the north and west of the Project Site fall into land use Category B as defined below. It should be noted that local receptors, including the Purchase Friends Meeting House and the neighboring residential homes, already have higher background sound levels due to local roadways and proximity to the Westchester County Airport.

²⁷ The noise analysis considers a "sensitive receptor" as the Purchase Friends Meeting House. However, this study also considers potential noise impacts on residential uses including residents to the west and the adjacent residence to the north.

Table 3L-1: FHWA Noise Abatement Criteria Hourly A-Weighted Sound Levels - 23 CFR Part 772

Activity Category	Activity Criteria(2)		Evaluation Location	Activity Description
	Leq(h)	L10(h)		
A	57	60	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B(3)	67	70	Exterior	Residential
C(3)	67	70	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings
D	52	55	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E(3)	72	75	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	--	--	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	--	--	--	Undeveloped lands that are not permitted

Source: Sound Level Analysis Report, March 2022

- (1) Either Leq(h) or L10(h) (but not both) may be used on a project.
- (2) The Leq(h) and L10(h) Activity Criteria values are for impact determination only and are not design standards for noise abatement measures.
- (3) Includes undeveloped lands permitted for this activity category.

The Project Site is also located in Westchester County Airport 60 Ldn (day/night 24 hr average) noise NYSDEC Critical Environmental Area (Figure 4 in the *Sound Level Analysis* found in **Appendix M, Sound Level Analysis**). This designation is due to the airport noise exposure. Areas within the noise contour are considered incompatible for residential land use and require special consideration on proposed development within the contour. The Project Site would not have an effect on the Westchester County Airport 60 Ldn noise critical environmental area because the Project is not proposing residential use.

Project Site Conditions

To measure the existing ambient noise levels at the Project Site, noise sampling was conducted at five locations on or in the vicinity of the Project Site. The locations of these sampling sites are summarized in **Table 3L-2** and shown in **Figure 3L-1, Location of Sound Measurements**.

Table 3L-2: Sampling Locations		
Monitoring ID	Location	Description
Location A	Purchase Street and New King Street	Northeast of Project Site
Location B	Lake Street and Purchase Street	North of Project Site
Location C	Kempner Lane and Purchase Street	West of Project Site
Location D	Tower Road and Purchase Street	South of Project Site
Location E	Project Site	Interior of Project Site

Source: Sound Level Analysis Report, March 2022

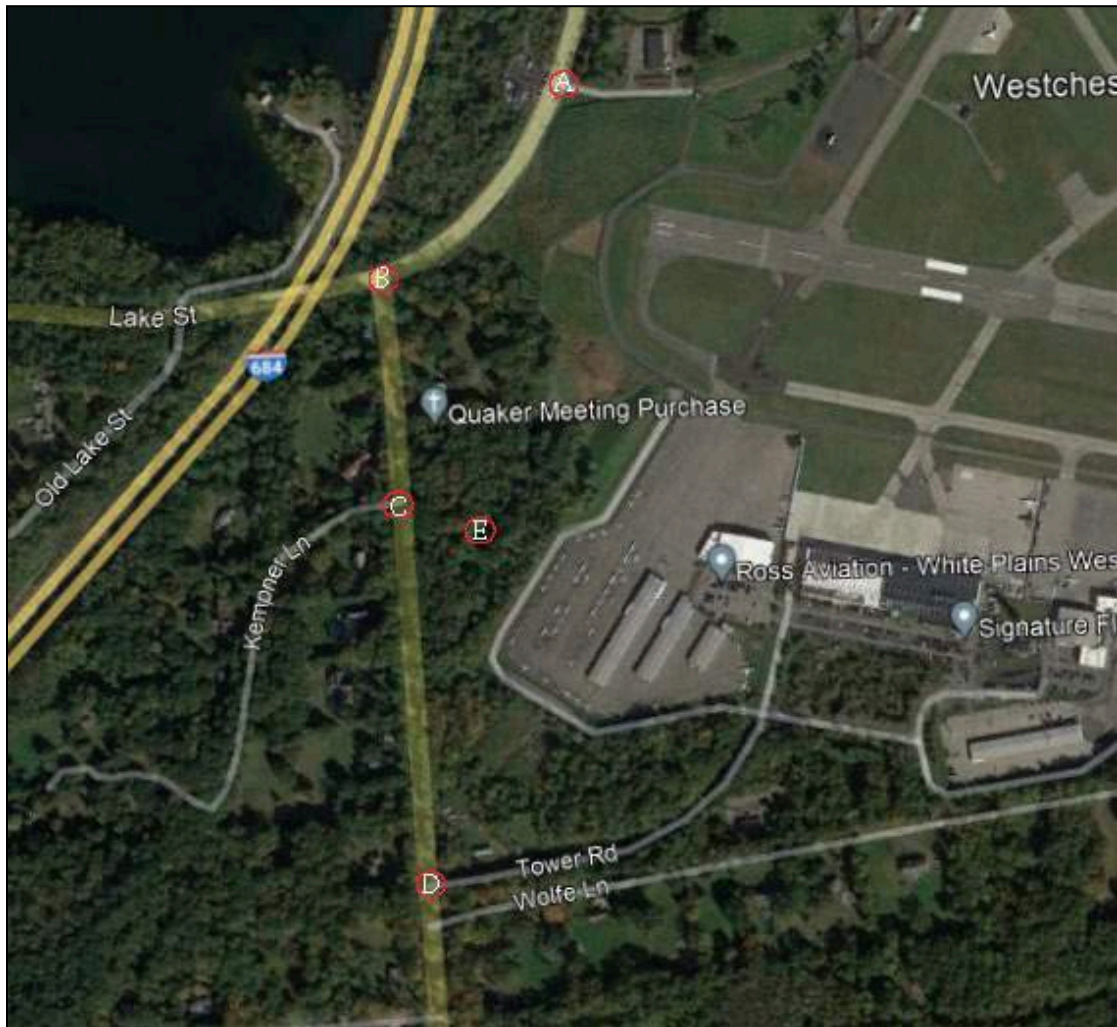


Figure 3L-1, Locations of Sound Measurements

Ambient Noise Level Measurements

Ambient noise level measurements were taken on May 4, 2021, at the five (5) sampling locations (Location A through Location E) including the center of the project site and adjacent, nearby receptor locations and intersections. Monitoring took place in 3 phases – a.m., Midday and p.m. The Project site's interior ambient noise level was measured at Location E (per **Table 3L-2**) and was, as expected, the lowest with an L_{eq} of 51.5 dB(A) in the a.m. Peak, 52.7 dB(A) in the Midday Peak and 55.6 dB(A) in the p.m. Peak. Octave band measurement at 1kHz²⁸ for each phase, respectively, resulted in 46.9 dB, 49.2 dB and 51.8 dB.²⁹

Sound levels, in the existing condition, were measured northeast of the Project site at Location A (per **Table 3L-2**, Purchase Street and New King Street). Sound measurements at this location showed an L_{eq} of 70.7 dB(A) in the a.m. Peak, and 68.2 dB at octave band 1kHz. The Midday Peak(s) resulted in an L_{eq} of 67.4 and 65.2 dB at octave band 1kHz. The PM Peak resulted in an L_{eq} of 68.4 p.m. Peak and 66.1 dB at octave band 1kHz. The noise measurements at this location were taken at the southeastern corner of

²⁸ Middle frequency range.

²⁹ Octave band analysis with A weighting at 1kHz for each phase resulted in 46.9 dB(A), 49.2 dB(A) and 51.8 dB(A). At 1kHz dB and A, B and C weighting curves are set to be identical.

New King Street and Purchase Street. The sound levels, at this location, result from the existing traffic on Purchase Street (Route 120) and the Westchester County Airport.

Sound levels, in the existing condition, were measured north of the Project site at Location B (per **Table 3L-2**, Lake Street and Purchase Street). Sound measurements in this location showed an L(eq) of 72.8 dB(A) in the a.m. Peak, and 70.2 dB at octave band 1kHz. The Midday Peak resulted in an L(eq) of 69.1 and 66.9 dB at octave band 1kHz. The PM Peak resulted in an L(eq) of 71.1 PM Peak and 68.0 dB at octave band 1kHz. The noise measurements at this location were taken at the southwestern corner of Lake Street and Purchase Street. The sound levels, at this location, result from the existing traffic on both Purchase and Lake Streets and operational use of the Westchester County Airport.

Sound levels, in the existing condition, were measured west of the Project site at Location C (per Table 3L-2, Kempner Lane and Purchase Street). Sound measurements in this location showed an L(eq) of 66.9 dB(A) in the a.m. Peak, and 63.6 dB at octave band 1kHz. The Midday Peak resulted in an L(eq) of 66.5 dB(A) and 63.1 dB at octave band 1kHz. The p.m. Peak resulted in an L(eq) of 68.3 dB(A) and 63.8 dB at octave band 1kHz. The noise measurements at this location were taken at the northwestern corner of Kempner Lane and Purchase Street. The sound levels, at this location, result from the existing traffic on Purchase Street and operational use of the Westchester County Airport.

Sound levels, in the existing condition, were measured south of the Project site at Location D (per Table 1, Tower Road and Purchase Street). Sound measurements in this location showed an L(eq) of 68.0 dB(A) in the a.m. Peak, and 63.4 dB at octave band 1kHz. The Midday Peak resulted in an L(eq) of 67.3 dB(A) and 61.1 dB at octave band 1kHz. The p.m. Peak resulted in an L(eq) of 65.0 dB(A) and 61.6 dB at octave band 1kHz. The noise measurements at this location were taken at the southeastern corner of Purchase Street and Tower Road. The sound levels, at this location, result from the existing traffic on Purchase Street and operational use of the Westchester County Airport.

Noise monitoring data results are provided in **Table 3L-3**. As previously referenced, analysis of the recorded data revealed that the lowest ambient noise levels occurred within the interior of the Project Site at Monitoring Location E, per **Table 3L-2**. Measurement reports/data sheets are located at the end of the *Sound Level Analysis* provided in **Appendix M, Sound Level Analysis**.

In addition, sound levels from nearby I-684 cannot be excluded as a contributing noise source that elevates sound levels in the existing ambient condition. Interstate-684 (I-684) is classified by the New York State Department of Transportation (“NYSDOT”) as an urban “Principal Arterial – Interstate.” Per the FHWA, “levels of highway traffic noise typically range from 70 to 80 dB(A) at a distance of 15 meters (50 feet) from the highway.”

A summary of the above findings is provided in **Table 3L-3**.

Table 3L-3: Noise Monitoring Results (Existing Ambient)			
Monitoring ID	Location	Time	Leq dB(A)
A	New King St/Purchase St	7:31 a.m.	70.7
		12:48 p.m.	67.4
		2:20 p.m.	68.4
B	Purchase St/Lake St	7:53 a.m.	72.8
		12:29 p.m.	69.1
		3:38 p.m.	71.1
C	Kempner Ln/Purchase St	8:12 a.m.	66.9
		11:49 a.m.	66.5
		2:59 p.m.	68.3
D	Tower Rd/Purchase St	8:32 a.m.	68.0
		12:09 p.m.	67.3
		2:40 p.m.	65.0
E	Site Interior	9:09 a.m.	51.6
		11:32 a.m.	52.7
		3:18 p.m.	55.6

Source: Sound Level Analysis Report, March 2022

II. POTENTIAL IMPACTS

Operational Traffic

As noted in **Table 3L-4**, below, sound level additions of zero (0) to five (5) dB(A) have no appreciable effect on receptors, increases of five (5) to ten (10) dB(A) may have the potential for adverse impact but only in cases where the most sensitive receptors are present. Increases of more than ten (10) dB(A), however, may require a closer analysis of impact potential depending on existing noise levels and surrounding land uses, and an increase of ten (10) dB(A) or more suggests a need to consider mitigation measures.

Table 3L-4: Approximate Addition Sound levels

Difference Between Two Sound Levels	Add to the Higher of the Two levels
1 dB or less	3 dB
2 to 3 dB	2 dB
4 to 9 dB	1 dB
10 dB or more	0 dB

Source: Sound Level Analysis Report, March 2022

Noise levels associated with vehicular traffic are a function mainly of traffic speed, vehicle mix (automobiles, medium trucks, heavy trucks) and volume. Posted vehicle traffic speeds would not be affected by the Proposed Action. Vehicle mixes are also anticipated to be essentially the same. Therefore, any changes in traffic related noise would be a function of the change in traffic volume. A 3 dB(A) increase is unnoticed to tolerable according to the NYSDEC noise evaluation guidelines in “Assessing and Mitigating Noise Impacts.” An increase in five (5) to ten (10) decibels would result in an intrusive sound, depending on the ambient noise level. A ten (10) dB(A) increase is required before a sound is perceived to be twice as loud.

Per the Traffic Impact Study, Westchester Joint Water Works has indicated that, following construction, the plant would typically be staffed by one to two employees, generating at most, 2 trips during the busiest hour, which would have no significant impact on traffic operating conditions and thus, sound levels. **(Appendix L, Traffic Impact Study.)**

As previously indicated, one notable receptor, the Purchase Friends Meeting House, is located just north of the proposed Project location. There are residential receptors also located to the north and west of the Project Site. Due to the minimal, anticipated generated trips for the project during facility operations, no significant impact is anticipated to the potential sensitive receptor. To the extent receptors of any kind (residential, commercial buildings, etc.) occur, they too are already impacted as described/measured above by noise/sound levels from the local roadway, I-684 and Westchester County Airport; the proposed Project or Project-related traffic would not materially add to these levels.

Plant Operations

In addition to traffic, a combination of “typical” sound/noise levels are projected to occur on-site as a part of the filtration plant. A majority of the operation units, including air scour blowers, and certain mechanical equipment would be located inside of the plant. Sound/noise levels that would be outside of the plant include air conditioning units, generators, and on-site activities such as the loading and unloading of trucks. However, there are no expected impacts by these sources to off-site receptors, as they are already impacted by local roadway and the Westchester County Airport sound levels. Using the NYSDEC impact criterion discussed previously, no significant adverse noise impacts would be expected from the proposed Project or operations at the Project site. Nevertheless, the Project sources are discussed below.

Two 1,000 kW emergency generators are proposed on the south side of the proposed filtration plant. Sound barriers consisting of sound attenuated enclosures and exhaust silencers would be provided to mitigate noise from these generators. The weather protective housing around the generators would be constructed of reinforced 12-gauge (minimum) aluminum or 14-gauge (minimum) galvanized steel and would fully enclose the generators, while providing the space needed to walk around the enclosure. The enclosure would be sound attenuated, and its walls would be reinforced to prevent vibration while the

generators are operating. The filtration plant building itself would also block sound between the south side of the building and receptors to the north.

The 1,000 kW generators are expected to produce sound levels of 82 dB(A) at 23 feet, however, with the proposed generator enclosures, the sound levels would be reduced to 75 dB(A) at 23 feet.³⁰ At the northern property boundary line, the generators would have noise levels of 55-56 dB(A) which is less than the existing ambient noise levels in all locations studied except Location E, on the Project Site. These levels are also below the noise level standards for activity Category A established by the FHWA 23 CFR Part 772, Table 1 in **Table 3L-1**. At the western property line, south of Kempner Road, noise from the generators would be approximately 63 dB(A).

The site plan depicts a 100-foot buffer from Purchase Street and a 100-foot vegetated side yard setback. Per “Assessing and Mitigation Noise Policy,” dense vegetation plays a role in reducing sound levels. For every 100 feet of dense vegetation (and including reductions due to “ground effects” from natural/soft ground surfaces), it is likely that sound levels would be reduced three (3) to seven (7) dB. These generators, except in emergency situations when generators are required to provide backup power, would only be active in weekly test modes of less than one hour, which would occur during the daytime. During emergency situations, numerous other generators would be expected to be operational simultaneously with the Plant’s proposed generator.

The FHWA 1995 Highway Traffic Noise Guidance identifies an ambient level of 67 dB(A) or less at most exterior locations for Category B uses such as residences (the main use of land in the area) and Category C uses such as parks, hotels, churches, libraries, etc. Moreover, as indicated by the existing ambient sound levels, many receptors in the local area are already exposed to potentially higher sound levels due to the localized commercial roadway and proximity to the Westchester County Airport.

The Project would also have electric-powered mechanical units for cooling, heating, and ventilation (HVAC). These units would be placed on the rooftops of the facility and would be located on the south side of the building. Cooling would be provided via DX air conditioning systems, which consist of indoor cooling coils and outdoor condensing units. Condensing units would be air cooled and would be a low-noise system.

Six units are proposed to be located on the rooftop. As provided in **Table 3L-5**, sound levels range from 44 dB(A) to 83 dB(A). When several pieces of equipment are operating simultaneously, we would use the Approximate Addition of Sound Levels (**Table 3L-4**) to calculate the dB(A) to a receptor.

³⁰ Page 16 and **Appendix B**, Sheet 1 of 1 (C32 1250kw Level 2 SAE Concept Elevation Views, Yancey Engineered Solutions) in the March 2022 Sound Level Analysis report prepared by B. Laing.

Table 3L-5: Proposed Mechanical Equipment to be Utilized

Specifying Discipline	Description	Location	Sound At Source (Dba)	Sound 50' From Source (Dba)
HVAC	ACCU-01 (Control Room - 206)	Roof	44	30
HVAC	ACCU-02 (SCADA Room 207)	Roof	44	30
HVAC	ACCU-03 (OUTDOORS)	Roof	72	58
HVAC	ACCU-04 (OUTDOORS)	Roof	83	69
HVAC	ACCU-05 (OUTDOORS)	Roof	78	64
HVAC	ACCU-06 (OUTDOORS)	Roof	83	69

Sound Level Analysis Report, March 2022

Given the distance of the HVAC equipment to the receptors to the north and west and the 100-foot buffer from Purchase Street and 100-foot side yard setback to the north, no noticeable sound impact is anticipated from the mechanical units.

For example, at 50 feet from the source, if HVAC equipment were simultaneously operating, the resultant dB(A) would total 52 dB(A) at 400 feet (see below for computations). The difference first between the two lowest sound pressure levels is calculated, and that result is added to the next highest source. (See p. 18 of the *Sound Level Analysis* for calculations.)

At 50 feet from the source, a level of 70 dB(A) is quantified. At each doubling of a distance a level drop of six (6) dB(A) would occur. Thus, at 100 feet sound level would reduce to 64 dB(A); at 200 feet to 58 dB(A); and by 400 feet, the resultant sound pressure level would be 52 dB(A). As noted below, dense vegetation also plays a role in reducing sound levels. Therefore, given the distance of the location of equipment to the receptors to the north and west, and the vegetation, no noticeable sound impact is anticipated by typical mechanical units. Figure 5 in the *Sound Level Analysis* in **Appendix M, Sound Level Analysis** of this DEIS displays the visual depiction of simple sound propagation.

Intermittent operational sounds produced by the Project could consist of backup beepers from loading trucks and garbage trucks. Backup beepers/alarms are used as a safety device for plant personnel. The beepers produce a sharp, rapid, high frequency intermittent sound. Sound levels of back-up beepers can range as high as 97 to 112 dB(A), at the source, which can be considered “very annoying” (*The Aggregate Handbook*, 1991). The noise created by the backup beepers/alarms on-site would decrease as a function of distance, and placement of loading areas. Given initial noise measurement standardized at 3 feet from the sound source, every doubled distance would decrease the noise level by approximately six (6) dB(A).

Backup beepers/alarms would be sporadic in terms of garbage pick-up and potential loading/ unloading of box trucks and therefore sound levels may intermittently exceed ambient levels. However, per the FHWA Work Zone Mobility and Safety Program, where possible, site access should be designed such that trucks move through the site in a circular manner without the need to back up and ambient-sensitive self-adjusting backup alarms should be utilized. The Project Site has been designed with this in mind. There is a circular drive around the plant. The only anticipated backing up is for loading trucks (solids) and potentially propane delivery in the southeast corner of the site. The Project Site and facility were designed to keep the loading activities indoors behind roll up doors, the doors only open when delivery and pickup of containers is anticipated.

There would be no significant noise impacts would occur as a result of truck idling. Per New York State Department of Environmental Conservation Heavy Duty Vehicle Idling Law:

“6 NYCRR, Subpart 217-3, prohibits heavy duty vehicles, including non-diesel and diesel trucks and buses with a gross vehicle weight rating of more than 8,500 pounds, from idling for more than five minutes at a time. The idling regulation is enforced by DEC Conservation Officers.”

There are other attenuating factors to consider when evaluating sound levels and impacts. This includes topography, vegetation, structures and location of receptors in relation to the sound source. While the site is relatively flat, without attenuation due to topography, per “Assessing and Mitigation Noise Policy,” dense vegetation plays a role in reducing sound levels. For every 100 feet of dense vegetation, it is likely that sound levels would be reduced three (3) to seven (7) dB (and including reductions due to “ground effects” from natural/soft ground surfaces). The project proposes to leave an approximately 100-foot buffer from Purchase Street and a 100-foot side yard setback on the northern portion of the site. This has the potential to reduce operational noise levels and temporary construction noise. To be conservative, these attenuating factors were not included in the above calculations. However, the 100-foot setback could provide additional attenuation of sound levels and, also, a screening which can provide a psychological noise reduction. Therefore, any of the above estimations regarding generators, mechanical units, beepers, etc., would be reduced further, rendering their impact to be negligible or unnoticeable from a noise analysis standpoint. Without the 100-foot setback and vegetative screening, attenuation of sound levels would be less and the sound potentially more discernible.

Noise Levels – Short-term Construction Impacts

During construction, noise levels would be (1) temporary and (2) would occur at two distinctly different levels. The U.S. EPA reports noise levels for development projects range from a high of 88 dB(A) to a low of 75 dB(A) from grading through finishing operations.³¹ As discussed in **Chapter 3-O, Construction** of this DEIS, the proposed construction schedule includes 12 phases spanning a period of 36 months from notice to proceed (NTP) to completion once all permits and approvals are issued. Per the construction schedule, it is not until Month 5 that outdoor equipment operations begin.

The noise generated during construction is due mainly to diesel engines that run the equipment. Exhaust is typically the predominant source of diesel engine noise, which is the reason that maintaining mufflers on all equipment is imperative. Noise measurements from some common equipment used in

³¹U.S. EPA, Construction Noise Control Technology Initiatives, Table 2.2-measured at 50 feet.

construction can be found in *Assessing and Mitigating Noise Impacts* (October 6, 2000, revised February 2, 2001). See **Tables 3L-6** and **3L-7** below.³²

Table 3L-6: Projected Noise Levels				
Noise Source	Measurements	1,000 feet	2,000 feet	3,000 feet
Primary and Secondary crusher	89 dB(A) at 100 ft.	69.0 dB(A)	63.0 dB(A)	59.5 dB(A)
Hitachi 501 shovel loading	92 dB(A) at 50 ft.	66.0 dB(A)	60.0 dB(A)	56.5 dB(A)
Euclid R-50 pit truck loaded	90 dB(A) at 50 ft.	64.0 dB(A)	58.0 dB(A)	54.4 dB(A)
Caterpillar 988 loader	80 dB(A) at 300 ft.	69.5 dB(A)	63.5 dB(A)	60.0 dB(A)

Source: Sound Level Analysis Report, March 2022

Table 3L-7: Common Equipment Sound Levels		
Equipment	Decibel Level dB(A)	Distance in feet
Augered earth drill	80	50
Backhoe	83-86	50
Cement mixer	63-71	50
Chain saw cutting trees	75-81	50
Compressor	67	50
Garbage Truck	71-83	50
Jackhammer	82	50
Paving breaker	82	50
Woodchipper	89	50
Bulldozer	80	50
Grader	85	50
Truck	91	50
Generator	78	50
Rock drill	98	50

Source: Sound Level Analysis Report, March 2022

The Purchase Friends Meeting House is located just north of the proposed Project location. Noise impacts were also evaluated in consideration of the residents to the west and the single resident to the north. The noise created by the part of the construction process, could likely involve levels ranging from 71 to 98 dB(A) as shown in **Table 3L-7** above. Ambient noise measurements taken at Location C (nearest to adjacent western residents) showed an ambient sound pressure level between 66.5 and 68.3 dB(A), as a function of traffic and operational activity at the Westchester County Airport. A minimum distance of 200 feet, on average, from the proposed construction would result in an approximate reduction of 12 dB(A). Considering construction sound levels between 71 to 98 dB(A) at 50 feet, with a reduction of six (6) dB(A) for every doubling of distance, sound levels from construction (without taking vegetation into consideration—see below) at nearby residential receptors may be between 63 and 76 dB(A). Using the addition of sound levels provided in **Table 3L-4**, the ambient noise may be between 65 and 78 dB(A) during construction.

³² The equipment listed in **Tables 3L-6** and **3L-7** are illustrative and may not be used in the proposed action.

As the ambient sound in Location C was recorded between 66.5 dBA and 68.3 dBA, the temporary construction levels can fall in-between the existing sound levels to, at periods, levels substantially exceeding this background level. However, these levels are consistent with the noise levels that the USEPA has reported development projects (**Appendix M, Sound Level Analysis**). As stated above, the proposed construction schedule includes 12 phases spanning a period of 36 months from NTP to completion once all permits and approvals are granted. Per the construction schedule, Month 5 launches outdoor equipment operations.

The above breakdown estimates 200 feet on average distance between source and receptor. As the receptors to the north are closer in proximity to the project construction, the 12 dB(A) noise decrease as a function of distance cannot be applied. In this case, temporary significant noise impacts may occur to these receptors. As such, mitigation, to the extent possible, should be incorporated.

These measures are discussed below in **Section III, Mitigation Measures**.

According to the project Construction Schedule provided in **Appendix C** of the Sound Analysis Report, during the busiest phase of construction and the reasonable worst case scenario estimate, the Site Work, Filtration Building Excavation phase, which would last for approximately 3 months, would include approximately 70 trucks and 22-34 personnel on-site per day. Per the Kimley-Horn Traffic Impact Report "During peak hours, 18 employees and 34 truck trips are projected to visit the site during this construction period." This increase in trips would be temporary and their operation would be restricted to 7:30 a.m. to 8:00 p.m. on weekdays and not before 10:00 a.m. on weekends by the Town/Village of Harrison noise ordinance defined in Chapter 177-2, "Prohibited Acts." No construction would take place on Sundays.

Elevated sound levels during the Site Work, Filtration Building Excavation phase would include both mobile and stationary sources. These sources are noted as including two (2) excavators (Liebherr R 934 C Litronic), front end loader (Caterpillar 980H), Lattice crane (Liebherr HS 855 HD Litronic) and generator (Terex T360 Generator).

For example, at 50 feet from the source, if the construction equipment were simultaneously operating and in proximity to each other, the resultant dB(A) would total 73 dB(A) at 200 feet (see p. 22 of the *Sound Level Analysis* report in **Appendix M** of this DEIS for calculations). First, the difference between the two lowest sound pressure levels is calculated, and that result is added to the next highest source.

At 50 feet from the source, a level of 87 dB(A) is quantified. At each doubling of a distance a level drop of six (6) dB(A) would occur. Thus, at 100 feet, sound levels would reduce to 79 dB(A) and at 200 feet to 73 dB(A).

At this busiest phase, it is anticipated that approximately 70, ten-wheeler trucks would enter/ exit the site per day. Noise levels associated with vehicular traffic are a function mainly of traffic speed, vehicle mix (automobiles, medium trucks, heavy trucks) and volume. In this case, noise levels would be a result of vehicle mix and volume; as a result of heavy trucks. Therefore, any changes in traffic related noise would be a function of the change in volume as detailed in the *Sound Level Analysis* report.

The output is 80 dB(A) at 50 feet. Again, at each doubling of a distance, a sound level drop of six (6) dB(A) would occur. As the receptors vary in proximity to the transient, mobile source, the dB(A) noise

decrease as a function of distance cannot be determined for each receiver. However, in this case, temporary noise impacts may occur as a result of this phase of construction. As such, mitigation, to the extent possible, should be incorporated. These measures are discussed below in **Section III, Mitigation Measures**.

Once “rough grading” has been finalized and foundations have been poured, peak upper sound levels would decline further as the construction uses tools which are (1) smaller, (2) less continuous in use and (3) begin to move “indoors.” At this phase of construction, heavy equipment is generally replaced by internal work and hand-equipment on external work. (**Chapter 3-O, Construction** of this DEIS includes a general schedule, phases, and activities that would be involved in constructing the Project).

The Project Site covers a fairly large area. The actual sound levels which would be experienced by existing off-site residential uses surrounding the site would be a function of distance, the equipment in operation at any given time, and the speed at which the equipment engines are operating. As such, there is no one single sound level that would occur throughout construction, and no one existing residential use would be exposed to the same sound levels over an extended period of time, as construction progresses through the Site.

Construction noise levels described above are assumed for people outside. A building or house would provide significant attenuation for those who are indoors. Sound levels can be expected to be up to 27 dB(A) lower indoors with the windows closed. Even in homes with the windows open, indoor sound levels can be reduced by up to 17 dB(A) (USEPA, 1978). Further, per “Assessing and Mitigation Noise Policy,” dense vegetation would also play a role in reducing sound levels (NYSDEC, 2001). For every 100 feet of dense vegetation, it is likely that sound levels would be reduced three (3) to seven (7) dB per 100 feet of dense vegetation (and including reductions due to “ground effects” from natural/soft ground surfaces). The project proposes to leave an approximately 100-foot-wide stretch of wooded “buffer” between the construction and the residential receptors to the north and west. This has the potential to reduce construction noise by three (3) to seven (7) decibels.

In conclusion, temporary noise impacts may occur during the construction of the proposed facility. However, it should be noted that existing, ambient levels are already amplified due to interstate traffic and adjacent Westchester County Airport. Ambient conditions at the most adjacent residential locations, when the maximum construction equipment is in use, would significantly exceed the existing ambient noise conditions at times. However, construction activities are limited to fixed hours per the Town/Village ordinance and would be temporary. No construction of any sound level is permitted before 10 a.m. weekends or any time on legal holidays. The proposed construction schedule includes 12 phases spanning a period of 36 months from notice to proceed (NTP) to completion once all permits and approvals are granted. Per the construction schedule, month 5 would be the launch of outdoor equipment operations.

III. MITIGATION MEASURES

Due to numerous factors such as the distance between noise sources and receptors, the siting of noise sources, the influence of the local, minor arterial roadways and the Westchester County Airport on ambient noise levels, and identified systems design and mitigation, and the following mitigations, significant impact from noise is not expected from the Project.

Mitigation measures have been incorporated into the Project, minimizing the potential for adverse noise impacts. These include the following:

- Most operational equipment and activities would be indoors and certain indoor equipment such as air scour blowers would be contained within acoustical noise reducing enclosures.
- Cooling would be provided via DX air conditioning systems, which consist of indoor cooling coils and outdoor condensing units that are designed to reduce noise.
- Two emergency generators would be installed on the south side of the building, which is as far as possible from the residence and Purchase Friends Meeting House properties to the north.
- Sound barriers consisting of sound attenuated enclosures and exhaust silencers would mitigate noise from the generators and 100-foot front and side setback buffers would further reduce impacts from noise on the surrounding neighborhood.
- All construction equipment would be turned off when not in use, as New York State law requires no idling of unused equipment in excess of five minutes.
- When feasible, construction equipment would be kept as far from the site boundaries as possible.
- Use ambient sensitive self-adjusting back up alarms.
- Air compressors would have critical environmental silencers with maximum noise attenuation.
- Mufflers would be required on all equipment.

The Project Site's exterior perimeter encompasses an already amplified ambient noise level due to traffic activity from Purchase Street, I-684, and Westchester County Airport. Construction activity from the Project Site would be at or close to the existing ambient noise levels for off-site receptor locations for the majority of the construction phases. In addition, the Town/Village of Harrison Noise Ordinance limits when construction activities can occur to reduce the effects of any unavoidable noise.

M. AIR

I. EXISTING CONDITION

Background

The Clean Air Act (CAA) is the principle statutory authority for regulating air pollution in the United States. The law directs the United States Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (NAAQS) for six (6) specific pollutants:

- Carbon Monoxide (CO)
- Lead (Pb)
- Nitrogen Dioxide (NO₂)
- Ozone (O₃)
- Particulate Matter (PM_{2.5} and PM₁₀)
- Sulfur Dioxide (SO₂)

The Project Site is located in Westchester County, New York. Westchester County is classified as non-attainment status for 8-hour ozone and maintenance status for carbon monoxide. Furthermore, the region is classified as attainment status for particulate matter, sulfur dioxide, lead, and nitrogen dioxide.

Air Quality Standards

The CAA created air quality designation areas for NAAQS known as areas of Non-Attainment, Attainment, and Maintenance. Non-Attainment areas are regions that are not meeting air quality standards set by the USEPA, whereas Attainment areas meet or exceed the NAAQS. In addition, Maintenance areas were established for regions that used to be a non-attainment status, but air quality has improved to achieve Attainment status.

Each state is divided into monitoring regions with several stations that monitor air quality. States throughout the country are required to submit State Implementation Plans (SIPs) for each region. SIPs include a collection of regulations, policies, and procedures used by a state, territory, or local air district to implement, maintain, and enforce NAAQS and to fulfill other requirements of the CAA. For Non-Attainment areas, the State is required to submit revised SIPs requiring them to make measurable progress in meeting the NAAQS. In New York State, the Department of Environmental Conservation drafts SIPs for submission to the USEPA. NYSDEC measures air pollution at over 80 sites throughout the state for each of its eight (8) Air Quality Health Advisory Regions.

Table 3M-1 summarizes the NAAQS for Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone, Particulate Matter (PM_{2.5} and PM₁₀)³³, and Sulfur Dioxide. Air quality monitoring concentrations for the area near the Project Site are summarized in **Table 3M-2** and discussed in further detail below.

³³ In “microns”; a micron is one-millionth of a meter or one-thousandth of a millimeter.

Table 3M-1: National Ambient Air Quality Standards						
	Primary Standards			Secondary		
Pollutant	Level	Averaging Time	Form	Level	Averaging Time	Form
Carbon Monoxide	35 ppm	1-hour	Not to be exceeded more than once per year	None	None	None
	9 ppm	8-hour	Not to be exceeded more than once per year	None	None	None
Lead	0.15 µg/m3	Rolling 3-month average	Not to be exceeded	0.15 µg/m³	Rolling 3-month average	Not to be exceeded
Nitrogen Dioxide	100 ppb	1-hour	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years	None	None	None
	53 ppb	1-year	Annual mean	53 ppb	1-year	Annual mean
Ozone	0.070 ppm	8 hours	Annual fourth highest daily maximum 8-hour concentration, averaged over 3 years	0.070 ppm	8 hours	Annual fourth highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution (PM _{2.5})	12 µg/m³	1-year	Annual mean averaged over 3 years	15 µg/m³	1-year	Annual mean averaged over 3 years
	35 µg/m³	24 hours	98th percentile, averaged over 3 years	35 µg/m³	24 hours	98th percentile, averaged over 3 years
Particle Pollution (PM ₁₀)	150 µg/m³	24 hours	Not to be exceeded more than once per year on average over 3 years	150 µg/m³	24 hours	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide	75 ppb	1-hour	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years	0.5 ppm	3 hours	Not to be more than once per year

Table 3M-2: Air Quality Monitoring Concentrations					
		Background Concentrations		NAAQS	
Pollutant	Monitoring Location	Level	Averaging Time	Level	Averaging Time
Carbon Monoxide	Botanical Gardens/Pfizer Lab, Bronx County	1.30 ppm	1-hour	35 ppm	1-hour
		1.92 ppm	8-hour	9 ppm	8-hour
Lead	IS 52, Bronx County	0.0027 µg/m³	Rolling three-month average	0.15 µg/m³	Three-month rolling average
Nitrogen Dioxide	Botanical Gardens/Pfizer Lab, Bronx County	50.5 ppb	98th percentile of one-hour daily maximum concentrations averaged over the previous three years	100 ppb	98th percentile of one-hour daily maximum concentrations averaged over the previous three years
	Botanical Gardens/Pfizer Lab, Bronx County	12.36 ppb	Annual arithmetic mean	53 ppb	Annual arithmetic mean
Ozone	White Plains, Westchester County	0.069 ppm	Fourth highest daily maximum 8-hour average	0.070 ppm	Fourth highest daily maximum 8-hour average
Particle Pollution (PM _{2.5})	White Plains, Westchester County	5.1 µg/m³	Annual mean averaged over three years	12 µg/m³	Annual mean averaged over three years
	White Plains, Westchester County	13.6 µg/m³	98th percentile averaged over three years	35 µg/m³	98th percentile averaged over three years
Particle Pollution (PM ₁₀)	IS 52, Bronx County	31 µg/m³	Maximum 24-hour concentration	150 µg/m³	Maximum 24-hour concentration
Sulfur Dioxide	Botanical Gardens/Pfizer Lab, Bronx County	0.44 ppb	Annual Average	30 ppb	Annual Average

Air Quality Standards of the Project Site

The Project Site is located in Town of Harrison, which is in Air Quality Health Advisory Region 3 – Lower Hudson Valley. Within Region 3, the NYSDEC has continuous monitoring stations in White Plains, Central Valley, and Millbrook, New York, and at Ninham and Belleayre Mountains. Data from the closest monitoring stations from the Project Site were used to define the existing air quality levels, or background concentrations, within the Project Site. Background concentrations include ambient pollution levels from sources such as other stationary and mobile sources. In addition, the Town of Harrison is located near several monitoring sites in Region 2, and these stations were also reviewed to assess existing quality levels within the Project Site. Region 2 includes 18 monitoring sites in Richmond, Queens, King, New York, and Bronx counties. In instances where Region 3 monitoring stations do not monitor for a specific pollutant, the closest monitoring station in Region 2 was reviewed for pertinent data.

The most recent NYSDEC monitoring data³⁴ indicates the closest Carbon Monoxide (CO) monitoring station to the Project Site is the Botanical Gardens/Pfizer Lab in Region 2. The 2020 maximum one-hour average and eight-hour average CO concentrations at this monitoring station are 1.92 and 1.30 parts per million (ppm), respectively. These values are consistent with the fact that Westchester County's status as a maintenance area for CO.

The closest monitoring station to the Project Site for lead (Pb) is also within Region 2, located at IS 52 in Bronx County. The maximum three-month rolling average for the monitoring station in 2020 was 0.0027 $\mu\text{g}/\text{m}^3$, which is well below the maximum NAAQS of 0.15 $\mu\text{g}/\text{m}^3$.

For Nitrogen Dioxide (NO_2), the closest monitoring station is located in Botanical Gardens/ Pfizer Lab in Bronx County. The annual arithmetic mean in 2020 was 12.36 parts per billion (ppb), well below the maximum NAAQS of 53 ppb. In addition, the 98th percentile of one-hour daily maximum concentrations averaged over the previous three years³⁵ for the monitoring station was 50.5 ppb. This result is considerably below the NAAQS of 100 ppb.

The closest monitoring site for Ozone (O_3) is the White Plains monitoring station. The fourth highest daily maximum 8-hour average for 2020 was 0.069 ppm. This value is just below the NAAQS of 0.070 ppm. During the two previous years, 2018 and 2019, the White Plains monitoring station exceeded the O_3 NAAQS by .002 ppm and .008 ppm respectively.

For Particle Pollution ($\text{PM}_{2.5}$), the closest monitoring station is also White Plains. The annual mean averaged over three years³⁶ was 5.1 $\mu\text{g}/\text{m}^3$. The NAAQS for this requirement is 12 $\mu\text{g}/\text{m}^3$. In addition, the 98th percentile of 24-hour concentrations, averaged over three years, was 13.6 $\mu\text{g}/\text{m}^3$, well below the NAAQS of 35 $\mu\text{g}/\text{m}^3$. For Particle Pollution (PM_{10}), IS 52 in Bronx County was the closest monitoring station. The 2020 maximum 24-hour concentration of Particle Pollution (PM_{10}) was 31 $\mu\text{g}/\text{m}^3$. This is also under the NAAQS of 150 $\mu\text{g}/\text{m}^3$.

For Sulfur Dioxide (SO_2), the closest monitoring station is Botanical Garden/Pfizer Lab. The annual average in 2020 was 0.44 ppb, which is below the NAAQS of 30 ppb.

³⁴ New York State Ambient Air Quality Report for 2020: https://www.dec.ny.gov/docs/air_pdf/2020airqualreport.pdf

³⁵ Data from 2018, 2019, and 2020

³⁶ Data from 2018, 2019, and 2020

II. POTENTIAL IMPACTS

Air Quality

Air quality impacts can result from emissions generated by stationary sources, such as emissions from on-site fuel combustion for heat and hot water systems, generators, and use of processing equipment, or indirect sources, such as off-site emissions from on-road vehicle trips generated by the project or other changes to future traffic conditions from a project.

The Project would generate construction vehicle trips during site preparation and construction activities and vehicles and equipment would be operating onsite during workdays, but these activities would be temporary and intermittent during the construction process and would occur during normal working hours and are not expected to have a significant adverse impact on air quality. Dust may be periodically generated during construction; however, various techniques are available to mitigate this potential and temporary air quality impact (see **Mitigation Measures** below). In addition, the construction contractor would be required to develop and comply with a dust mitigation plan as part of the construction contract.

Additional air quality impacts from operational traffic would be negligible.

Two diesel-fueled standby power generators that would burn ultra low sulfur diesel fuel would be provided for emergency use. The generators would each be rated at 1,250 KW, 480V, 3PH, 3W, 60HZ. The two generators combined would have the capacity to energize the whole plant. In the event of the loss of normal electrical power to the switchboard, the generators would start automatically, and would supply power to the filtration plant. An individual fuel tank would be provided in the subframe (belly) of each generator. The emergency generators would only operate in the event of a utility power failure, and for “exercising” purposes to keep the generators in good working order. Any air quality impacts related to the running of the emergency generators would be temporary in nature either for exercising purposes for no more than one (1) hour per week or for the duration of an emergency power outage. The use of emergency generators is not expected to have a significant adverse impact on air quality.

The power system for the filtration plan would be electric and solar. However, propane would be used for heating of the plant building. It is estimated that a total of 20,000 gallons of heating fuel per year would be used at the Project Site. An air quality analysis was conducted and can be found in **Appendix N, Air Quality Analysis**. Modeling analysis was performed using the USEPA AERSCREEN screening dispersion model, to determine whether the proposed project could potentially cause any significant adverse impacts with respect to the 1-hour average nitrogen dioxide (NO₂) and PM_{2.5} NAAQS, which are the critical pollutants of concern. Receptors were modeled at off-site locations near the proposed filtration plant. This included the nearest facility fence line location from the boiler vents, which is approximately 180 feet away, and at residences closest to the facility along Purchase Street, at an average distance ranging from 323 feet to 665 feet. All receptors were modeled at a height of six (6) feet above grade. The maximum predicted NO₂ concentrations from the air modeling analysis were added to the background concentrations to estimate total air quality concentrations at modeled receptors. The results of the AERSCREEN model analysis for NO₂ and PM_{2.5} are presented in **Table 3M-3**.

As shown in the table, the maximum predicted 1-hour NO₂ concentration from the proposed filtration plant, when added to the background concentration, is predicted to be below the National Ambient Air Quality Standards. In addition, the maximum predicted 24-hour and annual PM_{2.5} concentrations are

also predicted to be below the NAAQS. The fence line receptor was found to have the maximum concentration for each pollutant and time period. At each of the residential receptors, the maximum pollutant concentrations were less than the values shown in **Table 3M-3**.

Table 3M-3: Maximum Predicted Concentrations from the WJWW Filtration Plant ($\mu\text{g}/\text{m}^3$)					
Pollutant	Averaging Period	Modeled Concentration	Background	Total Concentration	NAAQS Standard
NO ₂	1-hour	55.9	94.9	150.8	188
PM _{2.5}	24-hour	2.37	13.6	15.97	35
PM _{2.5}	Annual	0.07	5.1	5.17	12

Source: Westchester Joint Water Works Air Quality Modeling Assessment

Based on these results of the analysis, pollutant concentrations from the proposed propane-fired boiler would not exceed applicable air quality standards at off-site locations. Therefore, no significant adverse air quality impacts are predicted.

The proposed filtration plant does not require any air quality permits or registrations from the NYSDEC.

Odors

The plant is not anticipated to generate any odor-producing substances once constructed. All residuals from the treatment process would be dewatered indoors on-site and would not produce an odor.

III. MITIGATION MEASURES

Significant adverse air quality impacts would not occur as a result of the Project. Nevertheless, there are several methods to reduce any small impacts, particularly those that may occur during construction activities. These include the following mitigation measures that would be incorporated during the construction and operation of the filtration plant. The construction contractor would be required to develop and comply with a dust mitigation plan as part of the construction contract. The plan would include the following strategies:

- Provide a temporary truck wash off station onsite to remove dust from construction vehicles and equipment before exiting the site.
- Install a stabilized construction entrance with rumble strips to remove sediment from truck tires before vehicles exit the site.
- Control onsite construction vehicle speeds to prevent the raising of dust.
- Limit prolonged truck and equipment idling times when possible.
- Stabilize exposed soils as soon as possible after clearing and grading by seeding, mulching, landscaping, building on, and/or paving bare ground as soon as possible after site disturbance.
- Cover or seed stockpiles if they are to remain for more than a few days.

N. PUBLIC HEALTH

I. DRINKING WATER

a) *EXISTING CONDITIONS*

Westchester Joint Water Works is a non-profit public benefit corporation formed by an Act of the NYS Legislature at the request of the three member municipalities of the Village of Mamaroneck, the Town of Mamaroneck, and the Town/Village of Harrison for the purpose of cooperatively operating a public water works system. WJWW supplies water to its member municipalities for retail sale to their resident consumers and to portions of the City of Rye and the City of New Rochelle, serving a total retail population of over 59,000 persons from over 14,600 service connections. WJWW provides water on a wholesale basis to the for-profit water company Suez Water Westchester and the Village of Larchmont on a wholesale basis. In all, WJWW provides drinking water to some 120,000 consumers in Westchester County.

The WJWW water supply is obtained from the upstate Catskill and Delaware watersheds of the New York City water system. WJWW draws its water from two connections to the NYC system: (1) Shaft 22 of the NYCDEP Delaware Aqueduct in Yonkers and (2) WJWW's Rye Lake water source, the eastern portion of Kensico Reservoir, in the Town/Village of Harrison. The Proposed Action is related to the water drawn from WJWW's Rye Lake water source.

The Rye Lake WJWW water source, located at the eastern portion of the Kensico Reservoir in the Town/Village Harrison is obtained, under most circumstances, from the New York City Delaware watershed. Water taken by WJWW from the Rye Lake Source is treated with fluoride, chlorine, and a blended poly-orthophosphate at the Rye Lake Pump Station. After the water passes through WJWW's Purchase Street Water Tanks, pH is adjusted via the addition of sodium hydroxide.

WJWW is subject to Westchester County Department of Health, New York State Department of Health, and USEPA water quality regulations. In 1993, New York State Department of Health determined that WJWW's source from Rye Lake does not meet the criteria established by the State for filtration avoidance. In response to this determination, WJWW's raw water intake was moved farther into Rye Lake and placed at a greater depth to access higher quality water from Rye Lake. A turbidity curtain was also installed in Rye Lake in the area where storm water runoff from Interstate 684 and the County Airport enters Rye Lake in an effort to protect the raw water quality of the intake. In addition, WJWW made improvements to its chlorination disinfection system and constructed additional water storage tanks to provide additional disinfection contact time.

In an action brought by NYSDOH pursuant to Section 12 of the Public Health Law, the State Supreme Court for Westchester issued an Order, entered on January 23, 2002, that granted NYSDOH's motion for summary judgment, holding that WJWW violated the State Sanitary Code by failing to construct and operate a water filtration plant. The State Supreme Court's Order was affirmed on appeal in 2003. Upon remand, on June 9, 2004, the Supreme Court issued a Court Order requiring WJWW to construct a filtration plant (Judgment and Order of New York State Supreme Court Index No. 13364-99, Justice Louis A. Barone). The Order was upheld on appeal in 2005. It remains in effect today.

On January 4, 2006, the US EPA adopted a Stage 2 Disinfectants and Disinfection Byproducts (DBP) Rule to provide increased public health protection against the potential risks associated with these

compounds. DBPs are formed when natural organic matter in the raw water source interacts with disinfectants such as chlorine. Stage 2 DBP Rule regulated contaminants include haloacetic acids and trihalomethanes. Because WJWW serves a retail population of between 50,000 to 99,999 people, compliance with these new provisions is mandatory. Starting October 1, 2012, WJWW was required to monitor the maximum contaminant levels (MCL) for total trihalomethanes (TTHM) and haloacetic Acids (HAA5).

The MCLs for TTHM and HAA5 are 0.080 milligram per liter (mg/L) and 0.060 mg/L, respectively, on a Locational Running Annual Average basis. The results submitted for the first, second, and third quarters of 2019 exceeded the MCL for HAA5. The 2019 Water Quality Report (**Appendix F, Utilities**) issued by WJWW indicates that, of the contaminants tested, only two (2) tested at a level higher than New York State allows: total coliform and HAA5. Three (3) MCL violations were issued by Westchester County Department of Health for the HAA5 violations, and notices were mailed to customers on March 15, May 24, and September 3, 2019, to alert them of the violation. Additionally, on March 28, 2019, WJWW was issued an Administrative Order by the USEPA requiring a Corrective Action Plan (CAP) to address the violations for HAA5, and on July 11, 2019, a certified letter was issued by the EPA requiring WJWW to submit an updated CAP detailing interim and long-term measures to mitigate these violations. Beginning in late 2019, WJWW implemented interim mitigation measures for these violations, including a water main flushing program. The proposed long-term measures for mitigation include the construction and operation of a water filtration facility, the Proposed Action.

On November 26, 2019, USEPA issued another Administrative Order, requiring WJWW to commence design of the proposed Rye Lake Filtration Plant and begin the SEQR process by January 31, 2020, with construction commencing by January 1, 2022, and the facility operational by October 15, 2024. These milestones, for construction and operation, are not achievable and will not be met.

The 2020 and 2021 Water Quality Report (**Appendix F, Utilities**) did not indicate any violations of the HAA5.

In 2006, the USEPA promulgated the Long Term 2 Surface Water Treatment Rule (LT2) which established a maximum contaminant level goal for viruses, bacteria, *Cryptosporidium*, *Giardia lamblia* and includes treatment technique requirements for filtered and unfiltered systems to protect against adverse health effects of exposure to pathogens (WJWW water, as part of the NYC water system, is not currently filtered). In 2021, WJWW constructed an Ultraviolet Light (UV) Treatment Facility at WJWW's Rye Lake water source to meet treatment requirements of LT2 for *Cryptosporidium*, which has been detected in WJWW's Rye Lake water source. *Cryptosporidium* is a microbial pathogen that is common in surface water and is harmful to humans if ingested. It should be noted that the UV Facility is located on a separate site and is a separate, Type II, action under SEQR.

b) POTENTIAL IMPACTS

For the protection of public health and safety and to comply with New York State's Court's Order, the Safe Drinking Water Act and the USEPA Administrative Order, WJWW proposes to construct and operate a 30-MGD Dissolved Air Flotation/Filtration (DAFF) water filtration plant (plant) at WJWW's

Rye Lake (Kensico Reservoir) water source. The filtration plant would have the capacity to meet the maximum day water supply demand of WJWW's entire water distribution system. The filtration plant would give WJWW more control over removal of disinfection byproduct precursors and better ability to routinely comply with disinfection byproduct MCLs, specifically HAA5. The Proposed Action would improve drinking water quality and would not result in any adverse impacts on public health with regards to drinking water.

c) MITIGATION MEASURES

Ensuring WJWW has effective infrastructure to comply with State and Federal regulations is imperative, as the organization is responsible for providing safe and reliable drinking water to nearly 120,000 consumers in Westchester County. The Proposed Action would have a positive impact on public health, and is itself a mitigation, as it is designed to address water quality issues along with compliance with the AO issued by the USEPA and the Court Order issued by the New York State Supreme Court.

II. HAZARDOUS MATERIALS

a) EXISTING CONDITIONS

Soil and Water Testing

The 2019 Phase I Environmental Site Assessment (ESA) included a review of online and available documents, including record drawings and files from NYSDEC, Westchester County, Westchester County Airport, and the Town/Village of Harrison, to obtain sufficient information that would assist in determining the environmental condition of the Proposed Site. In addition, the Phase I ESA included a visual assessment of the conditions at the Proposed Site and adjoining areas. A Site visit was conducted on November 20, 2019, to identify physical and programmatic constraints, observe field conditions, and develop a Phase I ESA report in general conformance with the requirements of ASTM Standard E 1527-13 (**Appendix O, Environmental Site Assessment**). The Project Site was not identified on any of the environmental database listings that were searched. Two Recognized Environmental Conditions (REC), an Historic Recognized Environmental Condition (HREC), and two Business Environmental Risks (BER) were identified on or near the airport property.

A preliminary subsurface exploration program was completed on November 22, 2019, and groundwater samples were collected on December 13, 2019, for the Preliminary Geotechnical Report (**Appendix O, Environmental Site Assessment**). Two test pits and three test borings were performed at the Proposed Site to obtain preliminary environmental conditions and subsurface information about soil, rock, and groundwater conditions to determine requirements for foundation design, construction dewatering and excavation. Bedrock was not encountered at any of the sites, though groundwater was observed at one boring at approximately 30 feet below ground surface. Soil samples were tested for a number of compounds which were all detected below NYS DEC Environmental Remediation Program criteria for unrestricted use soil cleanup objectives; therefore, there are no restrictions for the reuse of excavated subsoil and glacial till on- or off-site. Finally, groundwater was tested for volatile organic compounds (VOCs) and SVOCs as well as perfluorinated alkyl acid (PFAA) compounds, which are a sub-set of per- and polyfluoroalkyl substances (PFAS). None of these compounds were detected above laboratory detection limits; therefore, no treatment for these compounds is warranted.

A Phase I reassessment was conducted in August 2021 and included information on additional groundwater testing conducted in July 2021. The reassessment agreed with the opinions, conclusions, and recommendations issued within the initial Phase I ESA, and no deficiencies or absence of information were found that would necessitate further inquiry. As a result, the reassessment concluded that the preparation of a new Phase I ESA is not necessary at this time. In addition, the three (3) groundwater samples were collected to assess the groundwater quality at the Site. No volatile organic compounds, pesticides, or PCBs were detected in the samples. However, several semi-volatile organic compounds and metals were detected in separate groundwater samples that exceeded their respective NYSDEC TOGS 1.1.1 Water Quality Standards for class GA (fresh) groundwater. These results would not affect the water that would be treated by the proposed filtration plant because its water source is from Rye Lake and processed at the Proposed Site in a closed loop system.

On-Site Hazardous Materials

Six (6) chemicals would be stored inside the filtration plant and used onsite for operations: hydrofluosilicic acid (23 percent), alum coagulant, sodium hydroxide (25 percent), sodium hypochlorite (12.5 percent), orthophosphate (corrosion inhibitor) and a dewatering polymer. These chemicals are required for the operation of the water filtration plant to enhance filtration, control corrosion, prevent dental decay and provide secondary disinfection and are commonly used for water treatment. All chemicals would be stored and handled in a manner that would prevent releases to the environment and/or exposure to site workers, according to applicable Federal, state, and local regulations. Based on measurements from inside the plant, the closest bulk storage tank (hydrofluosilicic acid) is located approximately 300 feet from the northern property line. The fill station is located approximately 500 feet from the northern property line. This distance, combined with the placement of the storage tanks within the plant building and the implementation of containment measures, monitoring, and spill cleanup procedures required by state and federal regulations, addresses concerns related to chemical storage.

Sodium hydroxide would be added at the head of the plant to raise the raw water pH to optimize the coagulation of suspended solids. Alum would be added at the head of the plant as a coagulant which would bond to suspended solids in the water and be removed through the DAFF process. Sodium hypochlorite would be applied after the UV treatment for disinfection and to provide a chlorine residual in the finished water. If required, sodium hypochlorite can also be applied prior to water entering the DAFF process to maintain an oxide coating on the dual media in the filter for catalytic manganese removal. Orthophosphate and sodium hydroxide would be added after the UV treatment to ensure the water would not be corrosive to the water distribution system. Hydrofluosilicic acid (fluoride) would be added to the finished water as a preventative public health measure to reduce tooth decay. A polymer would be used for removing organic residuals from the water in the residuals dewatering process.

Two sets of storage tanks (bulk tanks and day tanks) are provided inside of the filtration plant for each chemical except polymer. Chemicals in the bulk tanks would be transferred to smaller day tanks that typically store approximately one day's worth of chemical. Each day tank is generally sized for 24 hours of storage at the plant's average flow and maximum chemical dosage. Pumps would be used to transfer chemicals from the bulk storage tanks to the day tanks. This transfer between tanks is required to be observed by a facility operator. The use of day tanks is a safety feature that ensures the

entire bulk tank of chemicals are not pumped into the water in one day under a worst-case scenario. **Table 3N-1** describes the quantities of chemicals to be stored on-site, and an estimated schedule for bulk chemical refills.

Table 3N-1: Chemicals Used for Water Treatment					
Chemical	Bulk Tank Quantity and Volume	Day Tank Quantity and Volume	Total Storage Volume (gal.)	Total Storage Weight (lbs.)	Estimated Bulk Refill Schedule
Hydrofluosilicic Acid (23%)	(1) 4,050 gal.	(1) 200 gal.	4,250	42,530	2.5 months
Coagulant (likely Alum)	(2) 6,150 gal.	(1) 545 gal.	12,845	142,480	30 days
Sodium Hydroxide (25%)	(2) 12,150 gal.	(1) 2,000 gal.	26,300	227,870	30 days
Sodium Hypochlorite (12.5%)	(2) 2,750 gal.	(1) 545 gal.	6,045	58,990	15 days
Orthophosphate	(1) 4,150 gal.	(1) 200 gal.	4,350	49,340	30 days
Dewatering Polymer	(2) 275-gal. totes		550	4,820	3 months

For chemical delivery, a dedicated area (fill station) would be provided for tanker trucks to safely deliver chemicals with emergency containment to prevent a delivery spill from entering the environment. The fill station would contain designated quick hose connections for filling each specific chemical. Each chemical would have a dedicated fill line leading to an interior bulk storage tank.

All chemicals except for polymer would be stored in liquid form in one-piece construction, rotationally molded high-density polyethylene vertical storage tanks. Each bulk storage tank would be placed on concrete pads and provided with access manways, draw-offline, overflow, drain line with isolation valve, level transmitter, sample tap, and vent to discharge vapors to outside the building. The polymer would be stored in chemical totes. The polymer totes would be stored separately in the dewatering room on concrete pedestals surrounded by a secondary containment trench.

Each chemical, except for alum coagulant and orthophosphate, would be located in its own dedicated secondary containment room to ensure that a spill of one chemical would not affect another chemical. The alum coagulant and orthophosphate would be stored in separate secondary containment areas in a common room. In accordance with state and federal regulations, secondary containment would be sized to hold 110 percent of the largest storage tank size. Chemical storage tank pads, containment walls and floors would be protected by a chemical resistant coating or liner to protect the concrete in the event of a spill.

In addition, in case of spills inside of the chemical storage rooms, secondary containment areas would be sloped and provided with sumps such that a vacuum tanker truck may be used to drain the interior of the secondary containment area. The vacuum tanker truck quick connection would be located exterior to the building, in areas that would remain accessible to operations personnel from outside the containment area. If a spill were to occur, the spilled chemical would be pumped from the secondary containment area to a tanker truck and hauled off-site for disposal at an authorized disposal facility (**Appendix C, Site Plans**, General Arrangement Plan, page G-101). These dedicated secondary containment areas are located within the filtration plant building and, in accordance with all State and federal guidelines, would be designed, constructed, and operated to ensure that chemical spills are contained inside the building, removed, and appropriately disposed of to minimize any effect on human health or the environment.

All chemicals would be fully utilized on-site, the only waste would be from dewatered solids. These would be piped through the filtration plant to centrifuges, with the dewatered solids cake being discharged to a trailer in the dewatering room. For removal, a truck would connect to the trailer, remove it from the building, and deliver it to an approved facility for disposal. It is anticipated that approximately two (2) to three (3) trailers a week would be removed from site.

b) POTENTIAL IMPACTS

No environmental contaminants were found on-site that would necessitate remediation or abatement, or otherwise limit the use of the Project Site.

The facility is being constructed to Federal and State standards to ensure the safety of employees, users, and the environment. No adverse impacts are anticipated as a result of hazardous materials on the Project Site.

c) MITIGATION MEASURES

Based on the Phase I ESA, no environmental contaminants were found on the Project Site that would necessitate remediation or abatement therefore no mitigation measures are necessary.

- Regarding on-site hazardous materials, the facility would be constructed to Federal and State standards, and safety protocols would be instituted for operators on-site.
- The above ground propane storage tank and diesel generator tanks would be equipped with overflow fill protections and meet all applicable requirements of Federal, State, and local agencies. The diesel generator tanks would be provided with secondary containment.

O. CONSTRUCTION

I. POTENTIAL IMPACTS

a) CONSTRUCTION SCHEDULE AND PHASING

This chapter documents the general schedule, phases, and activities that would be involved in constructing the Project. It also identifies potential adverse environmental impacts and the available strategies and techniques to prevent or mitigate impacts to the maximum extent practicable.

Construction activities would take place during typical work hours and fully comply with § 177-2(F) of the Town/ Village of Harrison Noise chapter, which limits construction activities to the hours of 7:30 a.m. to 8:00 p.m. Monday through Friday and after 10:00 a.m. on weekends and national and state holidays unless the Town/Village Building Inspector determines that there is an imminent danger to life or property. No work would be conducted on Sundays.

The proposed construction schedule includes 12 phases spanning a period of 36 months from notice to proceed (NTP) to completion once all permits and approvals are granted. **Figure 30-1** provides a breakdown of each overlapping phase along with the projected number of months each phase would last. The estimated number of months is weather dependent and subject to change.

Figure 30-2 depicts the number of vehicles needed on a daily basis during peak activity. Many of the construction phases overlap and all require a varying number of trucks on-site. It should be noted that for some of the phases, the number of trucks would fluctuate. For example, the mechanical, power, and furnishings phase associated with the filtration building would have a *maximum* daily average of four trucks on-site. However, there are several months where this phase would only require a daily average of one to two trucks on-site. Other phases would require a substantial number of trucks on-site.

The three-month period when excavation work would occur for the filtration building is the most active phase in terms of the daily average number of trucks required at the Project Site. The reasonable worst case scenario estimate is that a daily average of 70 truck trips would be needed for the three-month phase. The next most-intensive phase, the site work and site prep phase, would involve clearing, grubbing, stump extraction, removal of materials from the Project Site, and preliminary grading. This phase would last four months and require a daily average of 17 truck trips. The remainder of the phases would not require more than a daily average of five (5) trucks.

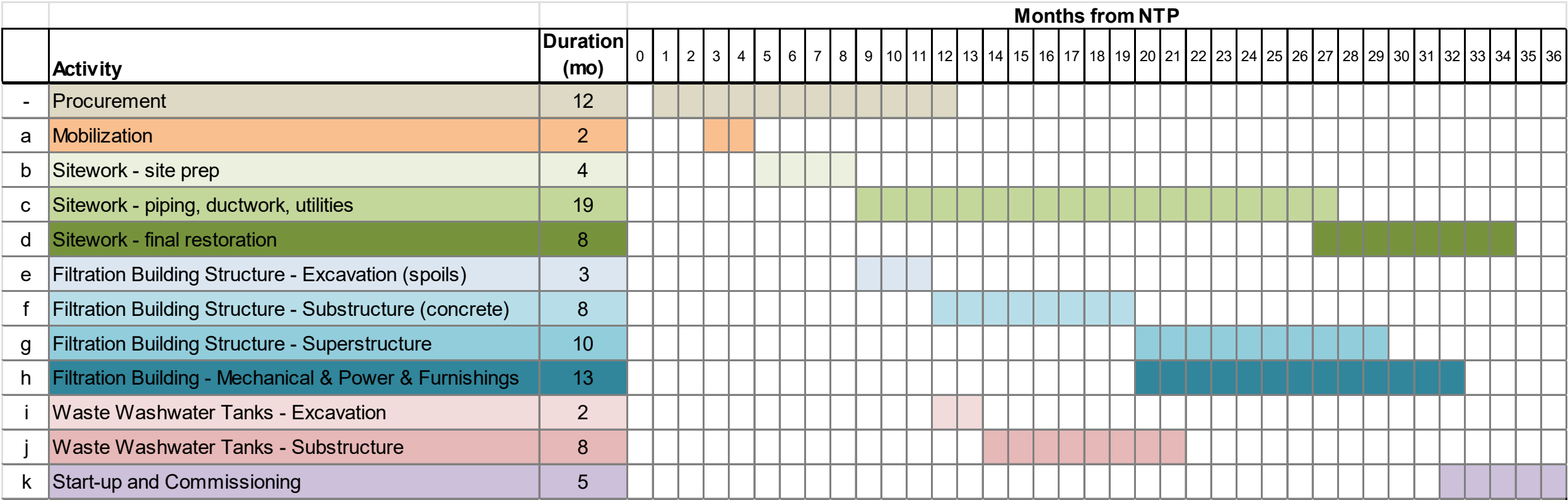


Figure 30-1: Proposed Construction Schedule

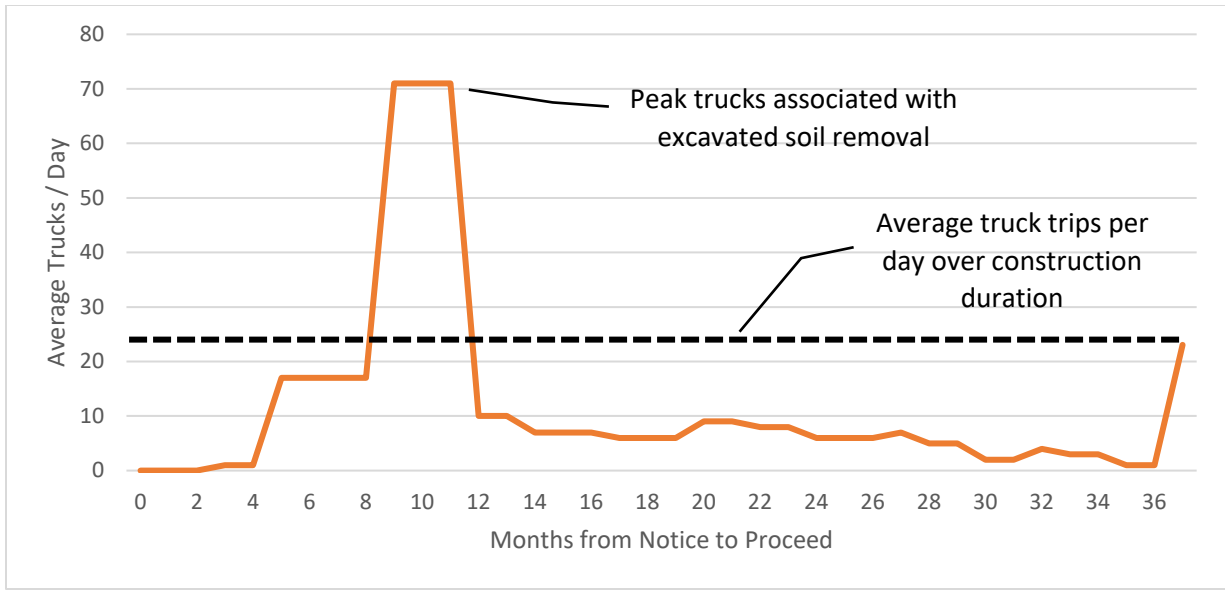


Figure 30-2: Average Truck Trips per Day

Figure 30-3 depicts the average number of personnel on-site per day for each month of construction.

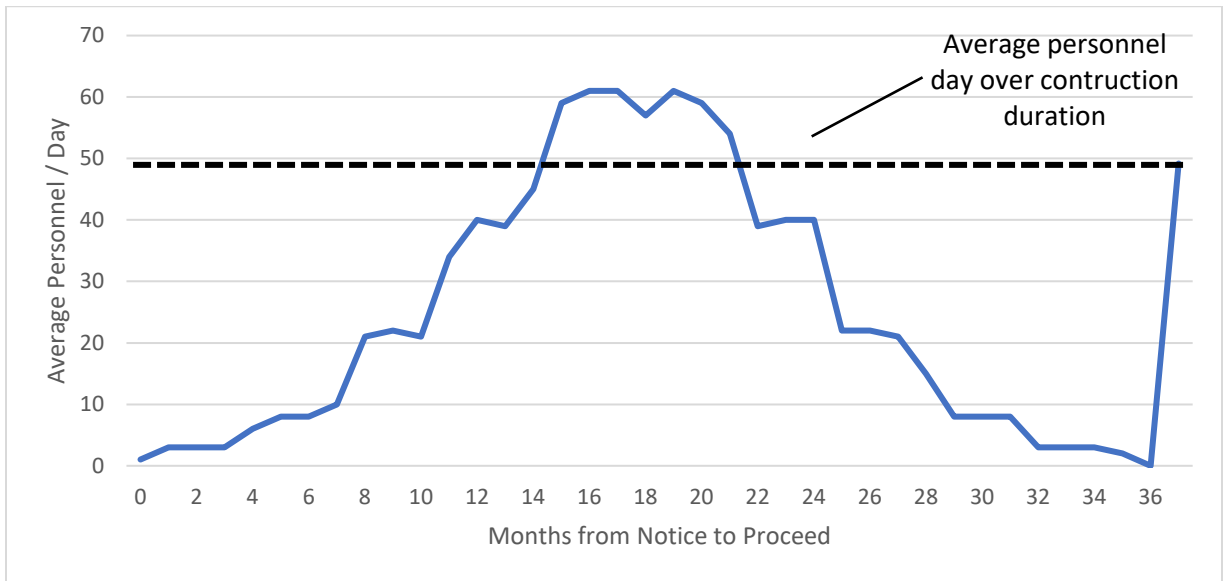


Figure 30-3: Average Personnel per Day

Table 30-1 describes the activities per month and the estimated personnel and truck trips per day. The months in bold are the peak activity by personnel (e.g., Months 12-31 have several concurrent construction activities) or by truck trips (e.g., removing excavated soil in Months 9-11).

Table 30-1: Activities by Month			
Month	Activity	Estimated Personnel (~#/day)	Truck Trips (~#/day)
1-2	Procurement	3	0
3-4	Mobilization	3-4	1
5-8	Site Work	8-21	17
9-11	Site Work, Filtration Building Excavation	22-34	70
12-13	Site Work, Filtration Building Substructure, Washwater Tank Excavation	39-40	10
14-19	Site Work, Filtration Building and Washwater Tank Substructure	45-61	6-7
20-21	Site Work, Filtration Building Superstructure and Interior, Washwater Tank Substructure	54-59	9
22-31	Site Work, Filtration Building Superstructure and Interior	8-40	2-8
32	Site Work, Filtration Building Interior, Startup and Commissioning	3	4
33-34	Site Work, Startup and Commissioning	3	3
35-36	Startup and Commissioning	1-2	1

b) CONSTRUCTION-RELATED AIR QUALITY IMPACTS

Air quality impacts during construction include exhausts and emissions from the operation and idling of construction vehicles, heavy equipment, and certain tools such as chainsaws that are powered by fossil fuels. Mobile sources of air emissions include not only construction vehicles engaged in work on the Project Site, but also vehicle trips to and from the Project Site, such as off-site shipments of brush and excavated soil, shipments of construction materials, concrete mixers, and special contractors, inspectors, and other personnel arriving and departing the Project Site. Vehicle trips during Site preparation and construction activities would occur during typical work hours and would be subject to the municipality's construction hour restrictions set forth in the Harrison Town/Village Code under § 177-2(F), Noise. The operation of construction vehicles, heavy equipment, and gas-powered tools would be temporary and intermittent during the construction process and would vary in intensity depending on phase of construction and types of work being performed. Nevertheless, adverse impacts on air quality from vehicle and equipment emissions from a single construction project of this type and scale would not result in any significant short-term, long-term, regional, or localized air quality impacts. All diesel equipment would use ultra-low sulfur diesel fuel and large diesel equipment would have a diesel particulate filter.

Another potential air quality issue during construction is dust; however, various techniques are available to mitigate this potential localized and temporary air quality impact. Examples of dust suppression measures include wetting bare soils if and when dust becomes an issue, maintaining slow on-site construction vehicle speeds to minimize dust, immediate development or seeding and planting of bare ground as soon as possible after clearing, installing silt fencing, and stabilizing stockpiles if they are to remain more than a few days. Other techniques include installing a stabilized construction entrance and rumble strips to remove sediment from tires to prevent tracking of soil onto public

streets and covering trucks transporting soil off-site. The Mitigation Measures section below contains further information on this matter.

Additionally, the Project would adhere to an approved Sediment and Erosion Control Plan and Stormwater Pollution Prevention Plan (SWPPP). Further information is provided in **Chapter 3-F, Stormwater**, of this DEIS.

Construction activities would not trigger any requirements for air quality permits or registrations from the NYSDEC and based on identified mitigation strategies, no significant impact is anticipated. Further information is provided in **Chapter 3-M, Air Quality** of this DEIS.

c) CONSTRUCTION-RELATED NOISE IMPACTS

Noise would be generated by vehicles, equipment, tools, and personnel during the construction process. Noise receptors in the area include primarily the Westchester County Airport which periodically generates noise above ambient levels and is not expected to be adversely affected, and a few single-family residential homes located on the west side of Purchase Street, opposite the Project Site, and the single-family home and Purchase Friends Meeting House north of the Project Site on the east side of Purchase Street. As previously discussed, construction activities would be conducted during typical construction work hours and in any case would comply with § 177-2(F) of the Town/Village of Harrison Noise ordinance, which limits construction activities to the hours of 7:30 a.m. to 8:00 p.m. Monday through Friday and after 10:00 a.m. on weekends and national and state holidays, unless the Town/Village Building Inspector determines that there is an imminent danger to life or property. No construction would take place on Sunday. Compliance with the Town/Village regulations would ensure that construction does not take place at night or during early morning hours when residents are typically at home and are most sensitive to noise, thereby eliminating any late night/early morning noise concerns. Noise is expected to be temporary and intermittent during the construction process, depending on project phase and type of work activity, and with identified mitigation would not result in any significant avoidable impacts. Further information is provided in **Chapter 3-L, Noise**, of this DEIS.

d) CONSTRUCTION-RELATED TRAFFIC IMPACTS

Kimley-Horn Engineering and Landscape Architecture of New York, P.C. conducted an assessment of existing and future traffic conditions and anticipated impacts during project construction and post-construction operations (**Appendix L, Traffic Impact Study**). The firm determined that once the project was completed just one or, at most, two vehicles would be added to the surrounding road network in any given hour, and that this level of traffic generation would have no perceptible impact on traffic operating conditions. However, during the busiest phase of construction, which would last approximately 3 months, a total worst-case maximum of 70 truck trips would be required daily to complete removal of spoils associated with the necessary excavation for building construction. Therefore, based on the above information, the focus of the Traffic Impact Study was on the potential for traffic impacts during the excavation phase of the construction process.

Traffic generated during the excavation phase would primarily be associated with heavy truck traffic, particularly dump trucks that would transport soil off-site for disposal or use at another location and return to the Site for another load and personnel vehicles. During peak weekday traffic hours (8:00 a.m. to 9:00 a.m. and 4:15 p.m. to 5:15 p.m.), it was projected that 18 workers and 34 truck trips would enter or exit the Project Site.

Access to the Project Site is proposed from a driveway located off Purchase Street, a road designated as a New York State highway (NYS Route 120). Trucks would be prohibited from turning left out of the Project Site during the construction process. An inspection of available sightlines along Purchase Street by Kimley-Horn indicates that vehicles approaching the Site driveway from the north can be seen for a distance of over 900 feet, which is the distance from the proposed access driveway to the Lake Street intersection. Cars approaching from the south can be seen at a distance of 725 feet while trucks approaching from the south can be seen from 750 feet. These sight distances all exceed minimum requirements. Furthermore, it was determined based on truck turning analyses that all vehicles that are likely to access the Site, including applicable fire apparatus, would be able to turn onto and off of Purchase Street and circulate around the Site as needed.

Other possibilities to mitigate construction impacts on traffic include parking construction vehicles and equipment on the Project Site in designated staging areas, when possible, rather than returning vehicles to their respective business parking lots in the evening and driving back to the Project Site in the morning, maintaining a stabilized construction entrance to help reduce sand and pebbles from being tracked on to roads; and urging truck drivers to use major roads and highways where possible to avoid residential streets. Further information is provided in **Chapter 3-K, Traffic and Transportation**, of this DEIS.

e) CONSTRUCTION-RELATED VIBRATIONS

A geotechnical exploration program was conducted at the Project Site from May 13 through June 4 of 2021 (**Appendix H, Soils and Geology**). During this period, a total of 28 test borings were advanced. These data establish that the depth of decomposed rock beneath the Project Site is between 18.5 feet and 43.5 feet below ground surface. Based on this depth to decomposed rock and bedrock, no blasting or chipping is anticipated for this project. Therefore, potentially significant impacts from blasting, chipping, and associated vibrations are not expected. Further information is provided in **Chapter 3-G-, Geology-Soils and Topography**, of this DEIS.

Activity from large trucks and heavy equipment may generate some minor vibrations; however, these activities are not expected to result in any significant adverse impact on adjoining property owners.

II. MITIGATION MEASURES

Construction would be conducted in accordance with an approved site plan and in accordance with all applicable Federal, State, and local codes. Impacts from construction would be temporary (during the 36-month construction period) and would conclude when the Project is completed. This is a temporary, construction-related unavoidable impact.

In addition to the implementation of controls and sequencing as described above, the following best management practices would be adhered to for construction:

- Clearing and rough grading of the Project Site would be conducted in accordance with the approved Site Plan and under the supervision of the Town/Village Building Department.
- An NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity and SWPPP would be prepared for the project to ensure proper control of stormwater runoff during construction. The SWPPP would be reviewed and approved by the Town/Village Engineer and the NYC Department of Environmental Protection.

- Construction activities would meet the requirements of the Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and Its Sources.
- An Erosion and Sediment Control Plan would be prepared to address the potential for erosion and sedimentation, including siltation of on-site and off-site wetlands, existing and proposed drainage infrastructure, and the movement and deposition of soils on and off-site.
- Erosion controls would include work perimeter silt fencing, erosion control matting, and drainage inlet protection around all grated drainage inlets that may be affected to prevent sediment from entering and settling within any subsurface drainage structures.
- Identify and fence areas to remain undisturbed on-site to prevent inadvertent encroachment.
- Provide a stabilized construction entrance and install “rumble strips” to reduce the possibility of tracking soil and pebbles onto the public streets.
- Utilize dust control techniques such as soil wetting and/or application of calcium chloride to stabilize soil along the driveway and in work areas as needed and keep on-site construction vehicle speeds at or below ten (10) mph to minimize dust generation.
- Cover or stabilize soil stockpiles that would remain for more than a few days to prevent erosion, sedimentation, and airborne dust.
- Reseed and landscape areas that are disturbed or begin construction as soon as possible after clearing and ground disturbance to stabilize exposed soils and reduce the time that soil is loose and bare.
- Limit prolonged truck and equipment idling times when possible.
- Identify suitable places on-site for vehicle and heavy equipment parking and prohibit the parking of trucks or prolonged idling on public streets or within the shoulder area of public streets.
- Direct truck driver to use major roads and highways where possible to avoid the use of residential roads and back streets and that all construction truck traffic be required to approach and depart the Site from and to the north. This includes a no left turn onto Purchase Street from the Project Site for construction trucks.
- Construction activities would be restricted to permissible hours of the day and days of the week as prescribed by Chapter 177, Noise, of the Town/Village Code to reduce the likelihood of noise related impacts. No construction would take place on Sunday.
- Construction vehicles and equipment would be properly maintained to prevent excessive noise from faulty or damaged mufflers, as well as prevention of oil, fuel, and hydraulic leaks. All diesel equipment would use ultra-low sulfur diesel fuel and large diesel equipment would have a diesel particulate filter.
- Require contractors to follow maintenance and protection of traffic (MPT) plans for work in Purchase Street.

4. OTHER ENVIRONMENTAL IMPACTS

A. UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

The potential adverse impacts of the project have been assessed in **Chapter 3, Existing Conditions, Environmental Impacts, and Mitigation Measures** of this DEIS, and mitigation measures have been identified for the topics that were reviewed. Some impacts from the Proposed Action, however, are unavoidable, and cannot be completely prevented or avoided by applying reasonable and feasible mitigation techniques as required by SEQRA. Unavoidable adverse environmental impacts are as follows:

Short Term Impacts

- Potential dust generation, erosion, and sedimentation may occur during construction (**Chapter 3-J, Geology- Soils and Topography**, of this DEIS). Minor dust conditions would be temporary and controlled to the extent practicable by implementing best management practices (**Chapter 3-M, Air**, of this DEIS) to limit dust, soil erosion, and sedimentation. These practices would include wetting of loose exposed soil if needed, flagging of non-disturbance areas, installation of silt fencing and stabilizing construction entrances, identifying stockpile areas and stabilization of temporary stockpiles as needed, preparation of a dust mitigation plan, and stormwater and erosion plans, and development in accordance with the Site Plan and SWPPP.
- Temporary increases in truck traffic and other construction-related activities that would generate noise during the course of the construction period. Construction activities would be conducted in conformance with Town/Village requirements including restricting construction activities in accordance with permissible construction timetables outlined under Chapter 177 of the Harrison Town/Village Code (Noise Control) and other noise management and site-specific measures at the discretion of the Building Department (**Chapter 3-L, Noise**, of this DEIS).
- When completed, the Project would have no perceptible traffic impacts. The only potential impact on traffic conditions would take place during the construction phase of the Project. No left turns are proposed for trucks exiting left from the Project Site onto Purchase Street as a mitigation measure for the left turn sight distance that does not meet American Association of the State Highway and Transportation Officials requirements. Trucks would be prohibited from exiting left from the Project Site during the construction phase of the Project (**Chapter 3-K, Traffic and Transportation**, of this DEIS).

Long Term Impacts

- Additional clearing, minor loss of wildlife habitat, and displacement of limited wildlife, particularly in the area of the limit of disturbance. This area would be cleared, regraded, and revegetated. To offset this impact, the area to be cleared would be revegetated as provided on the Site Plan (**Chapter 3-H Vegetation and Wildlife**, of this DEIS).
- There would be an increase in wastewater generation on the currently vacant site from 0 gpd to an estimated average 9,000 gpd of wastewater from the Project Site. All wastewater would be conveyed to and treated at the Blind Brook Wastewater Treatment Plant (**Chapter 3-E, Utilities**, of this DEIS).

- There would be an increase in refuse generation over the existing condition. The average solids produced would be less than six (6) CY per day or 70 pounds per day (**Chapter 3-D, Community Services**, of this DEIS).
- There would be increased demand for nonrenewable energy services (electricity, diesel fuel, and propane); however, the project includes various techniques to conserve energy as detailed in **Section D, of this Chapter**. The visual character of the Project Site would be different from the existing conditions. Overall, the character would change from vacant forested land buffering Westchester County airport to a water filtration plant surrounded by vegetative buffer and remaining forested land buffering Westchester County Airport. The proposed architectural design, which incorporates setbacks from the edges of the Project site and landscaping, would not result in a significant adverse impact to the character of the surrounding neighborhood (**Chapter 3-B, Community Character and Visual Impact**, of this DEIS).

B. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

This subsection identifies those natural and human resources discussed in **Chapter 3, Existing Conditions, Environmental Impacts, and Mitigation Measures** of this DEIS that would be consumed, modified, irreversibly affected, or otherwise made unavailable for future use as a result of the Proposed Action. Irretrievable and irreversible commitments of resources involve primarily the commitment of natural resources on-site, many building materials used in construction, and the consumption of nonrenewable energy sources.

The Proposed Action would result in the following irreversible and irretrievable commitment of resources:

- Natural vegetation, wildlife habitat, and some resident wildlife may be lost or displaced due to clearing that is necessary to develop the site. Areas that are cleared but are not slated for physical development would be revegetated for the purposes of landscaping, visual screening, and buffering.
- Material used for construction of the water filtration plant, including but not limited to any wood, asphalt, concrete, fiberglass, steel, aluminum, etc. Some of the waste or scrap materials generated during construction can be recycled or reused by others in the future. Wood used in construction is replaceable when the supplier replants, but this can take many years before the trees are ready for harvesting.
- Nonrenewable energy resources used in the construction, operation, and maintenance of future on-site development based on the proposed plans and preliminary operational energy estimates, including fossil fuels (i.e., gasoline, diesel associated with site preparation and operation of construction equipment and electricity, solar, and propane for meeting power demands, indoor heating, water heating, cooling/air conditioning, ventilation, plant operations, and lighting demands, as well as diesel fuel for emergency generators).

C. GROWTH-INDUCING, SECONDARY AND CUMULATIVE IMPACTS

Growth-inducing aspects of the Proposed Action are those characteristics that would cause or stimulate additional development, either directly due to development under the Proposed Action itself (i.e., “primary” development), or indirectly, as a result of an increased population attracted to the area, new market demands, or additional potential for development nearby (i.e., “secondary” development). Projects with direct/primary impacts might include, for example, the development of a large residential project, the creation of a major new employment center that causes people to relocate to an area, or installation or extension of essential development-related infrastructure improvements such as new streets in a previously

undeveloped and inaccessible area. Cumulative impacts refer to the combined effects of an action in conjunction with new growth such as other new or pending development proposals in the immediate area.

The purpose of the Subject Action is to provide filtered water to its existing customers. By its very nature, the Proposed Action is not intended to induce growth but to comply with State Court Order, the SDWA, and the USEPA Administrative Order.

WJWW proposes to construct and operate a 30-MGD Dissolved Air Flotation/Filtration (DAFF) water filtration plant (filtration plant or plant) to treat drinking water from the nearby Rye Lake (Kensico Reservoir) WJWW water source. The Proposed Action would be able to accommodate the additional projects already being considered or approved by the Town/Village of Harrison, but is not expected to induce growth in the area.

Town/Village of Harrison has been contacted to request information about any planned or pending projects in the immediate area that could have an additive impact on the area. The following projects were identified on by the Town/Village of Harrison Planning Department:

- 3 Westchester Park Drive – 450 multi-family residential units
- 2700 Westchester Avenue – 69 townhome residential units
- Biltmore Estates – Subdivision of 12 residential lots
- Webb Avenue – 200 multi-family residential units
- Yau Subdivision (22 Buckout Road) - Subdivision of 12 residential lots
- Avalon/MTA - Halstead Ave - 143 units, 27,000 sq. ft. retail (second phase now under construction)
- Brightview Senior Living - 160 assisted living units
- Playhouse Lofts - Purdy Avenue - 36 units, 5,000 sq. ft. retail (under construction)
- Colonial Arms - Harrison Avenue - 18 units
- 53 Halstead Avenue - 8 multi-family residential units
- 47 Halstead - 20 multi-family residential units
- The Carraway (Toll Brothers) - is now being occupied, and construction on the second phase is just about complete (450 units, 7,500 sq. ft. restaurant)

Having received communications and review requests for a Will Serve Letter, WJWW is aware of the planned or pending development projects listed above except for Biltmore Estates, 53 Halstead Avenue, and 47 Halstead Avenue. Typically, all new development projects are brought to WJWW's attention when the Town/Village of Harrison requests a Will Serve Letter from WJWW. A Will Serve Letter indicates that WJWW is willing and able to serve the proposed development. Development projects are reviewed for any required water main extensions and their impact on water pressure and distribution capacity. According to WJWW, the current average demand is 13.8 MGD with a peak demand of 23.7 MGD. The Project would include the construction of a 30 MGD plant. The additional water demand needed for the identified Town/Village of Harrison planned or pending projects would be able to be accommodated by the Project.

D. ENERGY USE AND CONSERVATION

SEQRA requires that lead agencies identify and assess potential adverse environmental impacts and prevent or mitigate such impacts to the maximum extent practicable. Consistent with this requirement, SEQRA can be used to identify and assess climate change impacts, as well as steps to minimize the release of greenhouse gas emissions (GHGs) that cause climate change. Many measures that minimize emissions of GHGs would also advance other long-established State and local policy goals, such as energy efficiency and conservation; the use of renewable energy technologies; waste reduction and recycling; and smart and sustainable economic development. The SEQR 2009 *Guide to Assessing Energy Use and Greenhouse Gas*

Emissions outlines the consideration that must be given to energy conservation and GHG emissions within EIS reviews.³⁷

The following is an assessment of energy conservation, GHG emissions, and associated effects on climate change from the Project.

I. SITE PREPARATION AND PROJECT CONSTRUCTION

The filtration plant would be constructed on an undeveloped wooded site that does not currently utilize energy resources and has no existing on-site utility connections; therefore, an increase in energy use and GHG emissions is expected. Clearing, grading, driveway, and parking lot construction; installation of utilities and site infrastructure; and construction of the filtration plant would require the use of construction vehicles, heavy equipment, and power tools such as chainsaws that utilize nonrenewable fossil fuels. This work would take place over a twelve-phase 36-month construction schedule and involve various levels of activity and energy demand, depending on the phase. During the construction period, energy use and GHG impacts would occur on-site, as well as off-site along roadways from construction vehicle traffic and manufacturing of building materials and equipment. Once an electrical connection is made, additional but minor indirect/off-site emissions are expected at electric generating stations that provide non-renewable electricity to the Con Edison transmission network.

a) TREE REMOVAL

The removal of trees and other vegetation that absorb carbon dioxide (CO₂) and generate oxygen would also have an impact; albeit a small impact with a single project of this type and scale. Nevertheless, the Project has been designed to minimize clearing to only what is necessary to construct and operate the filtration plant and protect natural resources and wildlife habitat by retaining the remainder of the Site in its natural condition.

Of the 1,896 trees found on the Project Site, 56 percent are invasive. The Project would require the removal of 579 trees. The forested area includes trees that are in poor health based on observations made during the tree survey work. The removal of these trees and the replanting of replacement trees would benefit the Project Site. A total of 302 new trees would be planted (**Chapter 3-H, Vegetation and Wildlife**, of this DEIS). Tree species would include mostly native species as well as some ornamental species that are suitably adapted to site conditions. The replacement of the trees would help to partially offset the CO₂ impact of the tree removal. In addition, native plantings would also be installed on-site within the stormwater bioretention or constructed wetland areas. These additional plantings would also help to partially offset the CO₂ impact of the tree removal.

b) CONSTRUCTION VEHICLE TRAFFIC

Operation of construction vehicles and equipment during construction would utilize energy resources, particularly diesel fuel and gasoline, and in turn release GHGs. During the busiest three-month phase of construction, a maximum of 70 truck trips would be required daily to complete the necessary excavation and material transport for building construction, and heavy equipment (e.g., excavators, backhoes, bulldozers) would be used to excavate, push, and grade soil and load dump trucks. Traffic generated during the excavation phase would primarily be associated with heavy truck traffic, particularly dump trucks that would transport soil off-site for recycling or reuse at another location.

³⁷ NYSDEC, July 15, 2009. "Guide to Assessing Energy Use and Greenhouse Gas Emissions in Environmental Impact Statements," https://www.dec.ny.gov/docs/administration_pdf/eisghgpolicy.pdf

and return to the Project Site for another load. During this phase, an estimated 70 truck trips and 22 to 34 construction personnel would visit the Project Site per day. During peak weekday traffic hours (8:00 a.m. to 9:00 a.m. and 4:15 p.m. to 5:15 p.m.), it was projected that 18 construction personnel and 34 truck trips would enter or exit the Site. This temporary increase in traffic and operation of construction equipment is unavoidable.

c) CONSTRUCTION AND DEMOLITION DEBRIS MANAGEMENT

The Project Site is undeveloped and is considered to be a “greenfield” based on the Phase I Environmental Site Assessment (ESA) which did not identify potentially hazardous materials on-site above threshold levels. Therefore, all Construction and Demolition (C&D) waste and earth materials are assumed to be nonhazardous and feasible for diversion to a local recycling facility or to be reused at alternative locations. Diversion of wastes from landfills and other disposal facilities by reusing and recycling salvageable C&D can also help to reduce GHG emissions. For example, recycling and reuse of waste materials saves energy because manufacturing goods from recycled materials typically requires less energy than producing goods from virgin materials. Furthermore, less energy is needed to extract, transport, and process raw materials and to manufacture products when materials are reused or recycled. This in turn reduces energy demands, the overall volume of fossil fuels needed, and release of CO₂ into the atmosphere. Reuse and recycling of organic materials such as wood can also reduce landfill GHG emissions, particularly methane, from decaying material.

It is estimated that project construction would generate over 1,600 tons of demolition waste, 530 tons of construction waste, and 59,000 tons of excavated soil for a total of 61,130 tons of total C&D waste (**Appendix P, Rye Lake Water Filtration Plant Sustainability Memorandum**). Of the 59,000 tons of excavated soil, 12,600 tons is expected to be reused on-site and therefore would not have to be shipped off-site by large diesel-powered trucks, while 46,400 tons would be removed from the Project Site. Other than soil, the next largest waste streams are asphalt, concrete, and wood which are readily recyclable at local facilities.

Contract documents would require that the future contractor submit a Construction Waste Management Plan (CWMP) to the engineer for approval prior to commencement of construction. The Contractor’s CWMP would describe how landfill diversion goals would be achieved using the Contractor’s chosen, eligible haulers and processing facilities for each material stream. A list of C&D waste facilities within a 60-mile radius of the Project Site is provided in Appendix B of the Rye Lake Water Filtration Plant Sustainability Memorandum dated February 3, 2022, and can be found in **Appendix P, Rye Lake Water Filtration Plant Sustainability Memorandum**, of this DEIS. It is anticipated that most of the projected C&D wastes can be diverted from landfills by utilizing these area facilities.

II. FACILITY OPERATIONS

The RLWFP would require energy to power the facility and treatment processes; heat, cool, and ventilate the building; and provide indoor and outdoor lighting once the facility is operating. The heating, ventilation, and air conditioning (HVAC) system is necessary to provide WJWW with a suitable environment for facility staff and operation and maintenance of essential equipment. HVAC systems would be selected based on the intended use of the spaces to be served and would consider air quality, air distribution, fume capture and exhaust, equipment operations, chemical storage temperature limits, and maintainability/operability. The proposed HVAC system would consist of air handling units (AHU),

supply/ exhaust fans, dehumidification units (DHU), boiler, hot water pumps, hot water unit heaters, electric unit heaters, air conditioning units, and associated control systems. Propane fuel would be used to heat the facility. As a result, an increase in energy demand and associated GHG emissions can be expected during project facility operation.

Indoor and outdoor lighting is also an important factor in terms of energy use and conservation; therefore, LED lighting would be used for all indoor, outdoor, and emergency lighting. Lighting plans would be designed to reduce light-related impacts such as excessive lighting, light trespass, glare, impacts on nocturnal wildlife, as well as excess energy demand. Exterior fixtures would be provided with motion sensors, photoelectric sensors, and automatic timers. A detailed list of light-related energy mitigations is provided in the impact mitigation section below.

To power the facility, the proposed filtration plant would connect to electric utilities provided by Con Edison of New York by way of existing overhead powerlines located along Purchase Street and would utilize liquid propane to be stored onsite in two (2) 2,000-gallon above ground storage tanks to heat the facility. The exact type of electrical service provided would be determined by Con Edison upon analysis of the final load letter to be submitted during final project design. Nevertheless, space has been set aside for two utility transformers if Con Edison chooses to provide a second feeder. It is anticipated that the number of transformers provided by Con Edison would be sufficient to satisfy the full power requirements of the facility including potential future loads.

The finished operating facility is projected to consume an estimated 7,210,000 kWh/yr. of electrical energy, 9,100 gal./yr. of diesel fuel, and 20,000 gal./yr. of propane. This equates to specific energy consumption of approximately 700 kWh per million gallons (MG) treated, which compares favorably to other surface water treatment facilities. The corresponding carbon footprint of the facility is projected to be approximately 3,300 MT CO₂.e/yr. which includes a 5.5 percent reduction in GHG emissions achieved by the proposed photovoltaic system (**Appendix P, Rye Lake Water Filtration Plant Sustainability Memorandum**). Tables 5-1 and 5-2 of the Sustainability Memorandum contain itemized breakdowns of projected process and non-process equipment loads. The projected totals compare favorably to other regional water treatment facilities that have achieved over 800 kWh/MG.

Based on the electric generation assets that presently supply electricity to the Con Edison electric grid, the carbon footprint of the proposed facility is projected to be approximately 3,300 MT CO₂.e/yr. Of this amount, approximately 94 percent of the CO₂.e emissions would result from the off-site generation of the electricity that would be used by the facility, 3 percent of the CO₂.e emissions would be from the 20,000 gallons per year of propane that would be used at the facility, and 3 percent of the CO₂.e emissions would be from the diesel fuel that would be used at the facility for testing and backup power. The CO₂.e emissions from the off-site generation of the electricity that would be used by the facility are expected to decline over time as New York State implements policies required by state law to shift the New York State electric grid to renewable electric generation sources.

Impacts from energy consumption and GHG emissions and associated energy and carbon footprints from the project would be minimized through the installation of an approximately 18,900 sq. ft., 340-kilowatt (kW) roof-mounted photovoltaic system on the flat, west-facing, and south-facing sections of the filtration plant roof. The Sustainability Memorandum includes a detailed assessment of the costs and benefits of installing the three solar arrays and discusses their expected efficacy in minimizing the facility's reliance on nonrenewable energy resources, as well as their anticipated reduction in harmful

GHG emissions (**Appendix P, Rye Lake Water Filtration Plant Sustainability Memorandum**). According to the Sustainability Memorandum, the proposed photovoltaic system would generate approximately 445,300 kWh of power per year and offset carbon emissions by 189 MT CO₂e/yr. which represents a 5.5 percent reduction in GHG emissions.

a) EMERGENCY STANDBY GENERATORS

Two diesel-fueled standby power generators would also be installed on the Site for emergency use and uninterrupted water treatment during power outages once the construction is completed and the facility is operating. Each of the proposed generators is rated at 1,250 kW, 480V, 3PH, 3W, 60HZ. The generators would have a combined capacity to energize the entire plant.

In the event of the loss of normal electrical power to the switchboard, the generators would start automatically, and supply power to an individual fuel tank in the subframe (belly) of each generator. Each tank would have the capacity to provide at least 24 hours of continuous, full-load plant operation. Generator switchgear would be provided to distribute power from the emergency generators to the motor control centers located in the facility's electrical rooms. One 1,250 KVA load bank would be provided to exercise each generator individually on a regular basis. It is anticipated that the emergency generators would run no more than one (1) hour per week.

b) OPERATIONAL TRAFFIC

Once construction is completed and the facility is operating, just one to two employee vehicles would be added to the surrounding road network in any given hour based on an anticipated maximum of two facility operators during the day shift and one operator each during the evening and night shifts. This level of trip generation is negligible compared to most commercial, industrial, institutional, and multi-family residential land uses. In addition, there would be eight (8) visits per month by a treatment process sludge removal truck (2/week), approximately five (5) plant chemical deliveries per month, an occasional garbage truck to pick up trash (possibly contractor that already serves the area), or other rare or occasional visitor.

Overall, the anticipated increase in energy demand and associated on- and off-site GHG emissions from facility construction and operations, is relatively small, considering the several mitigation strategies that are already in place to reduce the Project's impact on GHG emissions, such as Con Edison's partial use of renewable energy resources, existing State building and energy codes, and proposed project mitigations to reduce impacts where practicable. The most salient examples of project mitigations include the proposed roof-mounted solar panels that would provide clean renewable energy to the facility and reduce nonrenewable energy demands, GHG emissions, and the Project's overall energy and carbon footprints and energy conserving equipment and best practices.

III. SEA LEVEL RISE

The Project Site is located within a FEMA X Flood Zone which is an upland area having less than a 0.2 percent chance of flooding during any given year, adequate on-site drainage infrastructure would be provided to prevent potential drainage issues, and the property is not located in an area that would be affected by sea-level rise. Most importantly, the Project would have no significant adverse effect on the climate based on project type, scale, best management practices and proposed mitigations.

E. MEASURES TO AVOID OR REDUCE IMPACTS ON CLIMATE CHANGE

The Project includes various strategies to reasonably reduce nonrenewable energy consumption and curb the release of GHG emissions. Based on the above analyses and in consideration of the following mitigations, significant adverse energy related impacts are not expected from this essential facility.

Energy Conservation

- Three photovoltaic arrays would be installed on the roof of the proposed building to reduce demand for nonrenewable energy resources and partially offset related energy and climate related impacts.
- Energy conservation techniques would be universally implemented in the design and operation of the facility and facility design would comply with the 2020 Energy Conservation Code of New York State.
- Exterior lighting would be limited to only what is necessary to ensure a safe and secure indoor and outdoor work environment. This would help to eliminate unnecessary illumination where and when it is not needed, and address the potential for light trespass, visually disruptive glare, “skyglow” that can affect views of the night sky, impacts on nocturnal wildlife, and excessive energy use and GHG emissions where the power is generated.
- Proposed indoor, outdoor, and emergency lighting systems would consist of LED fixtures to reduce energy demands.
- Illumination levels and conservation strategies would be based on the NYS energy conservation code, electrical code, and recommendations of the Illuminating Engineers Society of North America.
- Energy conservation measures would be instituted to ensure lights are shut off when and where they are not needed.
- The lighting systems would be designed to include the following energy conservation strategies:
 - Minimize energy consumption to the extent practicable to reduce potential environmental impacts;
 - Use long-life fixtures requiring low maintenance;
 - Provide instant relight or dimming capability in certain areas;
 - Be controlled manually or automatically;
 - Use fixtures with low life-cycle and operations and maintenance costs;
 - Exterior fixtures would be equipped with motion sensors, photoelectric sensors, and automatic timers.

Construction Related Energy Conservation

- Limit the area of disturbance and removal of existing trees and shrubs to the extent practicable on the 13.4-acre property and landscape to help retain oxygen-producing/CO₂ absorbing vegetation, including the replanting of 302 trees.
- Maintain a relatively small development footprint and reduce the proportion of impervious paved surfaces by utilizing vegetated pathways to and from outside equipment and structures and parking areas rather than concrete or pavement, to help reduce the urban heat island effect and any additional need for building cooling.

- Construction and demolition waste disposal contracts would include a requirement that all waste materials that are reusable or recyclable be diverted from landfills.
- Promote and facilitate recycling of garbage and other wastes at the facility as part of routine operations.
- Limit prolonged construction vehicle and equipment idling times when possible. Keep large trucks on-site at the end of each day rather than returning them to contractor headquarters for overnight storage.
- Retain reusable soil on-site to the extent practical to reduce off-site shipments/truck trips.

5. ALTERNATIVES

A. SEQRA OVERVIEW

This chapter of the DEIS discusses and analyzes alternatives to the Proposed Action. The SEQRA regulations, at 6 NYCRR §617.8(e)(5) point to the analysis of alternatives as a key element of any DEIS that should be identified during scoping, specifically calling for the Final Scope to identify “the reasonable alternatives to be considered.”

The Draft Scope, filed on March 23, 2021, preliminarily identified four alternatives to be analyzed in this DEIS, as follows:

1. No Action – Scenario where the status of the existing land use remains the same and the Proposed Action does not proceed. Under the SEQRA regulations, at 6 NYCRR §617.9(b)(5)(v), this alternative “should evaluate the adverse or beneficial site changes that are likely to occur in the reasonably foreseeable future, in the absence of the proposed action.” No action is the only alternative that is required to be analyzed in every DEIS.
2. Alternative Site Plan – Option of building the proposed filtration plant on the WJWW-owned property (i.e., the Exchange Parcel) that is the subject of the land swap under the Proposed Action. This was the location of the proposed water filtration plant in the prior SEQRA review which included a proposed Final Environmental Impact Statement that was prepared in 2008 by WJWW and submitted to the Town/Village of Harrison Planning Board serving as the SEQRA lead agency at that time (the “2008 FEIS”).
3. Alternative Filtration Technology – Potential options for complying with the EPA Administrative Order (Index No. SDWA-02-2020-8001) dated 11/26/2019 (the “EPA Administrative Order”), the Judgment and Order of the New York State Supreme Court (Index No. 13364-99, Justice Louis A. Barone) dated 6/9/2004 (the “Supreme Court Judgment and Order”), and current federal drinking water standards using technology other than what would be provided under the Proposed Action.
4. Alternative façade treatment for the proposed water filtration plant.

In accordance with the requirements of SEQRA, at 6 NYCRR §617.8(d), WJWW provided the opportunity for public participation in the scoping process. The Draft Scope was issued on March 23, 2021, for public review and comment, with written comments initially accepted until April 23, 2021. In order to maximize the opportunity for public input, WJWW conducted a public scoping session on April 13, 2021. In light of the high level of interest that has been expressed regarding the Proposed Action, WJWW extended the close date for comments on the Draft Scope until May 10, 2021.

During the extended public scoping period, various comments were received suggesting that consideration be given to expanding the range of alternatives to be examined in the DEIS, including access alternatives, siting alternatives, and other alternatives to the proposed filtration plant. Based on this input, the Final Scope issued by WJWW, dated October 26, 2021, includes five additional alternatives, as follows:

5. Alternative Site Plan for the Proposed Project, on the same site, but with a driveway connection to Tower Road instead of Purchase Street
6. Alternative Site Plan/Location for the proposed filtration plant, on a parcel fronting on the north side of Tower Road, to the south of the proposed Project Site

7. Alternative Site Plan/Location for the proposed filtration plant, at the Rye Lake Pump Station property
8. Alternative Site Plan/Location for the proposed filtration plant, on property identified as Harrison SBL 0097.-1, which is owned by the New York State Department of Transportation (NYSDOT) and is actively used for highway maintenance operations, located near the intersection of Purchase Street and New King Street
9. Alternative to the proposed filtration plant, involving a connection to Shaft 20 of the New York City Delaware Aqueduct System in Greenburgh.

It is important to recognize that the current Proposed Action is the outgrowth of a prior review process under SEQRA which included the preparation of the 2008 FEIS, whereby the action proposed at that time involved the construction of the water filtration plant on the WJWW-owned parcel situated to the south of Westchester County Airport (Airport), at a location identified for an “Alternative Site Plan” in the Final Scope (i.e., Alternative 2, as listed above). This “Exchange Parcel” presently is proposed for a land swap with Westchester County to provide WJWW with title to the Project Site (i.e., the Airport parcel that is currently proposed as the location for construction of the filtration plant).

The 2008 FEIS also included a range of other alternatives that were intended to provide a basis for the preparation of a findings statement in connection with decision-making on that prior application. Although a findings statement was not prepared to conclude the SEQRA process and a decision was not rendered in connection with that earlier proposal, it is worthwhile to review the alternatives that were examined at that time to ensure completeness of the record and to fully document the extensive evaluation process that has gone into selecting and analyzing the current Proposed Action. The alternatives that were considered in the 2008 FEIS, in addition to the requisite No Action alternative, included alternative sites, alternatives to the proposed water filtration plant, alternatives to the proposed filtration process, and alternative access routes to the proposed site.

Although there is some duplication and overlap between the alternatives specified in the October 26, 2021, Final Scope prepared for the current Proposed Action and the alternatives discussed in the 2008 FEIS, a total of more than 20 discrete alternatives (including variants of certain alternatives, such as alternative technologies, New York City water supply alternatives, alternative sites, and alternative access routes) have been identified for analysis during the overall review process for the Proposed Action.

The following analysis describes the relevant criteria under SEQRA pertaining to the evaluation of alternatives. Thereafter, in **Section B** of this chapter of the DEIS, the nine alternatives identified in the Final Scope are evaluated in detail, which is followed by a discussion in **Section C** regarding the remaining alternatives that were considered in the 2008 FEIS.

As indicated previously, the regulatory requirements of SEQRA are promulgated in 6 NYCRR Part 617, with the content of DEISs set forth in 6 NYCRR §617.9(b). The requirements for analyzing alternatives in a DEIS are covered in 6 NYCRR §617.9(b)(5)(v), which specifies that this analysis must provide:

A description and evaluation of the range of reasonable alternatives to the action that are feasible, considering the objectives and capabilities of the project sponsor. The description and evaluation of each alternative should be at a level of detail sufficient to permit a comparative assessment of the alternatives discussed. The range of alternatives must include the no action alternative. The no action alternative discussion should evaluate the adverse or beneficial site changes that are likely to occur in the reasonably foreseeable future, in the absence of the proposed action. The range of alternatives may also include, as appropriate, alternative:

- (a) sites;
- (b) technology;
- (c) scale or magnitude;
- (d) design;
- (e) timing;
- (f) use; and
- (g) types of action.

For private project sponsors, any alternative for which no discretionary approvals are needed may be described. Site alternatives may be limited to parcels owned by, or under option to, a private project sponsor.

Thus, the SEQRA regulations require that alternatives examined in a DEIS be “reasonable” and “feasible.” The intent is to examine a range of real-world options to the given proposed action, not to conduct a review of hypothetical scenarios that are not practicable. Furthermore, the SEQRA regulations establish that the threshold for determining whether an alternative is “reasonable” or “feasible” must consider the objectives and capabilities of the project sponsor. Any scenario that does not comport with the project sponsor’s purpose and need for undertaking the proposed action is neither “reasonable” or “feasible” in this context and, therefore, is not a viable alternative that merits detailed comparative analysis in a DEIS.

The DEIS’s evaluation of alternatives to the proposed action is important to the decision-making process that occurs at the end of the SEQRA process. Upon the completion of the Final Environmental Impact Statement, which primarily is intended to address substantive comments that arise during the public review of the DEIS, the lead agency, and all other involved agencies, must adopt a findings statement before a decision can be made on the underlying action (i.e., the decision in this case by WJWW as to whether to proceed with the construction of the proposed filtration plant, and by other involved agencies as to whether to issue their respective permits/approvals). The SEQRA regulations, at 6 NYCRR §617.11(d)(5), require the agency to:

Certify that consistent with social, economic and other essential considerations from among the reasonable alternatives available, the action is one that avoids or minimizes adverse environmental impacts to the maximum extent practicable, and that adverse environmental impacts would be avoided or minimized to the maximum extent practicable by incorporating as conditions to the decision those mitigative measures that were identified as practicable.

Therefore, decision-making for any action that is subject to a SEQRA EIS process has an essential nexus to the evaluation of alternatives. This evaluation assists the agency in meeting its obligation to certify that the action they are about to undertake “avoids or minimizes adverse environmental impacts to the maximum extent practicable,” specifically in comparison to the “reasonable alternatives.” In brief, the goal of a DEIS’s analysis of alternatives is to provide a means for the agency to determine whether there are other reasonable and feasible ways to accomplish its objectives, in a manner that reduces environmental impacts, within the constraints of its capabilities.

As is true for many aspects of SEQRA, the regulations provide specific requirements for the primary aspects of the manner in which alternatives should be addressed in a DEIS, but does not, and is not intended to, address every conceivable detail or question that may arise. For practitioners who desire further guidance, NYSDEC, which is the agency charged with overseeing the implementation of SEQRA, has prepared *The SEQRA Handbook* (the “Handbook”). The latest version of the Handbook (Fourth Edition, 2020) was developed in parallel to the most recent update of the SEQRA regulations which became effective January 1, 2019. The Fourth Edition of the Handbook was issued in draft form for public review and comment in conjunction with the enactment of the updated regulations and was finalized based on the input received.

In its Introduction, the Handbook states “...a standard reference book for local government officials, environmental consultants, attorneys, permit applicants, and the public” and as “provid[ing] agencies, project sponsors (alternatively ‘applicants’), and the public with a practical reference guide to the State Environmental Quality Review Act (SEQR) – Article 8 of the Environmental Conservation Law (ECL). The Handbook addresses common questions that arise during the process of applying SEQR.”

The Handbook is presented in an easy-to-understand, question-and-answer format by topic. Information regarding the topic of the analysis of alternatives in a DEIS that is relevant to this discussion includes the following:

- ***What information should a draft EIS contain?*** *The requirements for the general content of a draft EIS are in statewide SEQR regulations in 617.9(b). The EIS should focus on the potential adverse environmental impacts of the proposed action, comparing alternatives and mitigation to minimize the identified adverse impacts that cannot be avoided. (Page 112)*
- ***Why must alternatives be considered when the project sponsor has already decided which is the “best” project?*** *An EIS has been required because potentially significant adverse impacts of the sponsor’s proposed project have been identified. An analysis of alternative project configurations or designs would enable the lead agency to determine if there are reasonable, feasible alternatives that would allow some or all the adverse impacts to be avoided while generally satisfying the sponsor’s goals. A project sponsor generally develops its project proposal based solely on its own goals and objectives. These goals and objectives may not include maximum protection of environmental factors and are not always shared by the reviewing agencies or the public. Requiring that reasonable alternatives be discussed allows a reviewer to independently determine if the proposed action is, in fact, the best alternative for that project when all environmental factors have been considered. (Page 117)*
- ***How should the lead agency determine which alternatives should be discussed in the EIS?*** *The goal of analyzing alternatives in an EIS is to investigate means to avoid or reduce one or more identified potentially adverse environmental impacts. [Part] 617 further requires that the alternatives discussion includes a range of reasonable alternatives that are feasible considering the objectives and capabilities of the project sponsor. Section 617.9(b)(5)(v) further requires that the alternatives discussion includes a range of reasonable alternatives that are feasible considering the objectives and capabilities of the project sponsor. In general, the need to discuss alternatives would depend on the significance of the environmental impacts associated with the proposed action. The greater the impacts, the greater the need to discuss alternatives. The discussion of each alternative should specifically include an assessment of its likely effectiveness in reducing or avoiding specific impacts.*

For projects such as the construction of a residential subdivision or an office building, it is not necessary for every possible alternative density or size to be discussed. A range such as the density or size permitted under the existing zoning, the density or size after taking into consideration environmental constraints (wetlands, steep slopes, etc.), and the density or size if clustering were to be used, may be reasonable alternatives. (Page 117)

Taken together, the foregoing passages from the Handbook and the provisions of the regulations emphasize the importance of a DEIS’s analysis of alternatives to the overall SEQRA process for the purpose of ensuring that discretionary decisions by agencies give due consideration to environmental impacts. Such decisions involve discretionary balancing among various factors, including the degree to which alternatives to the proposed action are reasonable and feasible, considering the objectives and capabilities of the project sponsor, and relevant social and economic considerations.

In evaluating whether a given alternative would be considered reasonable and feasible and would meet WJWW's objectives, it is useful to examine the objectives that would apply to such a determination. The following objectives are paramount for the viability of any alternative:

- **Property is owned by WJWW or property owner is interested in property conveyance.** WJWW owns a property, which is identified as the Exchange Parcel for the Proposed Action and was the site for the proposed filtration plant in the 2008 FEIS. Therefore, both of these siting alternatives – i.e., the proposed Project Site at Westchester County Airport and the WJWW-owned Exchange Parcel – are considered to be reasonable and feasible locations and both would meet WJWW's objectives and capabilities if approved for the proposed plant. However, any property that currently is not owned by WJWW and for which the owner is not interested in entertaining conveyance to WJWW would not meet WJWW's objectives nor be a reasonable or feasible alternative, regardless of the merits of that property based on other considerations. Simply put, SEQRA does not obligate a DEIS to evaluate the proposed action in context of the theoretical preferability of another site that is unavailable for the project sponsor's use.
- **The alternative must comply with the Administrative Order issued by the USEPA and the Court Order issued by the New York State Supreme Court.** WJWW is under obligation to implement the Proposed Action within a specific timeframe, under potential penalty of significant fines for non-compliance. Therefore, in order to meet WJWW's objectives, the Proposed Action, or any potential alternative, must be completed within a reasonable time frame to achieve operability prior to the imposition of such penalties. Any alternative that may be technically and logistically feasible, but which cannot be completed on a reasonable schedule, would not qualify as a reasonable or feasible alternative under SEQRA. This may apply, for example, to scenarios that require complex agency coordination and approvals, particularly in cases where an alternative may have been discussed only in broad terms but has not been practically advanced toward implementation. In general, WJWW cannot entertain an alternative solution that is dependent upon cooperation from other agencies or third parties that have not indicated preliminary support for such action or that may have reasons to oppose the alternative.
- **Any alternative technology must fulfill the legal requirements of the USEPA and the State of New York regarding the construction of a filtration plant and the implementation of a Corrective Action Plan ensuring strict compliance with the USEPA's Stage 2 Disinfectants and Disinfection Byproducts Rule.** As indicated above, the specific goal of the analysis of alternatives in a DEIS is to identify reasonable and feasible means to mitigate impacts that may be associated with the Proposed Action. In consideration of the project planning that was integrated into the 2008 FEIS and the continued planning which has been undertaken in the ensuing years, a preliminary range of alternatives was formulated in the Draft Scope for this DEIS that satisfies these criteria to provide the basis for a meaningful comparative analysis with the Proposed Action, and additional alternatives identified through the public scoping process have been incorporated into the Final Scope and this DEIS. However, vague suggestions that other technologies should be explored are not valid alternatives under SEQRA. The Handbook advises that it is not necessary for a DEIS to analyze every possible alternative, especially alternative technologies that do not meet the requirements of the USEPA's Stage 2 Disinfectants and Disinfection Byproducts Rule.
- **The evaluation of alternatives must include the consideration of project cost, as WJWW has a responsibility to ensure that its expenditures are in the collective best interests of its customers.** WJWW's selection of the Proposed Action is based on a specified, estimated cost, among other

factors, which it has been determined is acceptable for accomplishing the purpose, need and benefit of the Project. Alternative actions that achieve these same objectives without significantly exceeding the cost for the Proposed Action would be considered reasonable and feasible from a cost perspective. Consistent with the goal of SEQRA to strike a balance between environmental protection and other essential considerations, any escalation in Project cost to implement an alternative would be considered reasonable only if the increased financial burden on WJWW and its customers is commensurate with the magnitude of the environmental benefit achieved through the additional mitigation or amelioration of the environmental impacts associated with the Proposed Action (assuming that any such impacts have been identified) .

B. ANALYSIS OF ALTERNATIVES

The following discussion examines the nine alternatives that have been included in the Final Scope for this DEIS. Additional alternatives that were discussed in the 2008 FEIS are addressed separately in **Section C**. As noted previously, more than discrete 20 alternatives have been identified during the course of the overall SEQRA review process for the Proposed Action. These alternatives fall into five broad categories, as follows:

- No Action** – This alternative is required under SEQRA to be analyzed in every DEIS and provides a baseline for evaluating the anticipated impacts of the Proposed Action. In this DEIS, No Action is a single, discrete alternative (**Alternative 1, in Section B-I, below**) involving maintenance of status quo conditions for the Project Site and retaining the Exchange Parcel in WJWW ownership.
- Alternative Sites** – These development scenarios involve construction of the proposed filtration plant at a location other than the proposed Project Site on Purchase Street at the Airport, which would be conveyed to WJWW in a land swap with Westchester County for the WJWW-owned Exchange Parcel under the Proposed Action (**Figure 5-1, Alternative Sites**). Besides the Exchange Parcel (**Alternative 2, in Section B-II**), three other siting alternatives have been incorporated into the Final Scope for this DEIS: a parcel fronting on Tower Road, to the south of the proposed Project Site, also at the Airport (**Alternative 6, in Section B-VI**); the Rye Lake Pump Station Parcel (**Alternative 7, in Section B-VII**); and a NYSDOT-owned property (Harrison SBL 0097.-1) near the intersection of Purchase Street and New King Street (**Alternative 8, in Section B-VIII**). Several other parcels were addressed in the 2008 FEIS, which are discussed in **Section C**.
- Filtration Technology Alternatives** – These development scenarios involve technologies other than the presently proposed Dissolved Air Flotation/ Filtration (DAFF) technology. The Filtration Technology Alternatives, collectively discussed as Alternative 3 in this DEIS (**Section B-III**), are identified in the 2008 FEIS, and include the then-proposed Immersed Filter Membrane, as well as three other technologies: Dissolved Air Flotation (“DAF”)/ Ozone/ Filtration; Ozone/ Direct Filtration; and Pressurized Membrane Filtration. The currently proposed DAFF system was one of the four technology alternatives examined in the 2008 FEIS.
- Design Alternatives** – These development scenarios involve modifications to the presently proposed plant on the Project Site at the Airport. This includes “Alternative Façade Treatments” (**Alternative 4, in Section B-IV**) and alternative access to Tower Road (**Alternative 5, in Section B-V**) as per the Final Scope for this DEIS (**Figure 5-1, Alternative Sites**). The 2008 FEIS included a discussion of several access alternatives for the then-proposed use of the Exchange Parcel for the proposed plant, which are discussed as variants of Alternative 2 in this DEIS (see **Section B-II**).

- **Other Potential Alternatives** – These scenarios involve potential options for actions other than the construction of a filtration plant, such as utilizing water supplies other than Rye Lake (e.g., other New York City sources or groundwater wells), other types of water treatment (i.e., ultraviolet treatment), and a regional water system in lieu of WJWW continuing to supply drinking water to its customers. A connection to Shaft 20 for New York City’s Delaware Aqueduct is identified per the Final Scope as Alternative 9 for analysis in this DEIS (**Section B-IX**). Several other, miscellaneous alternatives that were addressed in the 2008 FEIS are discussed in **Section C**.

A comparison of the environmental impacts associated with each Alternative can be found in **Table 5-1** and locations of the Alternative can be found in **Figure 5-1, Alternative Sites**. Additional details for each of the Alternatives can be found in **Sections B-1 through B-IV** below.

I. ALTERNATIVE 1: NO ACTION

Description of Alternative

Under the No Action scenario, WJWW would continue operating its water supply system as at present, including the recently completed ultraviolet (UV) treatment facility at the Rye Lake Pump Station parcel, but without any filtration as would be provided under the Proposed Action. The Project Site would not be conveyed by Westchester County to WJWW for development of the water filtration plant and the Exchange Parcel currently owned by WJWW would not be conveyed to the County. There would be no change in conditions on the Project Site, which would remain as an undeveloped woodland area of Westchester County airport, interspersed with remnants of prior uses.

SEQRA Analysis

As detailed in **Chapter 2** of this DEIS, the Proposed Action is necessary to ensure compliance with Administrative Order from the USEPA and a Court Order issued by the New York State Supreme Court. Without the Proposed Action, these compliance issues would not be addressed and the resulting benefits of providing drinking water for WJWW’s customers that meets current drinking water treatment standards would not be realized. Therefore, while the following analysis indicates that the No Action Alternative would avoid potential impacts that may be associated with the Proposed Action (and would similarly avoid potential impacts that may be associated with the eight other alternatives analyzed in this DEIS), taking no action is not considered to be a feasible or reasonable option as it would fail to meet the objectives of the sponsor of the Proposed Action. Furthermore, as discussed in **Chapter 3** in the respective section for each environmental impact parameter, the Proposed Action includes a range of measures directed at avoiding or mitigating potential impacts to the degree practicable, thereby minimizing any apparent environmental advantages of maintaining the status quo, while also providing the necessary public benefits that would result from meeting the sponsor’s objectives by undertaking the Proposed Action.

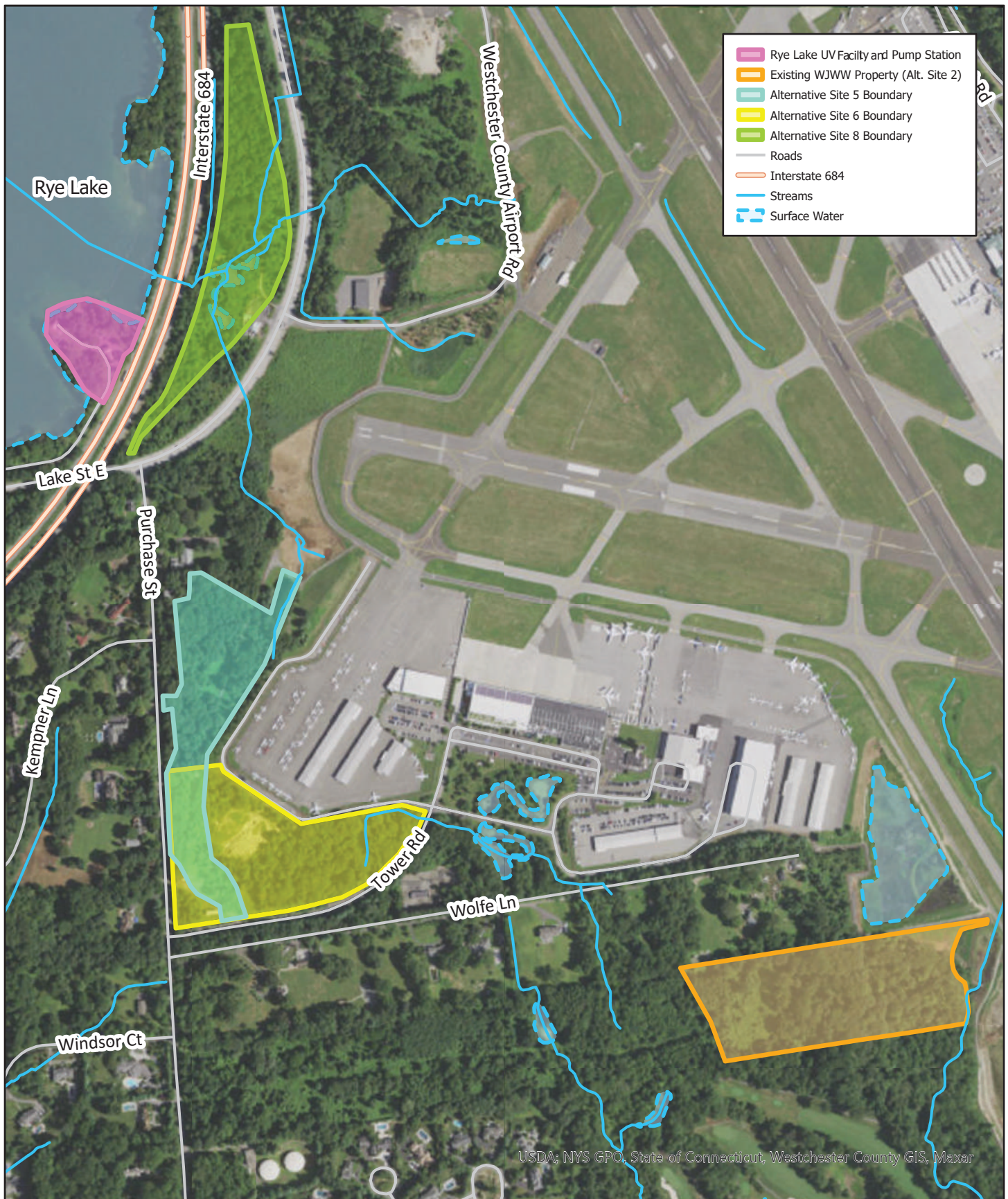


Figure 5-1: Alternative Sites

Sources: Westchester County GIS, 2020
Scale: 1 inch equals 625 feet



Westchester Joint
Water Works
Water Filtration Plant

Table 5-1: Comparison of Impacts Associated with Alternatives										
Alternative Name	Proposed Action	Alternative 1- No Action	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 7	Alternative 8	Alternative 9
Description		The status of the existing Project Site remains the same and the Proposed Action does not proceed.	Construction of a water filtration plan on the existing WJWW property (Exchange Parcel).	Implementation of a different filtration technology.	Implement a standard industrial façade which would typically be applied to such utility uses and landscaping around the perimeter of the building.	Involves a modified layout of the Project at its currently proposed location, to provide southward driveway connection to Tower Road.	Involves developing the filtration plant on a site located south of the Proposed Action and accessing the site from Tower Road.	Involves developing the filtration plant on Rye Lake Pump Station Parcel.	Involves locating the filtration plant on property owned by NYCDEP located at Harrison SBL 0097.-1.	Involves the connection to Shaft 20 on the NYCDEP's Delaware Aqueduct System.
Property Rights	Even land swap between WJWW and Westchester County.	Not applicable, no work would proceed.	WJWW owns the property but property access requires easements.	The property rights would remain the same as the Proposed Action.	The property rights would remain the same as the Proposed Action.	The property rights would remain the same as the Proposed Action.	WJWW does not have property rights to the site and Westchester County has not offered this property to WJWW.	WJWW does not have property rights to the site and NYCDEP has not offered this property to WJWW.	WJWW does not have property rights to the site and NYCDEP has not offered this property to WJWW.	WJWW does not have access or property rights to the pipeline routes and new pump stations.
Site Access	Access would be provided off of Purchase Street.	Not applicable, no work would proceed.	Access road between plant and Purchase Street through an easement within the adjacent subdivision.	Site access would remain the same as the Proposed Action.	Site access would remain the same as the Proposed Action.	Site access would be provided through a southward driveway connection to Tower Road.	Site access would be provided through a driveway connection to Tower Road.	Site access would be provided through its current site access road.	Site access would be provided off Purchase Street.	Site access would vary and WJWW does not have access or property rights to the pipeline routes and new pump stations.
Does Alternative Meet Regulatory Compliance?	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No. this would not involve the filtration of water.
Capital Costs	\$108 Million	Not applicable, no work would proceed.	Costs are anticipated to be similar to the Proposed Action	Costs are anticipated to be similar to the Proposed Action	Costs are anticipated to be less because the additional landscaping and material upgrades would not be included in the project design.	Costs are anticipated to be similar to the Proposed Action	Costs are anticipated to be similar to the Proposed Action	Costs are anticipated to be similar to the Proposed Action	Costs are anticipated to be similar to the Proposed Action	Costs are anticipated to be at least \$171 million.
Limits of Disturbance	6.16 acres	Not applicable, no work would proceed.	12.77 acres	Limits of disturbance would be similar to the Proposed Action.	Limits of disturbance would be similar to the Proposed Action.	Limits of disturbance would increase by at least 0.55 acres due to the construction of the driveway.	Limits of disturbance would be similar to the Proposed Action.	Limits of disturbance would be similar to the Proposed Action.	Limits of disturbance would be similar to the Proposed Action.	Limits of disturbance would exceed 10 acres.

Table 5-1: Comparison of Impacts Associated with Alternatives										
Alternative Name	Proposed Action	Alternative 1- No Action	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 7	Alternative 8	Alternative 9
Permanent Wetland Disturbance	No disturbance of wetlands.	Not applicable, no work would proceed.	0.49 acres of wetlands.	No disturbance of wetlands.	No disturbance of wetlands.	Disturbance of wetland area would take place due to the construction of the driveway.	Disturbance of wetland area would take place due to the proposed location of the building.	No disturbance of wetlands.	Disturbance of wetland area would take place due to the proposed location of the building.	Disturbance of wetland area would take place due to the construction of the pipeline.
Utility Infrastructure	Water main connection to existing main in Purchase Street and sewer connection through Westchester County Airport to its collection system.	Not applicable, no work would proceed.	Water main connection to existing main in Purchase Street through access road easement and sewer connection through manhole located 500 feet from the property through an easement.	Utility infrastructure would be similar to the Proposed Action.	Utility infrastructure would be similar to the Proposed Action.	Utility infrastructure would be similar to the Proposed Action.	Utility infrastructure would be similar to the Proposed Action.	Utility infrastructure would be similar to the Proposed Action.	Utility infrastructure would be similar to the Proposed Action.	Utility infrastructure would be similar to the Proposed Action, in that it would not be anticipated to place a significant demand on water, wastewater, and electric utilities.
Tree Removal	579 trees	Not applicable, no work would proceed.	642 Trees	579 trees	579 trees	Additional tree removal would be required due to the construction of the driveway.	Tree Removal would be similar to the Proposed Action.	It is anticipated tree removal would be required but the extent would need to be further investigated.	Tree Removal would be similar to the Proposed Action.	It is anticipated tree removal would be required but the extent would need to be further investigated.
Viability	Yes, the Proposed Action would meet WJWW's objectives.	This Alternative would not comply with the Administrative Order and Injunction, and therefore, is not a viable option.	Yes, the Proposed Action would meet WJWW's objectives.	None of the available alternative technologies would result in a significant environmental benefit as compared to the Proposed Action using DAFF technology.	Yes, the Proposed Action would meet WJWW's objectives.	Alternative 5 is not viable because access connection to Tower Road would not be entertained by the controlling jurisdictional agency and is not permissible based on the County's funding agreements with the federal government.	Alternative 6 is not viable because access to Tower Road would not be entertained by the controlling jurisdictional agency and is not permissible based on the County's funding agreements with the federal government.	Alternative 7 is not viable because the site is not large enough to accommodate the existing uses as well as a new filtration plan and its required stormwater management practices. In addition, NYCDEP has not offered this property to WJWW for the use of a filtration plant.	Alternative 8 is not viable because the site is not large enough to accommodate the filtration plant without avoiding wetland areas. In addition, NYCDEP has not offered this property to WJWW for the use of a filtration plant.	Alternative 9 is not viable because WJWW does not have property or access rights, it would not comply with the required Administrative Order and State Court Order, and it is too cost-prohibitive.

In comparison to the Proposed Action, the No Action Alternative would result in the following changes to potential impacts:

Compliance with Administrative Order and Court Order

- Compliance with the USEPA Administrative Order and New York State Supreme Court Order would not be achieved if the No Action Alternative was implemented.
- The public policy purpose and health benefit of providing filtration to WJWW's Rye Lake water supply to achieve compliance with drinking water standards under the USEPA's Stage 2 Disinfectants and Disinfection Byproducts Rule would not be realized, and NYS Sanitary Code requirement to construct and operate a filtration plant to filter the water WJWW sells to its customers from Rye Lake would not be achieved.

Land Use and Zoning

- There would be no change to the land use of the Project Site, which would remain as an undeveloped woodland area of the Westchester County Airport, interspersed with remnants of prior uses.

Community Character and Visual Impacts

- There would be no change to the current character and visual impacts of the Project Site, which would remain as undeveloped woodland. The proposed plant would not be developed as approximately 2.4 acres of impervious surfaces on the 13.4-acre Project Site, thereby retaining the site's existing visual characteristics.

Fiscal and Economics

- There would be no change to the fiscal and economic impacts of the Project Site, which would remain as part of the Westchester County Airport property.

Community Services

- There would be no land development on the Project Site and the associated minor increase in demand on community services (i.e., police, fire and emergency/medical services, and solid waste management) and utilities that would result from the Proposed Action.

Geology, Soils and Topography

- There would be no change to the current Project Site, which would remain as undeveloped woodland.

Wetlands and Floodplains

- There would be no change to the current wetlands on the Project Site, which would remain as undeveloped woodland.

Stormwater/Utilities/Energy

- There would be no stormwater or utility installation or energy usage as a result of the No Action Alternative because the site would remain as undeveloped woodland. There would be no land development on the Project Site and the associated generation of stormwater runoff.

Traffic

- There would be no change to current traffic levels because the site would remain as undeveloped woodland.

Vegetation and Wildlife

- Existing vegetation and wildlife would not be disturbed within the approximately 6.16-acre development area on the 13.4-acre Project Site as would occur under the Proposed Action.

Archeological and Historical Resources

- There would be no change to the current status of Project Site's archeological and historical resources because the site would remain as undeveloped woodland.

Hazardous Materials

- A Phase I ESA for the site did not reveal conditions requiring remediation.
- There would be no on-site storage of chemicals for water filtration operations because the site would remain as undeveloped woodland.

Noise/Air

- There would be no change to current noise or air emission levels because the site would remain as undeveloped woodland.

Construction

- There would be no potential for temporary impacts during construction, such as erosion and sediment transport, noise, and construction truck traffic because the site would remain as undeveloped woodland.

Site Control

- There would be no land swap because the site would remain under the control of Westchester County Airport.

Site Access

- There would be no need for access because the Project Site would remain under the control of Westchester County Airport.

As discussed previously, in order to provide a baseline frame of reference, No Action is required to be included among the alternatives analyzed in any DEIS, even though it rarely meets the objectives of the project sponsor, which is true in this case. More specifically, taking no action would maintain status quo conditions, whereby WJWW continues to utilize the Rye Lake water supply without filtration that has placed WJWW in violation of the EPA Administrative Order, the Supreme Court Judgment and Order, and current federal drinking water standards. Therefore, while the No Action Alternative would avoid potential environmental impacts that may be associated with the Proposed Action, as discussed above, it simply is not a reasonable or viable option and does not meet the Project's objectives. Furthermore, the analyses presented in **Chapter 3** of this DEIS show that the Proposed Action would not result in any unmitigated significant adverse environmental impacts, based on the inclusion of appropriate measures to avoid or mitigate potential impacts to the degree practicable and adherence to various applicable regulatory requirements and other standards, as well as the specific characteristics of Project Site and attributes of the Project design.

II. ALTERNATIVE 2: ALTERNATIVE SITE AT WJWW-OWNED EXCHANGE PARCEL – ACCESS TO THE WEST

Description of Alternative

This development scenario examines the option of building the proposed water filtration plant on the WJWW-owned Exchange Parcel that is the subject of the land swap under the Proposed Action. This parcel was the location of the proposed action described in the 2008 FEIS.

Under Alternative 2, essentially the same water filtration plant as is contemplated under the Proposed Action would be constructed on the Exchange Parcel, adjusted as necessary to accommodate differences in the physical setting of that parcel as compared to the proposed Project Site. This alternative specifically includes roadway access to Purchase Street via the existing easement through the adjacent Sylvan subdivision parcel to the west, which was the access route proposed in the 2008 FEIS (**Figure 5-2, Alternative 2 Site Plan**). Three other potential access connections to the Exchange Parcel, which were also examined in the 2008 FEIS, are discussed separately at the end of this section of the DEIS.

As noted previously, agency decisions were not made on WJWW's prior proposal to construct the proposed water filtration plant on the WJWW-owned Exchange Parcel, since the SEQRA process at that time did not proceed to a findings statement. Thereafter, WJWW reconsidered its options for providing filtration to the Rye Lake water supply. A key impediment to the completion of action on that prior application was perceived conflicts and concerns regarding project consistency with surrounding land uses, especially nearby residential development, particularly given that the Exchange Parcel is situated in the Town/Village of Harrison's R-2 One-Family Residence District.

SEQRA Analysis

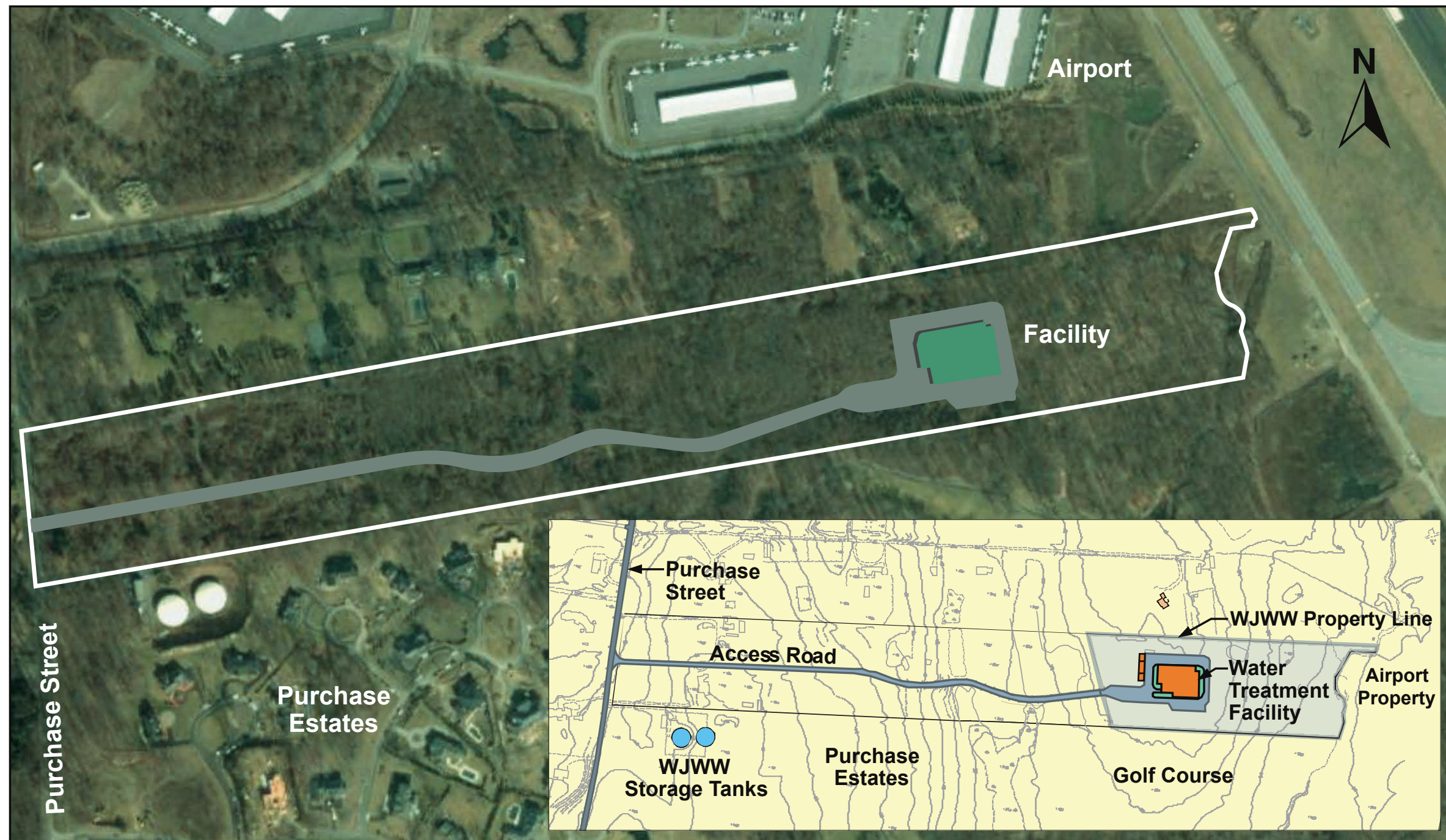
As discussed above, Alternative 2 involves the construction of a water filtration plant that is analogous to the Proposed Action, but on a different site, consistent with the description of the then-proposed action set forth in the 2008 FEIS. This includes construction of an access roadway connection between the plant and Purchase Street through the easement within the adjacent Sylvan residential subdivision to the west, as well as construction of the filtration plant itself on the 13.4-acre Exchange Parcel.

Although there are many similarities between the Proposed Action and Alternative 2, WJWW believes that the Proposed Action is superior from a SEQRA perspective based on several important factors including, but not limited to, the location of the Project Site on a SB-0-zoned parcel which presently is part of the County Airport property, and which also is characterized by decreased environmental constraints as compared to the prior proposal for plant construction on the Exchange Parcel.

A detailed comparison of Alternative 2 with the Proposed Action follows, with information regarding Alternative 2 taken from the 2008 FEIS except where otherwise indicated.

Compliance with Administrative Order and Court Order

- Compliance with the USEPA Administrative Order and New York State Supreme Court Order would be achieved if Alternative 2 was implemented because the same filtration plant proposed in the Proposed Action would be built on the Exchange Parcel.
- The public policy purpose and health benefit of providing filtration to WJWW's Rye Lake water supply that complies with the USEPA's Stage 2 Disinfectants and Disinfection Byproducts Rule would take place under Alternative 2.



Land Use and Zoning

- The Exchange Parcel which would be the site of the proposed plant under Alternative 2 is vacant land that extends westward from the Airport property between existing residential uses to the north and a golf course to the south and adjoins the presently undeveloped but approved Sylvan residential subdivision to the west.
- The Proposed Action Project Site is not identified for any future use in the 2017 Airport Master Plan because it is land that is not beneficial to the County for airport operations or stormwater management. Under Alternative 2, the Project Site would remain available for potential development or disposition of land from the County as is currently being proposed.
- In the Proposed Action, the Exchange Parcel would become part of the Airport property and it is not planned for further use beyond wetland restoration and/or stormwater management. This would avoid potential cumulative impacts that may result from the development of the Exchange Parcel in Alternative 2.
- The Exchange Parcel, which would be the site of the proposed water filtration plant under Alternative 2, is located in an R-2 One-Family Residence zoning district (**Figure 5-3, Alternative 2 Zoning**). The Project Site, on the Airport property, is located in the Special Business District (SB-0), which is classified as a business (i.e., non-residence) district and is a more appropriate location for the proposed filtration plant based on zoning. Development of the Exchange Parcel with the proposed filtration plant would involve similar dimensional characteristics as would occur on the Project Site under the Proposed Action.

Community Character and Visual Impacts

- Unlike the Proposed Action, Alternative 2 would place the proposed filtration plant on an interior parcel, which is not proximate to or visible from existing public roadways.

Fiscal and Economics

- Alternative 2 would be expected to render similar economic benefits and fiscal impacts as the Proposed Action, because essentially the same plant would be constructed under both development scenarios.

Community Services

- Alternative 2 and the Proposed Action would be expected to result in a similar, non-significant demand on community services (i.e., police, fire and emergency/medical services, and solid waste management).
- As with the Proposed Action, Alternative 2 would comply with all applicable fire access and building codes and would be designed in accordance with input from the involved emergency response agencies.

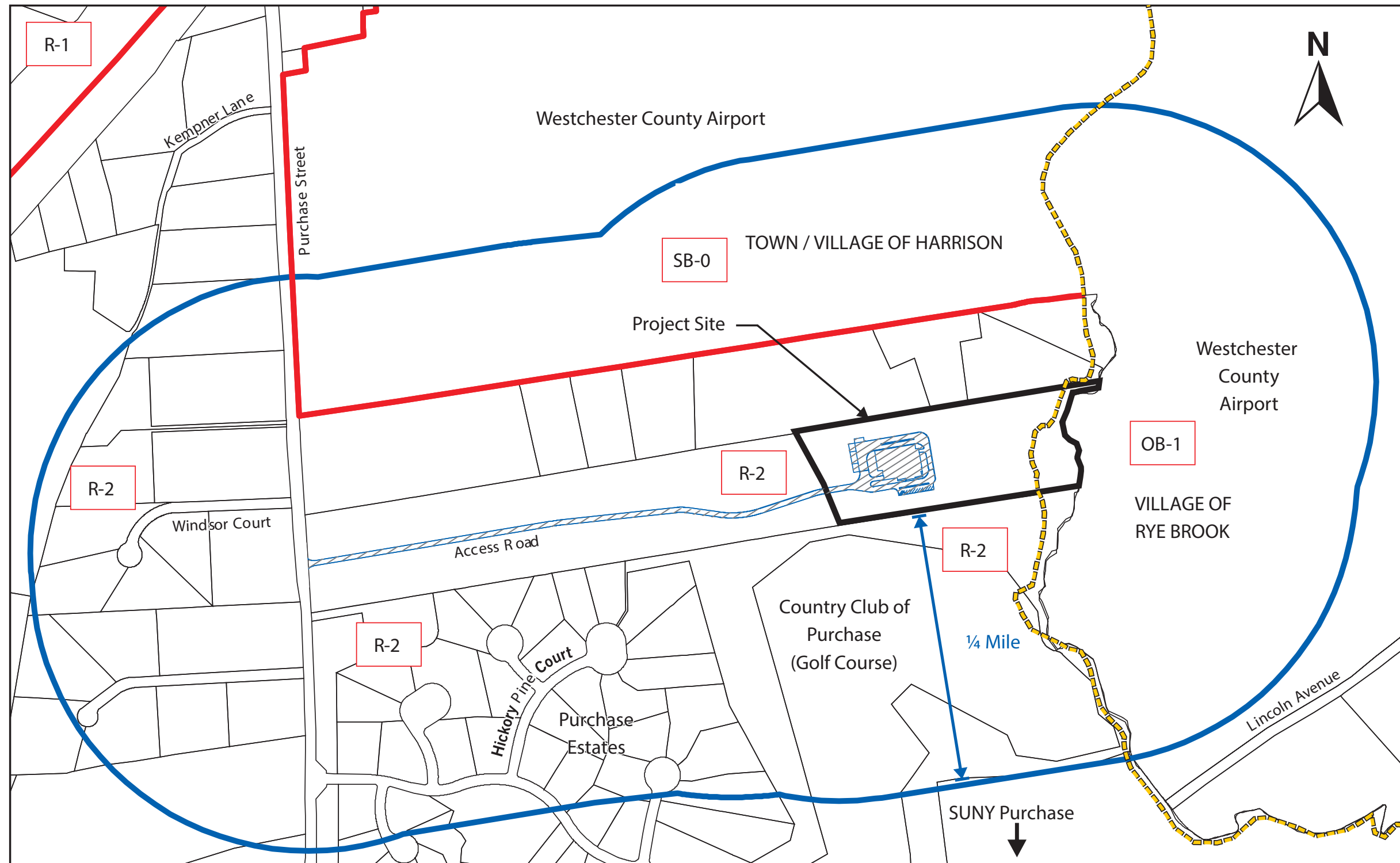


Figure 5-3: Alternative 2 Zoning

Source: Hazen and Sawyer, 2008 FEIS

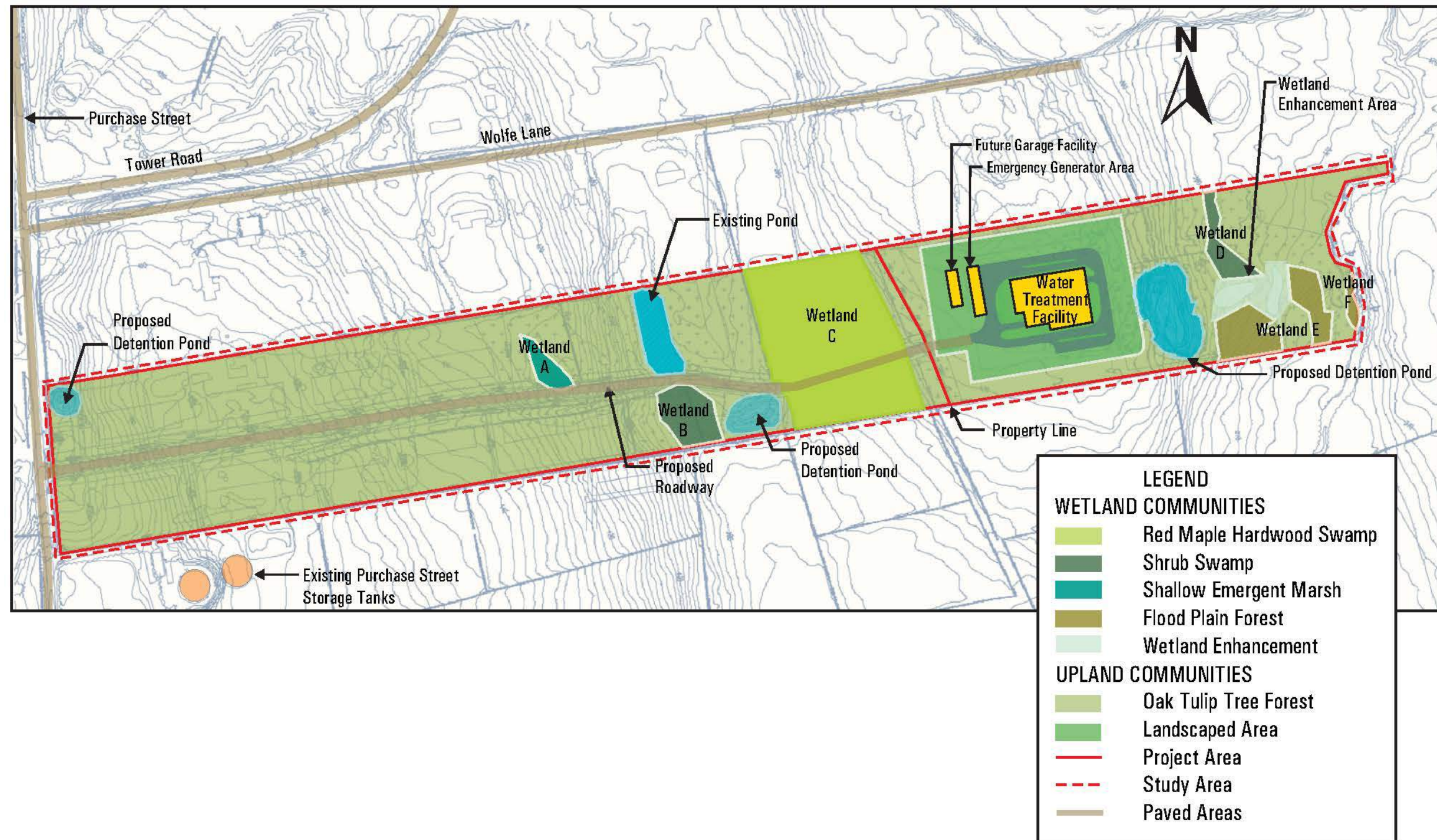
**Westchester Joint
Water Works**

Geology, Soils and Topography

- According to the 2008 FEIS, the disturbance area for the construction of the filtration plant on the Exchange Parcel would be approximately 12.77 acres. This area, including clearing on the 13.4-acre Exchange Parcel itself and additional clearing for the roadway through the easement connecting this parcel to Purchase Street, is more than double the approximately 6.16 acres of disturbance it is estimated would occur on the 13.4-acre Project Site (with direct driveway connection to Purchase Street) under the Proposed Action.
- Similar to the Project Site under the Proposed Action, the Exchange Parcel in Alternative 2 generally has a gently sloping topography, which would reduce potential impacts with respect to erosion and sediment transport during construction and the generation of stormwater runoff during operation.

Wetlands and Floodplains

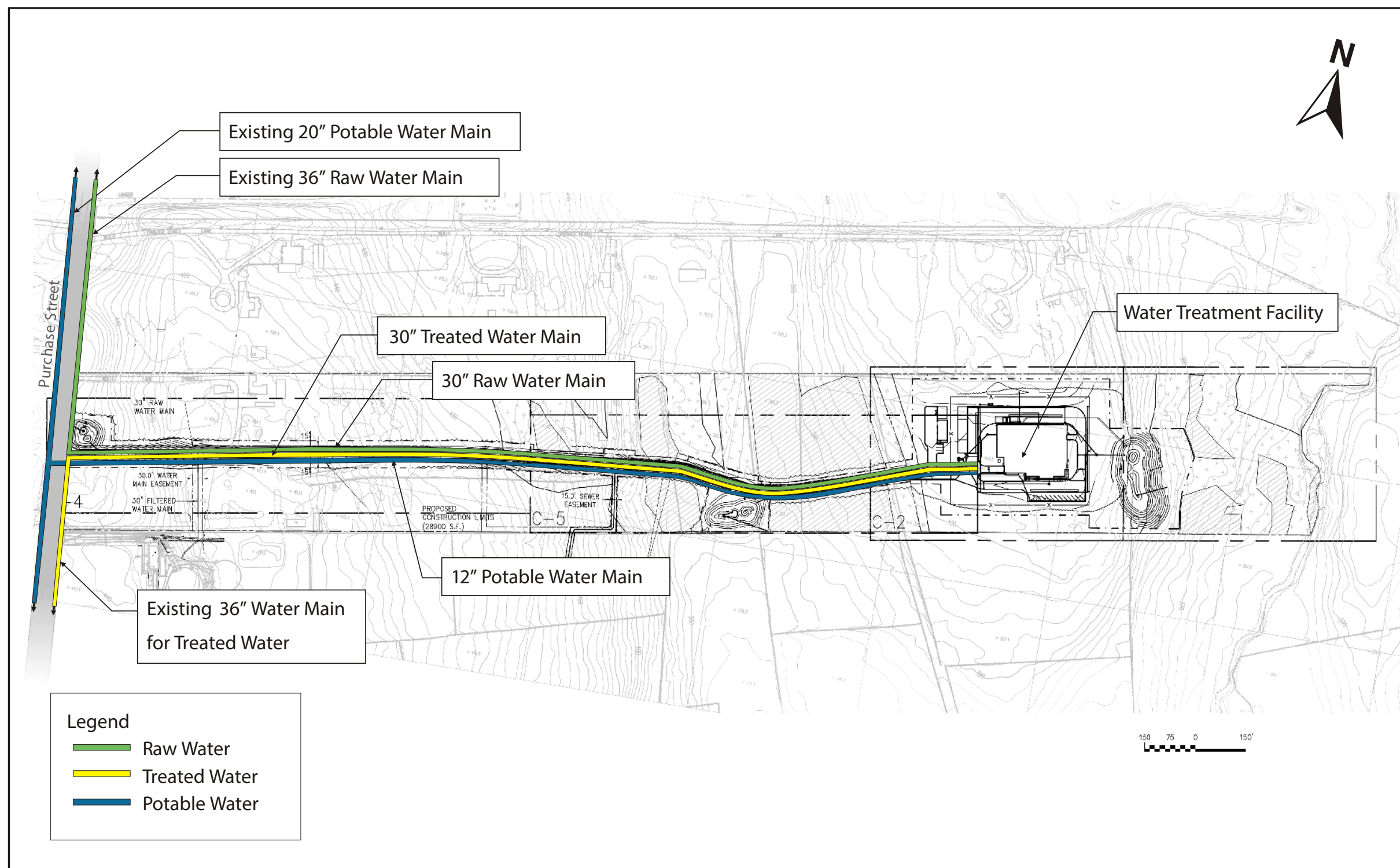
- Alternative 2 involves the construction of the proposed water treatment plant on the Exchange Parcel, which is located just outside the Kensico Reservoir drainage basin, whereas the Proposed Action Project Site is situated within this drainage basin, at a linear distance of approximately 800 feet from Rye Lake. However, development of the Exchange Parcel under Alternative 2 would result in much more extensive land disturbance than would occur under the Proposed Action; and this alternative would also encroach into freshwater wetlands, which would be avoided under the Proposed Action (**Figure 5-4, Wetlands**).
- An area of 100-year floodplain associated Blind Brook is located at the easterly end of the Exchange Parcel. Land modifications would occur in this area under Alternative 2 to accommodate project-generated stormwater and mitigate project-related impacts on freshwater wetlands; although the filtration building itself would be located outside the 100-year floodplain in this development scenario. In contrast, the proposed Project Site is not located in a designated 100-year floodplain.
- Development under Alternative 2 would include disturbance of approximately 0.49 acre of regulated freshwater wetlands, for which approximately 0.67 acre of wetland enhancement would be undertaken as mitigation. By contrast, the Proposed Action would not encroach into regulated wetlands.
- Although the Proposed Action would not encroach into regulated wetlands, the analysis performed for this DEIS indicates that there would be disturbance in wetland buffer areas. The 2008 FEIS does not address the disturbance of wetland adjacent areas for the development proposed at that time, which currently is considered as Alternative 2. However, given that there would be approximately 0.49 acre of disturbance within delineated wetland boundaries, it is likely that disturbance also would occur in the 100-foot-wide regulatory adjacent area around these wetlands; and, thereby, in order to be analogous to the current Proposed Action, the project plan for Alternative 2 would be expected to require additional mitigation that was not contemplated in the 2008 proposal to compensate for wetland adjacent area encroachment.

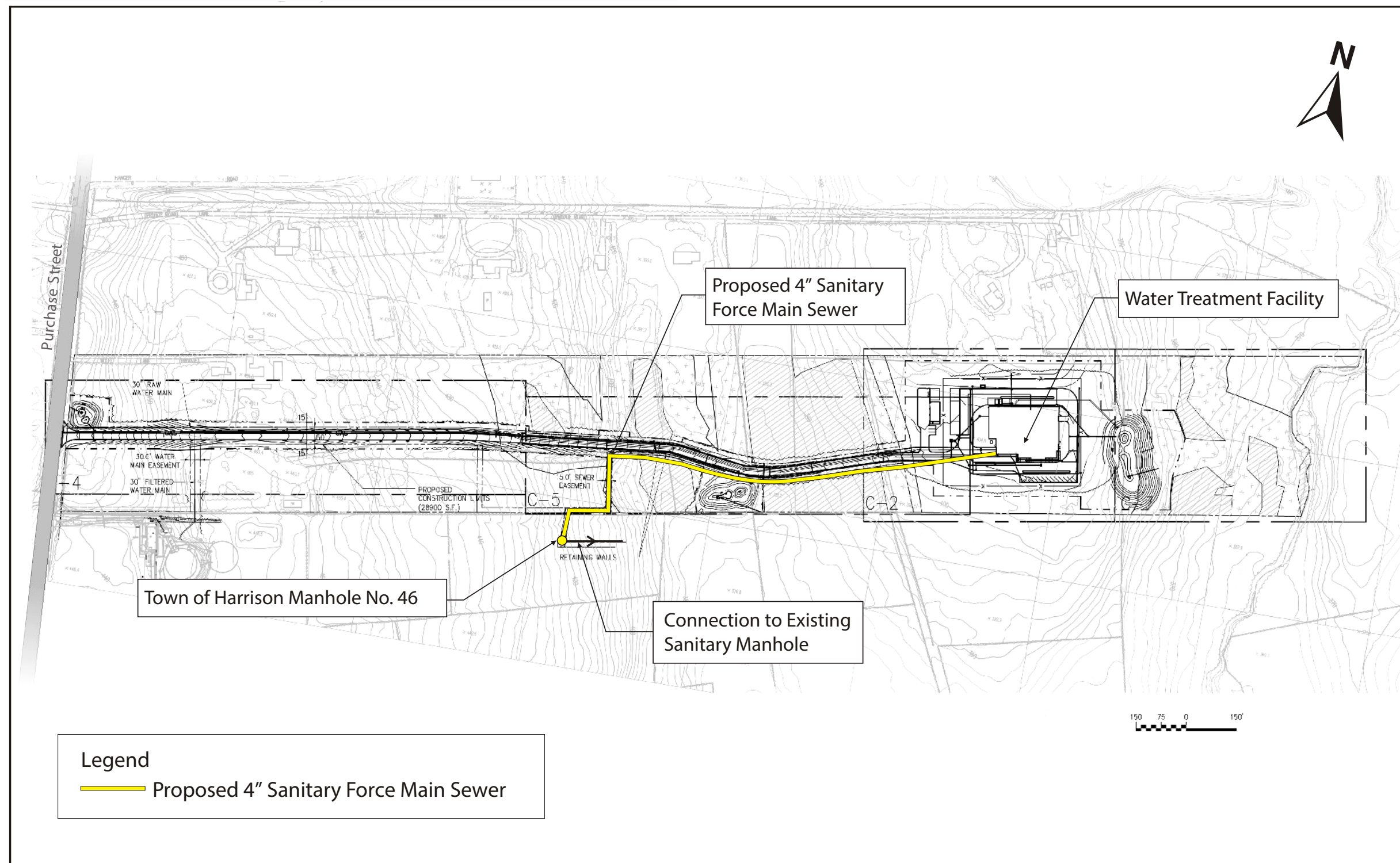


Stormwater/Utilities/Energy

- As per the development plan in the 2008 FEIS, Alternative 2 would result in approximately double the extent of impervious surfaces (at 4.6 acres, including the access roadway connection to Purchase Street), as compared to the 2.4 acres of impervious surfaces that would be constructed under the Proposed Action. Therefore, Alternative 2 would involve a significant increase in the volume of stormwater runoff generated. However, as with the Proposed Action, development under Alternative 2 would be required to provide on-site stormwater management in accordance with applicable regulations.
- Both Alternative 2 and the Proposed Action would involve the preparation and implementation of a SWPPP and associated Erosion and Sediment Control Plan to control stormwater during construction and to provide for long-term stormwater management during plant operation. However, because Alternative 2 would involve more than double the area of land disturbance in comparison to the Proposed Action, the potential for stormwater-related impacts during construction would be increased.
- Alternative 2 would require approximately the same amount of energy, water, and sewer demand as the Proposed Action.
- Alternative 2 would involve more extensive construction to provide the requisite utility connections than would be necessary for the Proposed Action, as the Exchange Parcel is not situated proximate to existing utility lines; whereas the proposed Project Site has more convenient connections to existing utilities due to its location with frontage on Purchase Street.
- There is currently a 20-inch potable water main that runs along the western side of the right-of-way of Purchase Street, and a 36-inch untreated water main that runs along the eastern side of the right-of-way. Under Alternative 2, as described in the 2008 FEIS, a 30-inch water main would be connected to the existing 36-inch raw water main in Purchase Street to bring Rye Lake raw water to the plant (**Figure 5-5, Alternative 2 Waterlines**). This 30-inch main would run along the proposed access road within the easement from Purchase Street. In addition, a second 30-inch water main would be installed parallel to the 30-inch raw water main to bring treated water from the facility to Purchase Street as shown on **Figure 5-5, Alternative 2, Waterlines**.³⁸
- Under an easement obtained by WJWW, Alternative 2 would connect to the local sewer system through a manhole located approximately 500 feet southwest of the proposed plant (**Figure 5-6, Alternative 2 Sewer Line**). From there, the wastewater would be conveyed by the Town/Village of Harrison sewer to the Westchester County sewer and onward to the Blind Brook Wastewater Treatment Plant.

³⁸ The current design for the Proposed Action involves the installation of a new 48-inch raw water main connecting to the filtration plant, which it is anticipated would also apply (instead of the 30-inch main specified in the 2008 FEIS) if Alternative 2 were actually to be constructed at this time.





- For construction and operation of the filtration plan under Alternative 2, an elevated power line would be installed above the access road to the proposed facility. This aboveground power line would go underground before connecting to the proposed facility. Similar to the Proposed Action, Con Edison can adequately supply electricity to the plant.
- Alternative 2 and the Proposed Action would be expected to place a similar, non-significant demand on wastewater treatment and electric utilities, and both would result in the same significant enhancement to the local potable water supply system.
- Alternative 2 would include similar green infrastructure measures (e.g., constructed wetlands and/or a bioretention area) and energy conservation as the Proposed Action because a similar filtration plant would be constructed on the Exchange Parcel.

Traffic

- As with the Proposed Action, Alternative 2 would require minimal staffing and would generate negligible traffic during plant operation. In both cases, traffic generation during construction would be temporary and would have minimal effect on roadway operations. Anticipated traffic impacts would be comparable to the Proposed Action

Vegetation and Wildlife

- The 2008 FEIS indicates that the ecological communities within the development area for construction of the proposed filtration plant on the Exchange Parcel are dominated by an Oak-Tulip Tree Forest, with smaller areas of various freshwater wetland communities. This contrasts with the Proposed Action Project Site, which contains a much higher proportion of invasive species and general disturbance and is dominated by the less ecologically valuable Successional Southern Hardwood Forest community (**Chapter 3-H, Vegetation and Wildlife** of this DEIS). This difference in existing ecological characteristics would magnify the impact that would result from the more extensive area of disturbance that would occur on under Alternative 2 as compared to the Proposed Action.
- The 2008 FEIS indicates that an estimated 642 trees would be removed under the development plan proposed at that time for the Exchange Parcel, which is approximately 11 percent greater than the estimated 579 trees to be removed under the Proposed Action on the Project Site. Additionally, tree removal for development of the Exchange Parcel under Alternative 2 would generally impact ecologically more valuable Oak-Tulip Tree Forest species than would occur with the Successional Southern Hardwood Forest species that characterize the Project Site under the Proposed Action. For both Alternative 2 and the Proposed Action, tree removal to accommodate the filtration plant would require a permit from the Town/Village of Harrison and would be required to comply with the Town/Village Tree Ordinance.
- The 2008 FEIS proposes landscaping and 0.67 acres of restoration of forested and wetland habitat on the Exchange Parcel. Landscaping details are primarily provided in terms of buffering and screening. However, it likely would be feasible to accommodate native species in Alternative 2 in a similar manner as would be provided under the Proposed Action, so as to render enhanced benefits for wildlife and minimize the use of fertilizer and other landscape treatments.

Archeological and Historical Resources

- As with the proposed Project Site, SHPO had concurred with a conclusion of no effect on historic or archaeological resources for the development of the filtration plant on the Exchange Parcel. In either case, site development would abide by New York State regulations governing potential future archaeological finds.

Hazardous Materials

- Under both Alternative 2 and the Proposed Action, soils excavated during construction would be retained and reused on-site to the degree practicable, with any excess soils requiring removal to be tested to ensure proper disposal and any unsuitable soils to be replaced with clean fill.
- As with the Project Site analyzed for the Proposed Action in this DEIS, a Phase I ESA was performed on May 28, 2021, and updated August 26, 2021 (**Appendix O, Environmental Site Assessment**). The report identified one recognized environmental condition which was that the Exchange Parcel is within the vicinity of the Westchester County Airport which has a documented history of groundwater contamination issues. In addition, a neighboring property (0.5 mile from the Exchange Parcel) has been documented as being subject to an active spill incident which is subject to NYSDEC oversight and monitoring. **Chapter 3-N, Public Health** of this DEIS provides information on the ESA undertaken for the Proposed Action and no environmental contaminants were found on-site that would necessitate remediation or abatement, or otherwise limit the use of the Project Site.
- As with the Proposed Action, Alternative 2 would also require that the storage of chemicals for the proposed water filtration plant comply with all applicable regulations, including spill prevention and secondary containment.

Noise/Air

- As with the Proposed Action, Alternative 2 would be required to comply with the requirements of the Town/Village of Harrison Noise Ordinance, including limitations on the hours of construction.
- As with the Proposed Action, operational noise under Alternative 2 would be minimal because the filtration building would be sealed. Under both development scenarios, exterior operations, including deliveries and waste removal, would occur periodically, would generally occur in areas away from any nearby sensitive receptors, would be in accordance with the Town/Village of Harrison noise ordinance, and otherwise would be conducted in a manner to minimize potential impacts on neighbors.
- As with the Proposed Action, Alternative 2 would not result in a significant increase in air emissions due to plant operations.

Construction

- As with the Proposed Action, Alternative 2 would include best management practices and other suitable measures to avoid or minimize construction-related impacts. However, because Alternative 2 would involve approximately double the area of disturbance in comparison to the Proposed Action, the potential for construction-related impacts would be increased.

Site Control

- WJWW currently owns the Exchange Parcel and has control of the site.

Site Access

The Exchange Property was purchased as part of a 40-acre parcel by WJWW in 1998 in anticipation of the potential future need for a water treatment plant. After purchasing the 40-acre parcel, WJWW determined that it only needed 13.4 acres and sold the rest to a private developer, while retaining an easement that runs east/west through the center of the western portion of the original parcel from Purchase Street. The 2008 FEIS proposed that this easement would be used for raw and filtered water transmission mains, an access road to the facility, and other water treatment facility utilities. The 2008 FEIS also examined three alternative routes to access the Exchange Parcel, besides the then-proposed westward connection to Purchase Street via the easement through the adjacent Sylvan subdivision property:

- A) eastward from the Exchange Parcel, onto the Airport property, and then southward to Lincoln Avenue
- B) northward from the Exchange Parcel to the internal roadway system at the Airport, then westward to Tower Road and continuing on Tower Road westward to Purchase Street
- C) westward from the Exchange Parcel and then northward to the internal roadway system at the Airport, then (following the same route at that point as Option B) westward to Tower Road and continuing on Tower Road westward to Purchase Street.

The 2008 FEIS determined that none of these three alternate access routes to the Exchange Parcel was viable, based on the following considerations:

- As indicated, all three alternate access routes would encroach onto Airport property, which would necessitate proprietary approval from Westchester County and the FAA. Specifically, Routes B and C would connect to the Airport's internal roadway system so that traffic can travel on Tower Road to Purchase Street; while Route A would enter Airport property to the south of its internal roadway system. Therefore, absent the County's concurrence, none of the alternate access routes are practical as they are simply not available for WJWW's use. With respect to Routes B and C, the County has stated that the non-airport use of Tower Road would be inconsistent with Tower Road's status as an airport "access road" under Federal Aviation Administration grant-making policies ³⁹and with the County's past and future reliance on FAA grant monies for the airport. In 2016, the County received funding from the FAA to rehabilitate Tower Road (**Appendix B, Legal Documentation**).
- All three alternate access routes would also traverse private property for which easements would be needed, separate from and in addition to the requisite County approval discussed above. WJWW does not currently have ownership interest in these private lands, across which the alternate access routes connecting to the Exchange Parcel would have to pass, further magnifying the impracticality of these development scenarios.
- Significant portions of Routes A and B would also traverse areas of wetlands and steep slopes. Route A would be particularly impactful, as it would involve the construction of a new roadway on vacant land, which would cross Blind Brook at the easterly end of the Exchange Parcel and then turn to the south to parallel this watercourse for about 1,500 feet in an area that includes steep slopes before intersecting with Lincoln Avenue.

³⁹ Table C-2 of the Airport Improvement Program Handbook www.faa.gov/airprts/aip/aip_handbook/?Chapter=Appendix#PC01

As indicated above, utilization of any of the three alternate access routes for the Exchange Parcel discussed in the 2008 FEIS would require WJWW to obtain property interest that does not currently exist from at least two separate entities (i.e., Westchester County and one or more private owners), with two of these routes (B and C) specifically precluded by governmental restriction and the third route (A) requiring extensive disturbance of areas with steep slopes and wetlands. In contrast, the means of the roadway connection proposed in the 2008 FEIS is already established via the existing easement to the west and WJWW already has the necessary ownership interest, thereby making this a reasonable and feasible alternative for the purposes of this DEIS, as analyzed above, notwithstanding that the previous SEQRA process for this proposal was unable to reach a conclusion, which prompted WJWW to pursue a different option under the current Proposed Action using an Airport parcel with access on Purchase Street.

To summarize, Alternative 2 is less protective of surface water and ecological resources than the Proposed Action, considering that this alternative would encroach into wetlands, would involve more than double the area of site disturbance, and would involve clearing of higher value ecological communities than would occur under the Proposed Action. While Alternative 2 would be located outside the Kensico Basin, the Proposed Action would comply with the stringent NYCDEP regulations promulgated and to protect the reservoir. Alternative 2 is also inferior to the Proposed Action in terms of zoning and land use setting. These advantages of the Proposed Action outweigh any benefits that may be associated with a decreased potential under Alternative 2 for impacts with respect to visual/aesthetic resources given the location of the Exchange Parcel away from publicly accessible viewing locations, particularly when considering the setbacks and other mitigation that are included in the Proposed Action to minimize the Project's visibility from Purchase Street.

III. ALTERNATIVE 3: ALTERNATIVE FILTRATION TECHNOLOGIES

Overview

At the time of the 2008 FEIS, Immersed Membrane Filtration (IMF) was the proposed technology, with the following four alternative technologies also being addressed in the FEIS:

- Dissolved Air Flotation (DAF)/Ozone/Filtration
- DAF/Filtration (DAFF)
- Ozone/Direct Filtration
- Pressurized Membrane Filtration

Subsequently, WJWW has undertaken a detailed, comparative analysis of IMF versus DAFF, and has decided that the latter technology should be used in the Proposed Action. Therefore, DAFF is analyzed as the Proposed Action in this DEIS, and the current list of alternate technologies examined herein is as follows:

- IMF – studied as the proposed action in the 2008 FEIS
- DAF/Ozone/Filtration – studied as an alternative in the 2008 FEIS
- Ozone/Direct Filtration – studied as an alternative in the 2008 FEIS
- Pressurized Membrane Filtration – studied as an alternative in the 2008 FEIS

Description of Alternatives

a) IMMERSSED MEMBRANE FILTRATION (IMF)

As noted previously, IMF was selected as the proposed technology at the time of the 2008 FEIS. The decision involved in selecting IMF at that time included a screening analysis of all five technologies (Rye Lake Water Treatment Plant, Process Evaluation Report, Hazen and Sawyer, Final Report, June

2001). This was followed by a pilot study conducted to confirm the performance of immersed membranes on Rye Lake water, and to obtain necessary design data (*Rye Lake Water Treatment Plant, Process Design Criteria Report*, Hazen and Sawyer, May 2004). The design criteria for an IMF plant were endorsed by the NYSDOH in June of 2004 and the final design documents were subsequently endorsed by NYSDOH and the Westchester County Department of Health.

With the decision to reactivate the filtration proposal to address the regulatory compliance issues pertaining to WJWW's Rye Lake water source, the potential availability of the Project Site at the Westchester County Airport, and the significant time since that application was unable to advance beyond the 2008 FEIS, the available filtration processes were re-evaluated. In the original IMF design, an additional/optional coagulation treatment step was included as part of the base membrane filtration design to promote organic carbon removal, if the organic carbon level reached a certain threshold. At the time of treatment selection in the early 2000s, the organic carbon levels were lower in the Rye Lake supply, and it was anticipated that the coagulation step might not be necessary under all conditions. Under current regulations and organic carbon levels, DAFF would consistently provide organics removal under all treatment conditions and has become the preferred option.

b) DISSOLVED AIR FLOTATION/OZONE/FILTRATION

The major components of this treatment process are rapid mix, flocculation, dissolved air flotation (DAF) clarification, intermediate ozonation, filtration, residuals handling (waste backwash water tanks, filter-to-waste tanks, and DAF floated solids tanks), chemical feed systems and finished water pumping. The treatment plant for this alternative would have a basement, first floor and upper floor.

c) OZONE/DIRECT FILTRATION

The major components of this treatment process are pre-ozonation, rapid mix, flocculation, filtration, residuals handling (waste backwash water tanks, filter-to-waste tanks, settler/ thickeners, solids disposal tanks), chemical feed systems and finished water pumping. The treatment plant for this alternative would have a basement, first floor and upper floor.

d) PRESSURIZED MEMBRANE FILTRATION

In this treatment process, raw water is pumped through self-cleaning strainers and into the membrane modules at approximately 30 pounds per square inch gauge. Hollow fiber membranes with a nominal pore size of less than 0.01 micrometers (μm) would operate with an inside-out dead-end mode. The hollow fiber membranes are housed within cartridges (modules) and the modules are mounted on racks that are contained within separate skids. The treatment plant for this alternative would have a basement with booster pumps, pump dry wells, finished water pumps and wetwell, waste transfer pumps, waste backwash tanks, solids disposal tanks, and spent chemical tanks. It would also have a ground floor for the main process equipment, settler/thickeners and chemicals.

SEQRA Analysis

The four alternative technologies and the currently proposed DAFF technology do not differ significantly from one another with respect to potential environmental impacts, as they would mostly entail interior equipment modifications inside a similar building shell. All five technology scenarios would involve a similar amount of site disturbance and excavation during construction and would have similar exterior activities and similar staffing needs during operation. The construction period would be similar, except that procurement for proprietary membranes is not as predictable as for non-proprietary granular media filtration. All technologies use similar chemicals for water treatment and would be governed by the same regulatory requirements, including spill prevention and secondary

containment. The currently proposed DAFF technology has an energy demand that compares favorably to regional water treatment facilities – 700 kilowatt-hours (kWh) per million gallons treated, versus greater than 800 kWh per million gallons treated – while treatment processes involving ozone and certain membrane technologies may have an increased energy demand⁴⁰. Costs among the five technologies are similar, except that Pressurized Membrane Filtration would involve higher operating costs.

On the basis of the foregoing, none of the available alternative technologies would result in a significant environmental benefit as compared to the Proposed Action using DAFF technology. Accordingly, there is no rationale under SEQRA to support the selection of one of the filtration technology alternatives over the proposed use of DAFF technology.

DAFF technology was selected due to its successful treatment in similar water supplies, compact footprint, ease and reliability of operations, and lower comparative construction and operations costs.

IV. ALTERNATIVE 4: ALTERNATIVE FAÇADE TREATMENT

Description of Alternative

As discussed in **Chapter 3-B, Community Character and Visual Impacts**, of this DEIS and illustrated in **Appendix D, Visual Impact Analysis**, the Proposed Action's facade has been designed with a high degree of sensitivity to the neighbors in the vicinity of the Project Site. More specifically, this design includes architectural features and treatments to enhance the building exterior's aesthetic appeal and help it blend in with its surroundings, thereby minimizing the resulting effect on visual resources and community character. The proposed design, subject to review and approval by the Town/Village of Harrison Architectural Board of Review, includes a stone masonry veneer base in a cut pattern to match the existing stone walls on the Project Site, ground-face concrete blocks, board-and-batten metal siding, ribbed metal roofing, aluminum windows, translucent exterior panels, glazed entries, and architectural louvers. In addition, landscaping is proposed that is strategically placed to provide additional mitigation to the visual impacts of the proposed filtration plant.

Implementation of the features identified above entails additional costs to WJWW as compared to a more standard industrial façade which would typically be applied to such utility uses and landscaping around the perimeter of the building. In order to place this aspect of the Proposed Action in the proper perspective, to assist in SEQRA decision-making, it is appropriate for this DEIS to evaluate the costs and benefits associated with the current proposal for superior architectural design in comparison to an alternative design that meets the basic functional requirements of the Proposed Action. Therefore, the Alternative Design – Alternative Façade Treatment development scenario entails a basic exterior appearance, reflective of the utility use of the plant, which includes metal siding without special façade treatments, minimal glazing, simple gable and/or flat roof, and basic louvers. This façade treatment alternative is evaluated below in reference to the proposed design in terms of both cost savings and effect on anticipated environmental impacts.

SEQRA Analysis

Alternative 4 would achieve WJWW's objectives for undertaking the Proposed Action and, therefore, is a reasonable and feasible option for WJWW. As this alternative would have the same dimensional characteristics, construction requirements, and operations as the Proposed Action, it would not differ with respect to any environmental parameters related to these parameters. Specifically, Alternative 4

⁴⁰ Hazen and Sawyer Rye Lake Water Filtration Plant Sustainability Memo dated January 13, 2022, in **Appendix P** of this DEIS

would be analogous to the Proposed Action with respect to all aspects already detailed in the DEIS with the exception of the following:

Community Character and Visual Impacts

- Under Alternative 4, the façade treatment would have a greater visual impact by having greater visibility due to the materials and colors that would be incorporated into the filtration plant. The Proposed Action takes into consideration the proposed filtration plant's surroundings and a specific color palette was chosen to blend into the background.
- Under Alternative 4, the fencing installed around the perimeter of the site would also have a more industrial appearance, to match the aesthetics of the façade treatment for the building. This would further detract from the aesthetic quality that has been incorporated into the Proposed Action to ensure that the Project blends into the surrounding community.
- Specific plant species were chosen to reduce the visual impact of the filtration plant. This includes strategic placement of the plants on the Project Site (**Chapter 3-B**). The additional strategic landscaping would not be provided under Alternative 4. Instead, a reduced planting plan would be implemented that would only provide for some landscaping, primarily areas of turf, around the perimeter of the building.

Fiscal and Economics

- While the economic and fiscal impacts would be the same as for the Proposed Action, there would be savings for WJWW because the additional landscaping and material upgrades identified for the Proposed Action. Additionally, it is expected that the solar panels included in the upscale design of the Proposed Action would be deleted from the design of Alternative 4, since this feature would add to the project cost without enhancing the functionality of the filtration plant. Overall, it is the Proposed Action would require an additional investment of funds compared to the more basic façade treatment, fencing, and landscaping of Alternative 4.

Vegetation and Wildlife

- Alternative 4 would be subject to the equivalent tree removal requirements, and the Town/Village of Harrison permitting requirements and compliance with the Town/Village Tree Ordinance.
- As compared to the Proposed Action, Alternative 4 would provide a scaled-back planting plan. Although native species would still be used in the bioretention and wetland areas to render enhanced benefits for wildlife and minimize the use of fertilizer and other landscape treatments, it is expected that Alternative 4 would mostly use turf to replace native species that have been identified for other planting areas under the Proposed Action.

The only substantive differences between Alternative 4 and the Proposed Action are in the more basic architectural design/treatment of the building exterior and perimeter fencing, a reduced planting plan, and elimination of the solar panels that has been incorporated into the current proposal. This would result in an estimated savings of three (3) to four (4) percent from the estimated \$108 million cost of the Proposed Action. However, WJWW has decided that the increased cost of the proposed design is worth the additional investment to provide for enhanced visual/aesthetic mitigation.

V. ALTERNATIVE 5: ALTERNATIVE ACCESS TO TOWER ROAD

Description of Alternative

This alternative involves a modified layout of the Project at its currently proposed location, to provide southward driveway connection to Tower Road, for the intended purpose of reducing potential impacts to neighboring uses that may be associated with the current proposal for direct vehicular access onto Purchase Street. All other aspects of the design of the filtration plant under Alternative 5 would be identical to the Proposed Action. The access driveway under this alternative would follow the course of an existing gravel roadway that is currently used by Airport personnel. The existing gravel roadway has a width varying between 11 and 17 feet. In order to provide for two-way traffic safety for fire, emergency and delivery vehicles to serve the proposed water filtration plant, the driveway would be widened to a uniform 26 feet, per the requirements of the Purchase Fire Department, thereby entailing disturbance outside the footprint of the existing gravel roadway. The new driveway also would be paved and would include stormwater drainage infrastructure. The disturbance for the reconfigured access driveway for this alternative would occur within existing mapped NYSDEC wetlands that are situated between the proposed filtration plant and Tower Road.

A conceptual design for the proposed plant at the Project Site with a driveway connection to Tower Road is presented in *Rye Lake Filtration Plant Basis of Design Report*, Hazen and Sawyer, May 22, 2020 (**Appendix Q, Alternatives**). However, the Project design was modified to the Proposed Action with access along the parcel's Purchase Street frontage in response to input from Westchester County indicating that a layout connecting to Tower Road was not approvable, as discussed below. **Figure 5-7, Alternative 5 Site Plan** displays the site plan for Alternative 5.

SEQRA Analysis

As discussed above in **Section B-II** with respect to alternative access routes connecting to the Exchange Parcel as variants of Alternative 2, the Airport Division in the Westchester County Department of Public Works has indicated unequivocally that access to the Airport's internal roadway system by traffic from non-Airport-related uses, such as the proposed water filtration plant, is expressly precluded by the conditions of FAA Airport Improvement Program funding which the County was a recipient of for rehabilitation to Tower Road in 2016. Thus, from the perspective of this basic threshold criterion, whereby the option of eliminating the proposed site driveway on Purchase Street via access connection to Tower Road would not be entertained by the controlling jurisdictional agency, Alternative 5 is not reasonable or viable and does not meet the objectives of this Project, thereby overriding any possible benefit that might be associated with this development scenario. However, beyond this critical shortcoming, Alternative 5 also would entail additional public costs (i.e., to construct an approximately 1,000-foot-long, 26-foot-wide driveway connection to Tower Road) and environmental impacts to the wetlands without rendering clear-cut benefits when compared to the Proposed Action, as detailed below, with information regarding Alternative 5 taken from the 2020 Basis of Design Report except where otherwise indicated.

Compliance with Administrative Order and Court Order

- Compliance with the USEPA Administrative Order and New York State Supreme Court Order would be achieved if Alternative 5 was implemented because the same filtration plant proposed in the Proposed Action would be built under Alternative 5.
- The public policy purpose and health benefit of providing filtration to WJWW's Rye Lake water supply that complies with the USEPA's Stage 2 Disinfectants and Disinfection Byproducts Rule would take place under Alternative 5.

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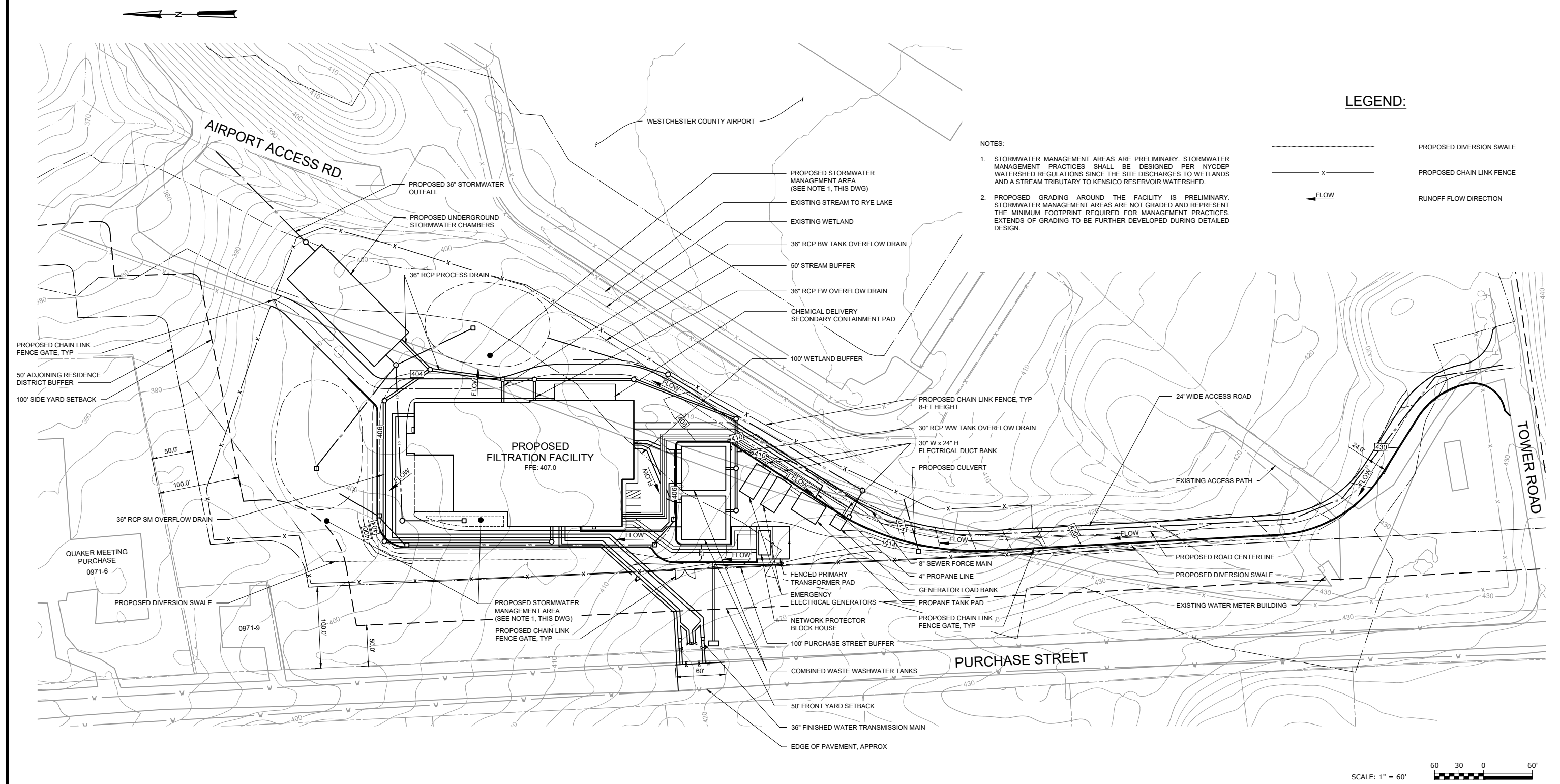


Figure 5-7: Alternative 5 Site Plan

Source: Hazen and Sawyer, 2020



**Westchester Joint
Water Works**

Land Use and Zoning

- Under Alternative 5, the proposed filtration plant would still be located on the Airport property and located in the Special Business District (SB-0), which is an appropriate location for the proposed filtration plant based on zoning. Both Alternative 5 and the Proposed Action would require only two minor variances, both of which are necessary for safety and security purposes: the installation of a ten (10) foot high fence around the building and placement of a gate at the facility entrance.
- Alternative 5 would place the proposed filtration plant at the same location but with a modified layout of the Project at its currently proposed location, to provide southward driveway connection to Tower Road. This would reduce potential impacts to neighboring uses that may be associated with the current proposal for direct vehicular access onto Purchase Street. Unlike the Proposed Action, the access would not be proximate to or visible from existing public roadways.
- Under both Alternative 5 and the Proposed Action, the Exchange Parcel would become part of the Airport property, and would not be planned for further action beyond wetland restoration and/or stormwater management, which would avoid cumulative impacts from the potential development of the two parcels.

Community Character and Visual Impacts

- Alternative 5 would reduce the visibility of the proposed filtration plant from Purchase Street by eliminating the driveway connection to that roadway to be provided under the Proposed Action. However, Purchase Street is an arterial roadway under State jurisdiction, and the potential visual impacts of the Proposed Action would be minimized to the degree practicable by providing a planted buffer along Purchase Street and foundation plantings along the west side of the building, and incorporating a stone wall into the design, along with a shaded, green natural entrance with a planted median, to be consistent with the character of the surrounding neighborhood.

Fiscal and Economics

- Alternative 5 would be expected to render similar economic benefits and fiscal impacts as the Proposed Action, because essentially the same plant would be constructed under both development scenarios.
- Alternative 5 would involve additional public expense for the reconfigured access driveway connecting to Tower Road, including the costs associated with engineering design, permitting (which is complicated because of freshwater wetland encroachment), construction, and possibly land acquisition.

Community Services

- Alternative 5 and the Proposed Action would be expected to result in a similar, non-significant demand on community services (i.e., police, fire and emergency/medical services, and solid waste management).

- As with the Proposed Action, Alternative 5 would comply with all applicable fire access and building codes and would be designed in accordance with input from the involved emergency response agencies.

Geology, Soils and Topography

- Alternative 5 and the Proposed Action would involve identical construction for the building, and the exterior facilities would have a similar layout. However, the overall disturbance area would be at least 0.55 acre greater under Alternative 5 due to the addition of an approximately 1,000-foot-long, 26-foot-wide paved driveway connection to Tower Road, plus any additional disturbance needed outside the driveway footprint for the installation of drainage infrastructure and grading that may be necessary to transition into the surrounding topography.
- Under both Alternative 5 and the Proposed Action, soils excavated during construction would be retained and reused on-site to the degree practicable, with any excess soils requiring removal to be tested to ensure proper disposal and any unsuitable soils to be replaced with clean fill.
- The Project Site under the Proposed Action is the same as the area to be developed for the proposed filtration plant under Alternative 5, which generally has a gently sloping topography, such that potential impacts with respect to erosion and sediment transport during construction and the generation of stormwater runoff during Project operation would be reduced in comparison to development that occurs on steep slopes. Based on site visits and review of available data from the Westchester County Geographical Information System (GIS) data, it appears that the re-routed driveway would not encroach into steep slope areas.

Wetlands and Floodplains

- Alternative 5 and the Proposed Action involve the construction of the water treatment plant on the same site located within the Kensico Reservoir drainage basin. However, Alternative 5 would result in more extensive land disturbance than would occur under the Proposed Action due to the access driveway connecting to Tower Road. Therefore, development under Alternative 5 would pose a slightly increased potential for impacts to local surface water resources than is the case for the Proposed Action.
- Alternative 5 and the Proposed Action would be expected to require equivalent amounts of dewatering during construction; and in both cases, this activity would be temporary, would be subject to NYSDEC and NYCDEP permits, and would be performed in conformance with the permit conditions established by these agencies.
- Both Alternative 5 and the Proposed Action would disturb wetland adjacent areas that would result from development of the proposed filtration plant and appurtenances. However, the relocated driveway for Alternative 5 would encroach into wetland areas (**Figure 5-8, Alternative 5 Wetlands**), indicating an increase in potential impact on surface water resources as compared to the Proposed Action. Wetland impacts would require compensatory mitigation in the form of restoring, creating, or enhancing wetlands as part of the site development plan of this alternative.

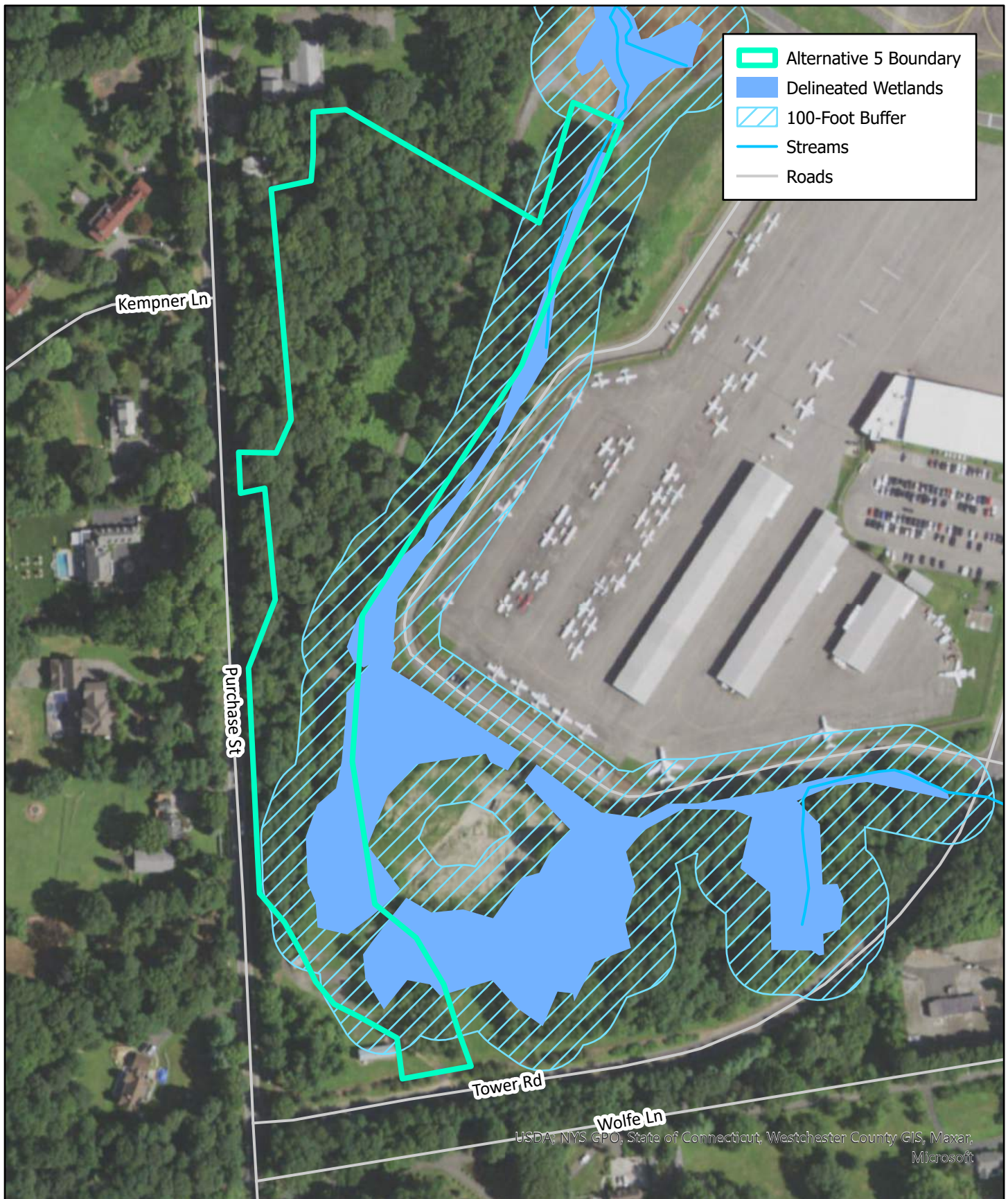


Figure 5-8: Alternative 5 Wetlands

Sources: Westchester County GIS 2020, Hazen and Sawyer 2021
Scale: 1 inch equals 225 feet



Westchester Joint
Water Works
Water Filtration Plant

Stormwater/Utilities/Energy

- Utility service for Alternative 5 and the Proposed Action would similarly be facilitated by the Project Site's convenient connections to existing infrastructure due to its location with frontage on Purchase Street. Both scenarios would be expected to place an equivalent, non-significant demand on wastewater treatment and electric utilities, and both would result in the same significant enhancement to the local potable water supply system.
- By increasing the extent of impervious surface area installed for the proposed filtration plant, due to the additional length of access roadway, Alternative 5 would slightly increase the volume of stormwater runoff generated and potential for stormwater-related impacts. As with the Proposed Action, development under Alternative 5 would be required to provide on-site stormwater management in accordance with applicable regulations.
- Both Alternative 5 and the Proposed Action would involve the preparation and implementation of a SWPPP and associated Erosion and Sediment Control Plan to control stormwater during construction and to provide for long-term stormwater management during plant operation.
- Both Alternative 5 and the Proposed Action would include green infrastructure measures (e.g., constructed wetlands and/or a bioretention area) and would be expected to provide the same degree of green building and energy-saving design.

Traffic

- Alternative 5 and the Proposed Action involve the construction of an equivalent water filtration plant requiring minimal staffing, which would result in negligible traffic generation during plant operation. In both cases, traffic generation during construction would be temporary and would have minimal effect on roadway operations.

Vegetation and Wildlife

- Alternative 5 involves the development of the same parcel as would be developed under the Proposed Action, which contains a relatively high degree of invasive species and general site disturbance and does not possess important ecological resources.
- The extended access driveway in Alternative 5 may result in a slightly greater number of trees removed than under the Proposed Action; although there may be some flexibility in the driveway routing to assist in minimizing the increased impact to trees. Under both development scenarios, tree removal to accommodate the filtration plant and ancillary elements (including the extended access driveway for Alternative 5) would require a permit from the Town/Village of Harrison and would be required to comply with the Town/Village Tree Ordinance.
- It is expected that the landscaping installed under Alternative 5 would include native species to a similar degree as would be provided under the Proposed Action, so as to provide enhanced benefits for wildlife and minimize the use of fertilizer and other landscape treatments.

Archeological and Historical Resources

- SHPO has concurred with a conclusion of no effect on historic or archaeological resources for development of the filtration plant on the Project Site for the Proposed Action. Supplemental analysis and consultation with SHPO would be required to evaluate the additional area of disturbance for the extended access driveway connecting to Tower Road that would be constructed under Alternative 5. In both cases, site development would abide by New York State regulations governing potential future archaeological finds.

Hazardous Materials

- A Phase I ESA for the Project Site under the Proposed Action did not reveal conditions requiring remediation. Supplemental analysis would be required to evaluate the additional area of disturbance for the access driveway connecting to Tower Road that would be constructed under Alternative 5.
- Alternative 5 and the Proposed Action have the same chemical storage requirements, which would comply with all applicable regulations, including spill prevention and secondary containment.

Noise/Air

- Operational noise would be minimal under both Alternative 5 and the Proposed Action, which involve the construction of an identical filtration plant within a sealed building.
- Alternative 5 and the Proposed Action would similarly not result in a significant increase in air emissions due to plant operations.
- Alternative 5 and the Proposed Action would similarly be required to comply with the requirements of the Town/Village of Harrison Noise Ordinance, including limitations on the hours of construction.

Construction

- Alternative 5 and the Proposed Action would both include best management practices and other suitable measures to avoid or minimize construction-related impacts. However, because Alternative 5 would involve an increased area of disturbance due to the extended driveway connecting to Tower Road, the potential for construction-related impacts would be increased.

Site Control

- Site control for development of the filtration plant would be the same as the Proposed Action, where an even land swap of the Project Site for the Exchange Parcel would take place between WJWW and Westchester County. However, Alternative 5 would also involve the need for WJWW to acquire additional interest in the land within the area of the reconfigured access driveway, which it is expected would be accomplished by easement agreement with the County.
- It is noted that a utility corridor serving the Airport runs along the north side of Tower Road, which would be intersected by Alternative 5's reconfigured access driveway. Therefore, in addition to the broader issue previously discussed concerning the prohibition on access to the Airport roadway system by non-Airport uses, the driveway connection to Tower Road

under Alternative 5 poses the potential for disruptions to the utilities for the Airport that may not be acceptable to the County.

Site Access

- Alternative 5 would connect the Project Site to Tower Road via an easement negotiated with Westchester County, thereby allowing some additional buffering between activities for the proposed plant and neighboring residential uses to the west, as compared to the Proposed Action with the site driveway connecting to Purchase Street. However, Purchase Street is a State roadway that is designed and intended for arterial traffic; and, as noted previously, a Tower Road driveway under Alternative 5 is not feasible, per input from Westchester County indicating that the necessary access easement would not be approvable.

To summarize, a modified access driveway for the Project Site connecting to Tower Road under Alternative 5, in lieu of the proposed driveway along the site's Purchase Street frontage, is not a reasonable or feasible alternative because the re-routed driveway would pass through land in which WJWW does not have ownership interest; and the current owner, Westchester County, has indicated that this land cannot be made available for such use because of federal funding restrictions; and this alternative also may interrupt the utility corridor along the north side of Tower Road which serves the Airport. Furthermore, even if Alternative 5 were practical, it would not render significant environmental benefits or mitigative enhancements in comparison to the Proposed Action, particularly considering the increased potential for impacts associated with the expanded area of site disturbance and impervious surface coverage that would result from the re-routed access driveway.

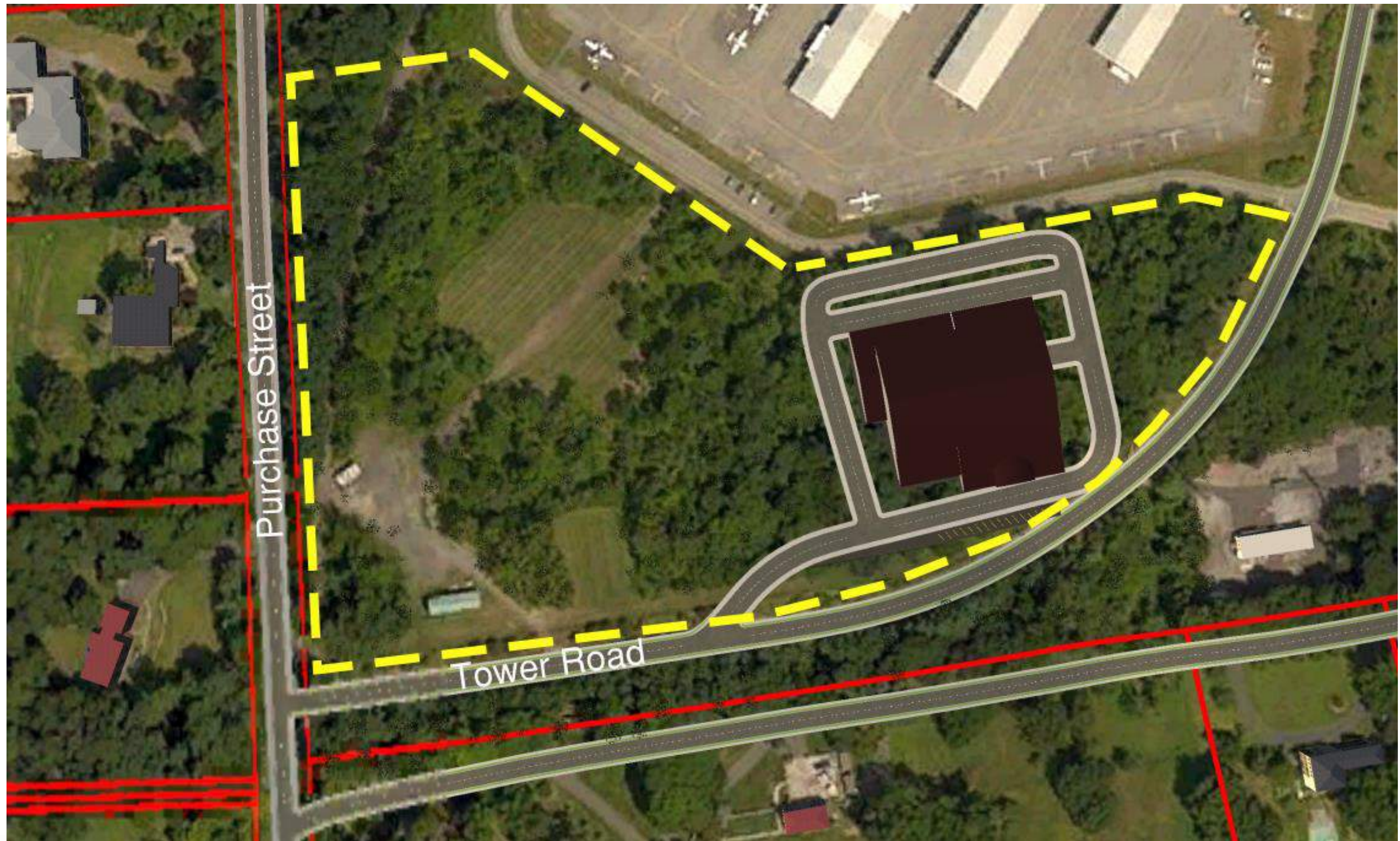
VI. ALTERNATIVE 6: ALTERNATIVE SITE ON TOWER ROAD

This alternative involves relocating the proposed plant onto a parcel to the south, fronting on Tower Road (Tower Road Site). Alternative 6 is intended to serve the same purpose as Alternative 5 in reducing potential impacts to neighboring uses that may be associated with the current proposal for vehicular access directly onto Purchase Street. The general design of the filtration plant and its accessory improvements under Alternative 6 would be similar to the Proposed Action.

A conceptual design (**Figure 5-9, Alternative 6, Conceptual Site Plan**) for the placement of the proposed filtration plant on the Tower Road Site is presented in *Rye Lake Filtration Plant Tower Road Site Viability Report*, Hazen and Sawyer, March 29, 2019 (**Appendix Q, Alternatives**). However, as with Alternative 5 (**Section B-V**), in response to input from Westchester County indicating that any layout with access to Tower Road was not approvable, this design was abandoned and replaced with the current proposal for the Project Site on an Airport parcel having a driveway access at Purchase Street.

SEQRA Analysis

As discussed above, Alternative 6 suffers from the same critical shortcoming that pertains to Alternative 5, in that the property owner, Westchester County, is precluded by the conditions of FAA Airport Improvement Program funding which the County was a recipient of for rehabilitation to Tower Road in 2016. Therefore, like Alternative 5, Alternative 6 is not reasonable or viable, overriding any possible benefit that might be associated with this development scenario. Additionally, akin to Alternative 5, Alternative 6 also would not provide clear-cut benefits when compared to the Proposed Action, as detailed below, with information regarding Alternative 6 taken from the 2019 Tower Road Site Viability Report except where otherwise indicated.



Compliance with Administrative Order and Court Order

- Compliance with the USEPA Administrative Order and New York State Supreme Court Order would be achieved if Alternative 6 was implemented because the same filtration plant proposed in the Proposed Action would be built under Alternative 6.
- The public policy purpose and health benefit of providing filtration to WJWW's Rye Lake water supply that complies with the USEPA's Stage 2 Disinfectants and Disinfection Byproducts Rule would take place under Alternative 6.

Land Use and Zoning

- Alternative 6 and the Proposed Action involve different parcels of the same size on the Airport property, both located in the Special Business District (SB-0), which is an appropriate location for the filtration plant based on zoning.
- Under both Alternative 6 and the Proposed Action, the Exchange Parcel would become part of the Airport property, and would not be planned for further action beyond wetland restoration and/or stormwater management, which would avoid cumulative impacts from the potential development of the two parcels.

Community Character and Visual Impacts

- Alternative 6 would reduce the visibility of the proposed filtration plant from Purchase Street. However, Purchase Street is an arterial roadway under State jurisdiction, and the potential visual impacts of the Proposed Action would be minimized to the degree practicable by providing a planted buffer along Purchase Street and foundation plantings along the west side of the building, and incorporating a stone wall into the design, along with a shaded, green natural entrance with a planted median, to be consistent with the character of the surrounding neighborhood.

Fiscal and Economics

- Alternative 6 would be expected to render similar economic benefits and fiscal impacts as the Proposed Action, because essentially the same plant would be constructed under both development scenarios.

Community Services

- Alternative 6 and the Proposed Action would be expected to result in a similar, non-significant demand on community services (i.e., police, fire and emergency/medical services, and solid waste management).
- As with the Proposed Action, Alternative 6 would comply with all applicable fire access and building codes and would be designed in accordance with input from the involved emergency response agencies.

Geology, Soils and Topography

- Alternative 6 and the Proposed Action would be expected to involve essentially the same development layout and similar disturbance area.
- Under both Alternative 6 and the Proposed Action, soils excavated during construction would be retained and reused on-site to the degree practicable, with any excess soils requiring

removal to be tested to ensure proper disposal and any unsuitable soils to be replaced with clean fill.

- Similar to the Project Site under the Proposed Action, the Tower Road Site in Alternative 6 generally has a gently sloping topography, which would reduce potential impacts with respect to erosion and sediment transport during construction and the generation of stormwater runoff during Project operation, as compared to development that occurs on steep slopes.

Wetlands and Floodplains

- Alternative 6 and the Proposed Action involve the construction of the water treatment plant on a site located within the Kensico Reservoir drainage basin. The Tower Road Site in Alternative 6 site is located about 2,000 feet from Rye Lake, as compared to a separation distance of about 800 feet for the Project Site in the Proposed Action.
- The 2019 Tower Road Site Viability Report does not contain details regarding the anticipated extent of site disturbance under that development scenario; and the report notes that the site contains wetlands, with further analysis being required to determine the degree to which the proposed plant would impact wetlands and associated buffers. Westchester County GIS data analysis of the Tower Road Site indicates that approximately 34 percent of its area comprises freshwater wetlands, as compared to about ten (10) percent of the area of the Project Site under the Proposed Action (**Figure 5-10, Alternatives 6, Wetlands**). Therefore, it is likely that development under Alternative 6 would pose a greater potential for impacts to wetlands and local surface water resources than is the case for the Proposed Action. Additional wetland analyses and investigations would be needed for Alternative 6.

Stormwater/Utilities/Energy

- As with the Proposed Action, utility service for Alternative 6 would likely be facilitated by convenient connections to nearby existing infrastructure. Based on the proposed location of the filtration plant under Alternative 6, the installation of water and sewer utilities would require longer routes than the Proposed Action. Both scenarios would be expected to place an equivalent, non-significant demand on wastewater treatment and electric utilities, and both would result in the same significant enhancement to the local potable water supply system.
- Alternative 6 and the Proposed Action would be expected to have a similar extent of impervious surface areas and resulting stormwater volume. Both development scenarios would be required to provide on-site stormwater management in accordance with applicable regulations.
- Both Alternative 6 and the Proposed Action would involve the preparation and implementation of a SWPPP and associated Erosion and Sediment Control Plan to control stormwater during construction and to provide for long-term stormwater management during plant operation.
- Alternative 6 and the Proposed Action would be expected to provide the same degree of green building and energy-saving design and it can be expected that Alternative 6 would be able to include green infrastructure measures (e.g., constructed wetlands and/or a bioretention area).

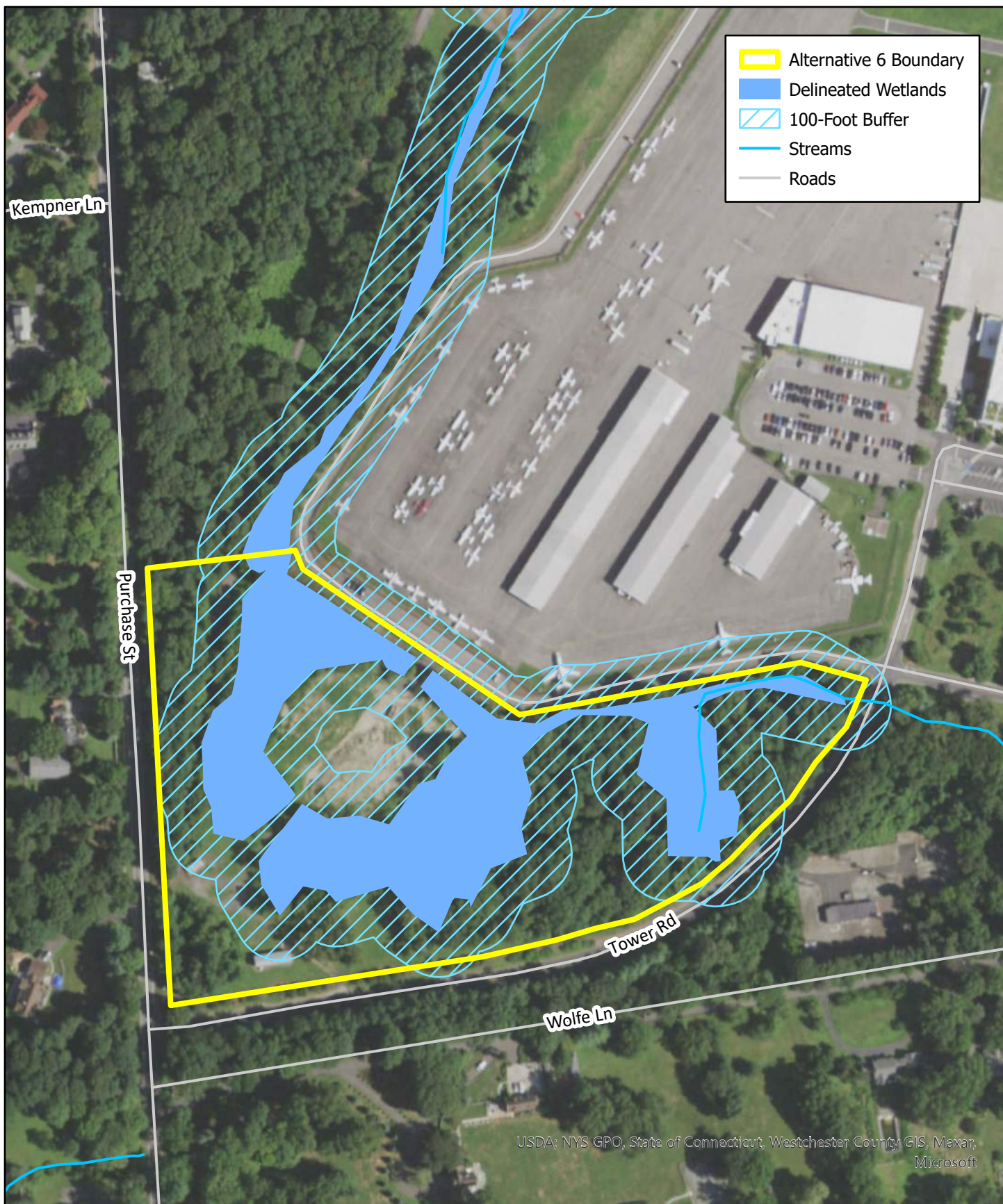


Figure 5-10: Alternative 6, Wetlands

Sources: Westchester County GIS 2020, Hazen and Sawyer 2021
Scale: 1 inch equals 225 feet



Westchester Joint
Water Works
Water Filtration Plant

Traffic

- Alternative 6 and the Proposed Action involve the construction of an equivalent water filtration plant requiring minimal staffing, which would result in negligible traffic generation during plant operation. In both cases, traffic generation during construction would be temporary and would have minimal effect on roadway operations.

Vegetation and Wildlife

- The 2019 Tower Road Site Viability Report does not characterize the ecological resources present on the Tower Road Site or the degree to which these resources would be impacted by development under Alternative 6, which would require a site-specific assessment. In any case, it is noted that the Proposed Action involves the development of a parcel containing a relatively high degree of invasive species and general site disturbance, which does not possess important ecological resources, such that it is not likely that implementation of Alternative 6 would significantly enhance the protection of ecological resources in comparison to the Proposed Action.
- The development area for Alternative 6, as delineated in the 2019 Tower Road Site Viability Report, appears in recent aerial photographs to be occupied primarily with tree cover, the removal of which would require a permit from the Town/Village of Harrison and compliance with the requirements of the Town/Village Tree Ordinance, as is the case for the Project Site under the Proposed Action. Therefore, even if Alternative 6 were feasible, it does not appear that it would result in a significant benefit over the Proposed Action with respect to the protection of trees.
- It is expected that the landscaping installed under Alternative 6 would include native species to a similar degree as would be provided under the Proposed Action, so as to provide enhanced benefits for wildlife and minimize the use of fertilizer and other landscape treatments.

Archeological and Historical Resources

- The 2019 Tower Road Site Viability Report does not evaluate cultural resources on the Tower Road Site or the degree to which these resources would be impacted by the development of this site with the proposed filtration plant under Alternative 6, which would require a site-specific assessment. In any case, it is noted that SHPO has concurred with a conclusion of no effect on historic or archaeological resources for development of the filtration plant on the Project Site for the Proposed Action, such that implementation of Alternative 6 would not enhance the protection of cultural resources in comparison to the Proposed Action. In both cases, site development would abide by New York State regulations governing potential future archaeological finds.

Hazardous Materials

- A Phase I ESA has been completed in connection with the analysis of the proposed Project, which did not reveal conditions requiring remediation. A similar site-specific assessment for the parcel that would be developed under Alternative 6 would be needed to demonstrate that remediation is not required in this area or to identify any cleanup actions necessary to achieve a clean site.

- Alternative 6 and the Proposed Action have the same chemical storage requirements, which would comply with all applicable regulations, including spill prevention and secondary containment.

Noise/Air

- Alternative 6 and the Proposed Action would similarly be required to comply with the requirements of the Town/Village of Harrison Noise Ordinance, including limitations on the hours of construction.
- Operational noise would be minimal under both Alternative 6 and the Proposed Action, which involve the construction of an identical filtration plant within a sealed building.
- Alternative 6 and the Proposed Action would similarly not result in a significant increase in air emissions due to plant operations.

Construction

- Alternative 6 and the Proposed Action would both include best management practices and other suitable measures to avoid or minimize construction-related impacts and construction impacts would be comparable to the Proposed Action.

Site Control

- Alternative 6 would also require an even land swap of the Tower Road Site for the Exchange Parcel to take place between WJWW and Westchester County. However, the Tower Road Site has not been offered by Westchester County. In addition, this parcel would have an intractable issue related to the inability to use Tower Road for access, in a similar manner as pertains to Alternative 5 (discussed above) and would also pose the potential for disrupting the Airport's utility corridor on the north side of Tower Road adjacent to the parcel.

Site Access

- Under Alternative 6, the Tower Road Site would have its access driveway on that roadway, within the Airport property, which would create some separation between the proposed water filtration plant and neighboring residential uses to the west, as compared to the Proposed Action with the site and its driveway fronting on Purchase Street. However, Purchase Street is a State roadway which is designed and intended for arterial traffic; and, as noted previously, use of the Tower Road Site under Alternative 6 is not feasible, per input from Westchester County indicating that the proposed use would not be approvable at this location.

To summarize, Alternative 6 would increase Project-related impacts on wetlands. In addition, the use of the Tower Road Site in Alternative 6 for access to the proposed filtration plant is not a reasonable or feasible alternative because WJWW does not have an ownership interest in this land; and the current owner, Westchester County, has indicated that this land cannot be made available for such use because of federal funding restrictions prohibit the use of Tower Road as an access road; and this alternative development scenario would also potentially impact the Airport's utility easement along the North side of Tower Road. Furthermore, even if Alternative 6 were practical, it would not render significant environmental benefits or mitigative enhancements in comparison to the Proposed Action.

VII. ALTERNATIVE 7: ALTERNATIVE SITE AT RYE LAKE PUMP STATION

This alternative involves siting the proposed filtration plant on a parcel owned by the NYCDEP, for which WJWW has a Land Use Permit for the Rye Lake Pump Station and other existing public water service facilities, located at 900 Lake Street on the west side of Interstate 684 (**Figure 5-1, Alternative Sites**). This parcel (Pump Station Parcel) comprises a portion of the overall NYCDEP-owned property fronting on Rye Lake, which forms a peninsula that extends into the southern end of the lake. The approximately 3.36-acre Pump Station Parcel currently contains three main buildings, which pump water from Rye Lake and provide chemical and UV treatment, as well as ancillary facilities such as electrical equipment and emergency backup generators.

Alternative 7 would add a fourth main building and appurtenances (including another emergency backup generator) to the Pump Station Parcel. The Rye Lake Pump Station Parcel is a highly constrained site by various factors, including its small size, configuration, location, environmental setting, and degree of existing development. Much of the area on this parcel contains existing WJWW development, which would not allow sufficient space for the addition of a filtration building. Furthermore, because of its frontage on Rye Lake on three sides, the Pump Station Parcel is largely located within the 100-foot freshwater wetland adjacent area extending landward from the lake shoreline.

SEQRA Analysis

The Pump Station Parcel may be considered potentially available for the proposed filtration plant under Alternative 7 in the sense that WJWW has certain interest in the form of a Land Use Permit from the current owner, the NYCDEP. Therefore, Alternative 7 avoids the critical shortcoming that pertains to Alternatives 5 and 6, which are in Westchester County ownership and are not available for use by WJWW. However, as discussed above, the Pump Station Parcel is highly constrained by various factors, including its small size, configuration, location, environmental setting, and degree of existing development. In particular, much of the area on the approximately 3.36-acre Pump Station Parcel contains existing WJWW development, including the three main buildings and associated pavement. Furthermore, because of its frontage on Rye Lake on three sides, the Pump Station Parcel is largely located within the 100-foot freshwater wetland buffer extending landward from the lake shoreline. Analysis performed for the application process for the recently completed UV treatment plant on the Pump Station Parcel indicates that the area on the site outside the wetland buffer is approximately equivalent to the 37,360-square foot footprint for the proposed filtration building, without accounting for the ancillary improvements that are needed to support the proposed plant; and this area is already largely occupied by the chlorine treatment building, its surrounding pavement and the driveway connection to the pump house building.

Given the constraints identified above, there is no realistic probability that a viable development plan can be formulated under Alternative 7 to site the proposed filtration plant on the Pump Station Parcel. Furthermore, NYCDEP has indicated on a video call in July of 2021 that this alternative is not approvable, as it is located too close to the water supply. While WJWW has constructed facilities in the past on this peninsula with NYCDEP approval, the depth and spatial extent of construction that is necessary for the proposed filtration plant is greater than the existing improvements and would not be permitted. Therefore, potential use of the Pump Station Parcel for the proposed Project does not satisfy the basic threshold under SEQRA to establish that this is a reasonable and feasible alternative to the Proposed Action; and unlike the problem with ownership and availability which disqualifies Alternatives 5 and 6, the conditions which make Alternative 7 infeasible are associated with a much greater degree of potential environmental impact when compared to the Proposed Action, as discussed below.

Compliance with Administrative Order and Court Order

- Compliance with the USEPA Administrative Order and New York State Supreme Court Order would be achieved if Alternative 7 was implemented because the same filtration plant proposed in the Proposed Action would be built under Alternative 7.
- The public policy purpose and health benefit of providing filtration to WJWW's Rye Lake water supply that complies with the USEPA's Stage 2 Disinfectants and Disinfection Byproducts Rule would take place under Alternative 7.

Land Use and Zoning

- Alternative 7 involves the Pump Station Parcel in the R-1 One-Family Residence District, which is less appropriate than the Special Business District (SB-0) zoning of the Project Site under the Proposed Action.
- If the Pump Station Parcel were a feasible location for the proposed water filtration plant, it would be considered to have an appropriate land use setting, being isolated from residential uses, with its location between Interstate 684 and Rye Lake. Similarly, the proposed Project Site is located in an appropriate land use setting for the Proposed Action, as it adjoins Westchester County Airport to the east and south, with Purchase Street to the west separating the site from residences in that direction; and setbacks and screening within the project site are proposed to provide separation from the residence and house of worship to the north.
- Under Alternative 7 the fate of the Exchange Parcel would become uncertain, which would pose the potential for cumulative impacts from the development of the parcel. In contrast, under the Proposed Action, the Exchange Parcel would become part of the Airport property, and would not be planned for further action beyond wetland restoration and/or stormwater management.

Community Character and Visual Impacts

- The potential visibility of additional development on the Pump Station Parcel in views from Interstate 684 would likely be similar to the visibility of such development on the proposed Project Site in views from Purchase Street. Potential impacts of the Proposed Action would be minimized to the degree practicable by providing a planted buffer along Purchase Street and foundation plantings along the west side of the building, and incorporating a stone wall into the design, along with a shaded, green natural entrance with a planted median, to be consistent with the character of the surrounding neighborhood. Similar mitigation likely could be provided at the Pump Station Parcel if needed; however, as discussed above, the proposed filtration plant cannot practically be accommodated within the spatial constraints of the Pump Station Parcel.

Fiscal and Economics

- Alternative 7 would be expected to render similar economic benefits and fiscal impacts as the Proposed Action, because essentially the same plant would be constructed under both development scenarios.

Community Services

- Alternative 7 and the Proposed Action would be expected to result in a similar, non-significant demand on community services (i.e., police, fire and emergency/medical services, and solid waste management).
- As with the Proposed Action, Alternative 7 would comply with all applicable fire access and building codes and would be designed in accordance with input from the involved emergency response agencies.

Geology, Soils and Topography

- Alternative 7 and the Proposed Action would be expected to involve essentially the same development layout and similar disturbance area. It is assumed that the general design of the filtration plant and its accessory improvements under Alternative 7 would be similar to the proposed Project: i.e., approximately 37,360 square feet of building footprint, with approximately 2.4 acres of impervious surfaces and approximately six (6) acres of total site disturbance. This amount of new development cannot be accommodated within the approximately 3.36-acre Pump Station Parcel, which currently contains three main buildings.
- Under the Proposed Action, soils excavated during construction would be retained and reused on-site to the degree practicable, with any excess soils requiring removal to be tested to ensure proper disposal and any unsuitable soils to be replaced with clean fill. It is anticipated that Alternative 7 would undertake the same approach. Therefore, even if Alternative 7 were feasible, it would not result in a significant benefit over the Proposed Action with respect to soil management.
- Similar to the Project Site under the Proposed Action, the Pump Station Parcel for Alternative 7 generally has a gently sloping topography, which would reduce potential impacts with respect to erosion and sediment transport during construction and the generation of stormwater runoff during Project operation, as compared to development on a similarly situated parcel that contains on steep slopes.
- Groundwater lies at a shallow depth at the Pump Station Parcel, due to the low land surface elevation relative to the water level in Rye Lake. The investigations conducted for WJWW's recently completed UV treatment plant indicate a depth to groundwater of approximately seven feet on this site, whereas the maximum depth of excavation for the proposed filtration plant (to accommodate the washwater tanks) would be 35 feet; this indicates that intensive dewatering would be needed under Alternative 7, far exceeding the magnitude of dewatering expected for the Proposed Action. Furthermore, disposal of dewatering effluent would pose a much greater potential for surface water impacts under Alternative 7, due to the adjacency of Rye Lake, whereas the Project Site for the Proposed Action is located approximately 800 feet from Rye Lake.

Wetlands and Floodplains

- If Alternative 7 were feasible, it would be expected to have a similar extent of impervious surface areas and resulting stormwater volume as would occur under the Proposed Action. However, due to the adjacency of the Pump Station Parcel to Rye Lake, this development scenario would pose a much greater potential for impacting surface water quality than pertains to the Proposed Action on the Project Site located at a distance of approximately 800 feet from Rye Lake, even with on-site stormwater management in accordance with

applicable regulations and a SWPPP (and associated Erosion and Sediment Control Plan) which would be implemented under both development scenarios.

- As noted above, development under Alternative 7 would place the proposed filtration plant at a site that fronts on Rye Lake, which is part of the Kensico Reservoir system, whereas the Proposed Action would place this plant at a distance of approximately 800 feet from the lake. Thus, even if development under Alternative 7 were feasible, it would pose a much greater potential for impacting the Kensico Reservoir water supply system than pertains to use of the Project Site for the Proposed Action.

Stormwater/Utilities/Energy

- If Alternative 7 were feasible, it would be expected to have a similar extent of impervious surface areas and resulting stormwater volume as would occur under the Proposed Action. A SWPPP (and associated Erosion and Sediment Control Plan) would be implemented under Alternative 7, but the site constraints would preclude the requisite stormwater management controls under this development scenario. In contrast, the Proposed Action Project Site can accommodate all required stormwater management practices.
- The Project Site to be developed under the Proposed Action has convenient connections to nearby existing infrastructure, would not be expected to place a significant demand on wastewater treatment and electric utilities and would result in a significant enhancement to the local potable water supply system. Therefore, even if Alternative 7 were feasible, it would not result in a significant benefit over the Proposed Action with respect to utilities.
- The Proposed Action includes green infrastructure measures (e.g., constructed wetlands and/or a bioretention area), which would occupy the ample area on the Project Site situated outside the development footprint for the water filtration plant. Therefore, even if Alternative 7 were feasible, the spatial constraints of the Pump Station Parcel would not be able to accommodate any new development beyond the filtration building and driveway, and these spatial constraints combined with the shallow depth to groundwater at this site would likely preclude the provision of adequate capacity for a standard stormwater management system, and certainly would preclude the provision of green infrastructure at this location that is equivalent to the Proposed Action.
- The Proposed Action includes green building and energy-saving design. Therefore, even if Alternative 7 were feasible and included such measures, it would not result in a significant benefit over the Proposed Action with respect to energy conservation and greenhouse gas emissions.

Traffic

- Operation of the proposed filtration plant would require minimal staffing and generate negligible traffic during operation; and traffic generated during construction would have a minimal, temporary effect on roadway operations. Therefore, even if Alternative 7 were feasible, it would not result in a significant benefit over the Proposed Action with respect to traffic impacts.

Vegetation and Wildlife

- The Proposed Action involves the development of a parcel containing a relatively high degree of invasive species and general site disturbance, which does not possess important ecological

resources. Therefore, even if Alternative 7 were feasible, the location of the Pump Station Parcel on the shoreline of Rye Lake, and the presence of extensive wetland buffers on this site, indicate that implementation of this alternative would pose an increased potential for impacting ecological resources in comparison to the Proposed Action (**Figure 5-11, Alternative 7, Wetlands**).

- The currently undeveloped areas of the Pump Station Parcel appear in recent aerial photographs (**Figure 5-12, Alternative 7, Aerial**) to be occupied primarily with tree cover, the removal of which would require a permit from the Town/Village of Harrison and compliance with the requirements of the Town/Village Tree Ordinance, as is the case for the Project Site under the Proposed Action. Therefore, even if Alternative 7 were feasible, it does not appear that it would result in a significant benefit over the Proposed Action with respect to the protection of trees.
- Even if Alternative 7 were feasible, the spatial constraints of the Pump Station Parcel would limit the opportunity for the use of native landscaping species in green infrastructure (e.g., constructed wetlands and/or a bioretention area) outside of impervious surface areas needed for the proposed plant, with a commensurate decrease in wildlife benefits, as compared to the Proposed Action.

Archeological and Historical Resources

- Investigation performed for the application process for the recently completed UV treatment plant indicates that the Pump Station Parcel received SHPO concurrence with a conclusion of no effect on historic or archaeological resources, as has occurred for the Project Site under the Proposed Action; and in both cases, site development would abide by New York State regulations governing potential future archaeological finds. Therefore, even if Alternative 7 were feasible, it would not result in a significant benefit over the Proposed Action with respect to the protection of cultural resources.

Hazardous Materials

- A Phase I ESA for the proposed Project Site did not reveal conditions requiring remediation. Similar investigations would need to be conducted for Alternative 7. Chemical storage for the proposed Project would comply with all applicable regulations, including spill prevention and secondary containment. Based on these considerations, even if Alternative 7 were feasible, it would not result in a significant benefit over the Proposed Action with respect to public health and safety.

Noise/Air

- The Proposed Action would be required to comply with the requirements of the Town/Village of Harrison Noise Ordinance, including limitations on the hours of construction. Furthermore, operational noise would be minimal because the filtration building would be sealed, and exterior operations would be intermittent and primarily would occur at the rear of the building. Therefore, even if Alternative 7 were feasible, it would not result in a significant benefit over the Proposed Action with respect to noise.
- The Proposed Action would not result in a significant increase in air emissions due to plant operations. Therefore, even if Alternative 7 were feasible, it would not result in a significant benefit over the Proposed Action with respect to air quality.

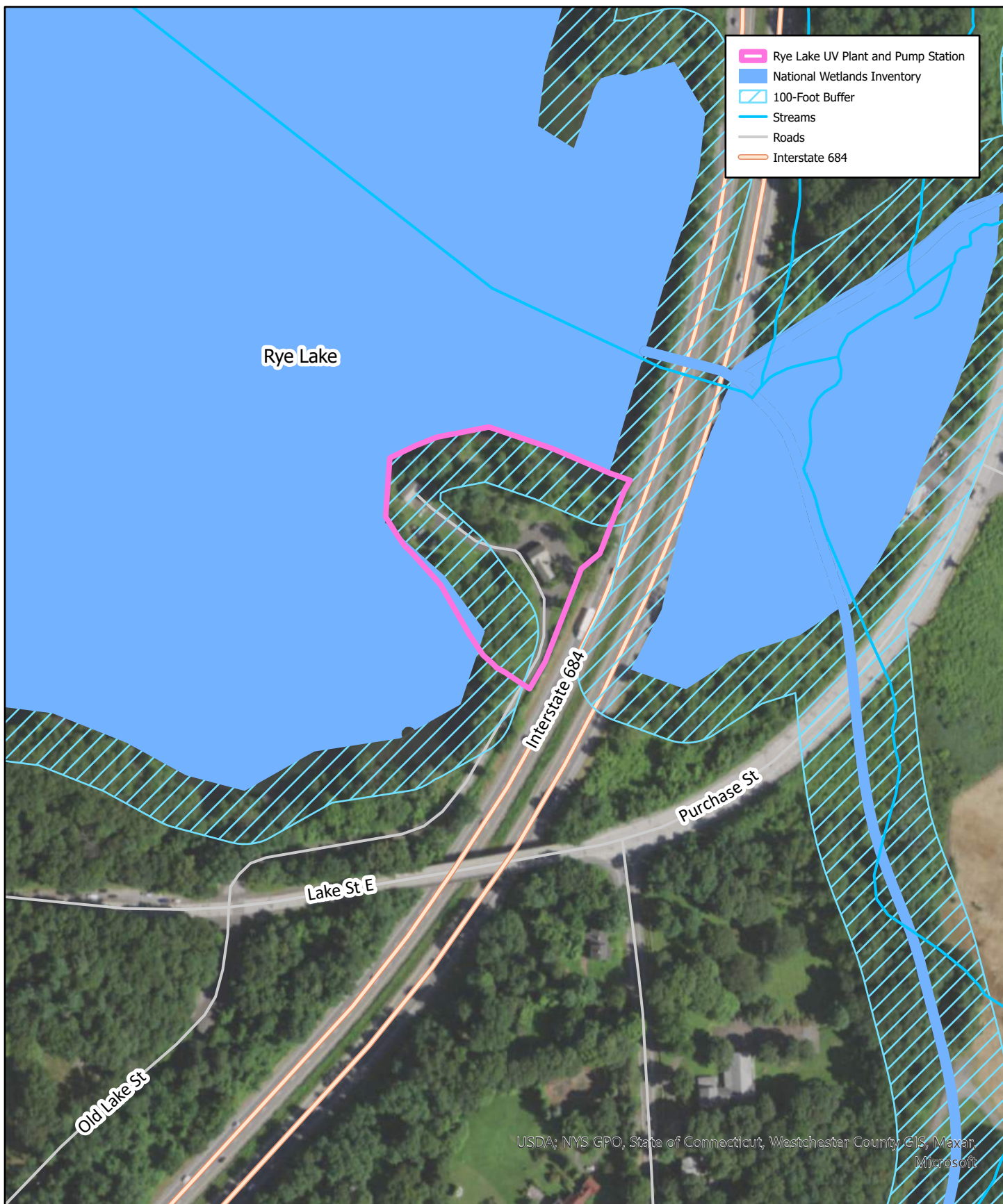


Figure 5-11: Alternative 7, Wetlands

Sources: Westchester County GIS, 2020
Scale: 1 inch equals 250 feet



Westchester Joint
Water Works
Water Filtration Plant



Figure 5-12: Alternative 7, Aerial

Sources: Westchester County GIS, 2020
Scale: 1 inch equals 235 feet



**Westchester Joint
Water Works
Water Filtration Plant**

Construction

- The Proposed Action would include best management practices and other suitable measures to avoid or minimize construction-related impacts to the degree practicable. Therefore, even if Alternative 7 were feasible, it would not result in a significant benefit over the Proposed Action with respect to potential construction impacts.

Site Control

- The Pump Station Parcel is owned by the NYCDEP; however, WJWW has a Land Use Permit for the existing facilities on the site, including the pump station and UV treatment facility. If development with the proposed filtration plant were feasible considering environmental and spatial constraints, which the foregoing analysis demonstrates is not the case, a separate approval would be needed from the NYCDEP for modification of the Land Use Permit, in addition to NYCDEP watershed protection approvals.

Site Access

- Alternative 7 would use the existing site access road.

To summarize, use of the Pump Station Parcel in Alternative 7 to undertake the Proposed Action is not a reasonable or feasible alternative because, despite WJWW having interest in the form of a Land Use Permit from the NYCDEP. This site has substantial environmental and spatial constraints that preclude it from accommodating the development footprint that is necessary to construct the proposed filtration plant. Furthermore, even if Alternative 7 were practical, the Pump Station Parcel, located on the shoreline of Rye Lake, has a much greater degree of environmental and public water supply sensitivity, and construction of the proposed plant at this location would substantially magnify the potential for impacts to surface waters and related resources, and would not render significant environmental benefits or mitigative enhancements in comparison to the Proposed Action.

VIII. ALTERNATIVE 8: ALTERNATIVE SITE AT NEW YORK STATE DEPARTMENT OF TRANSPORTATION-OWNED PARCEL – HARRISON SBL 0097.-1

Description of Alternative

Under this alternative, the proposed filtration plant would be constructed on an approximately 9.9-acre, lens-shaped parcel owned by the New York State Department of Transportation (NYSDOT Parcel) (**Figure 5-1, Alternative Sites**), which is located between Purchase Street and Interstate 684, opposite New King Street, to the north of the proposed Project Site. A portion of the NYSDOT Parcel fronting on Purchase Street is actively used for New York State highway maintenance operations (e.g., vehicle and equipment storage), but the parcel is otherwise vacant.

Unlike the five other site plan/location alternatives discussed in this chapter of the DEIS⁴¹, Alternative 8 has not been subject to feasibility analysis or conceptual planning by WJWW, so available information is much more limited regarding technical design issues and similar considerations for Alternative 8. However, GIS analysis of the NYSDOT Parcel indicates that approximately 47 percent of its area comprises freshwater wetlands (**Figure 5-13, Alternative 8 Wetlands**). Assuming that the intent would be to avoid disturbance of this wetland area, since the Proposed Action does not encroach into wetlands, only about 5.2 acres of the NYSDOT Parcel would remain available for potential development.

⁴¹ 2- Alternative Site at the Exchange Parcel; 5- Alternative Access to Tower Road; 6- Alternative Site on Tower Road; 7- Alternative Site at Rye Lake Pump Station; and 9- Connection to NYCDEP Shaft 20.

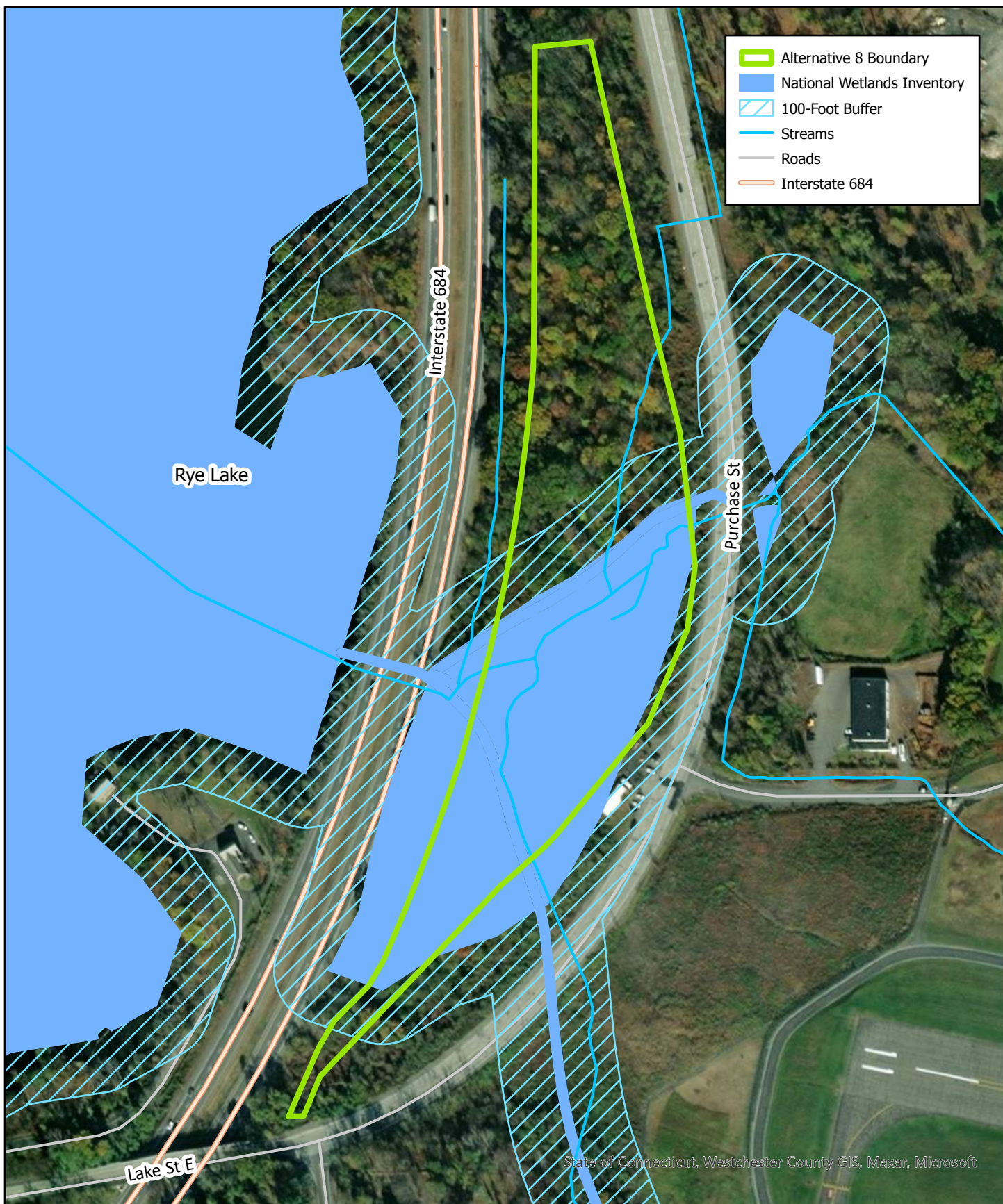


Figure 5-13: Alternative 8, Wetlands

Sources: Westchester County GIS, 2020
Scale: 1 inch equals 250 feet



Westchester Joint
Water Works
Water Filtration Plant

This non-wetland area on the NYSDOT Parcel is less than the approximately 6.16 acres that would be disturbed on the Project Site under the Proposed Action, not accounting for any protection of 100-foot-wide wetland buffers that are likely to account for substantial additional area surrounding the wetlands on the NYSDOT Parcel. Thus, besides the fact that WJWW does not have ownership interest in the NYSDOT Parcel for development of the proposed plant and is highly unlikely to receive the requisite regulatory approvals from NYCDEP (as explained below), construction of Alternative 8 also appears to be infeasible based on the physical and environmental constraints of the site.

SEQRA Analysis

As with Alternatives 5 and 6, involving plant configurations or locations requiring the use of land at Westchester County Airport, Alternative 8 would necessitate WJWW obtaining the right to develop and use property in which it does not currently have ownership interest. Therefore, Alternative 8 fails to satisfy the basic threshold under SEQRA to establish that this is a reasonable or feasible alternative to the Proposed Action and does not meet the objectives of WJWW described in **Section 5-A**. Furthermore, input from the NYCDEP, during a video call in July of 2021, has not indicated there is any realistic possibility that an application for development of this site with the proposed plant would receive the necessary New York City watershed protection approvals, considering the extensive freshwater wetlands on the site and its proximity to Rye Lake (at a distance of less than 100 feet on the opposite side of Interstate 684). Furthermore, beyond these critical shortcomings, development of the filtration plant under Alternative 8 also would pose a greatly increased potential for significant impacts when compared to the Proposed Action, as discussed below.

Compliance with Administrative Order and Court Order

- Compliance with the USEPA Administrative Order and New York State Supreme Court Order would be achieved if Alternative 8 was implemented because the same filtration plant proposed in the Proposed Action would be built under Alternative 8.
- The public policy purpose and health benefit of providing filtration to WJWW's Rye Lake water supply that complies with the USEPA's Stage 2 Disinfectants and Disinfection Byproducts Rule would take place under Alternative 8.

Land Use and Zoning

- Alternative 8 and the Proposed Action involve parcels in the Special Business District (SB-0), which is an appropriate location for the filtration plant based on zoning.
- The proposed Project Site is located in an appropriate land use setting for the Proposed Action, as it adjoins Westchester County Airport to the east and south, with Purchase Street to the west separating the site from residences in that direction, with setbacks and screening within the project site to provide separation from the residence and house of worship to the north. If the NYSDOT Parcel were available for development by WJWW, it would also be considered to have an appropriate land use setting for the proposed filtration plant, with Westchester County Airport and a Town transfer station to the east, and Interstate 684 to the west.
- Under the Proposed Action, the Exchange Parcel would become part of the Airport property, and would not be planned for further action beyond wetland restoration and/or stormwater management. Under Alternative 8 the fate of the Exchange Parcel would become uncertain, which would pose the potential for cumulative impacts from the development of this parcel.

Community Character and Visual Impacts

- The degree to which the proposed filtration plant would be visible from Purchase Street and/or Interstate 684 if constructed on the NYSDOT Parcel is not clear, absent a site-specific analysis which would be warranted only if the project were actually proposed for or were feasible at this location; however, this is not a realistic possibility, as discussed previously. Furthermore, potential impacts of the Proposed Action at the Project Site would be minimized to the degree practicable by providing a planted buffer along Purchase Street and foundation plantings along the west side of the building, and incorporating a stone wall into the design, along with a shaded, green natural entrance with a planted median, to be consistent with the character of the surrounding neighborhood.

Fiscal and Economics

- Alternative 8 would be expected to render similar economic benefits and fiscal impacts as the Proposed Action, because essentially the same plant would be constructed under both development scenarios.

Community Services

- Alternative 8 and the Proposed Action would be expected to result in a similar, non-significant demand on community services (i.e., police, fire and emergency/medical services, and solid waste management).
- As with the Proposed Action, Alternative 8 would comply with all applicable fire access and building codes and would be designed in accordance with input from the involved emergency response agencies.

Geology, Soils and Topography

- It is anticipated that the extent of site disturbance would be approximately the same under Alternative 8 as the Proposed Action.
- Under the Proposed Action, soils excavated during construction would be retained and reused on-site to the degree practicable, with any excess soils requiring removal to be tested to ensure proper disposal and any unsuitable soils to be replaced with clean fill. It is anticipated that Alternative 8 would also undertake the same approach with the reuse of soils. Therefore, even if Alternative 8 were feasible, it would not result in a significant benefit over the Proposed Action with respect to soil management.
- Similar to the Project Site under the Proposed Action, the NYSDOT Parcel for Alternative 8 generally has a gently sloping topography, which would reduce potential impacts with respect to erosion and sediment transport during construction and the generation of stormwater runoff during Project operation, as compared to development that occurs on steep slopes.

Wetlands and Floodplains

- If Alternative 8 were feasible, it would be expected to have a similar area of impervious surfaces and resulting stormwater volume as would occur under the Proposed Action. However, due to the extensive area of freshwater wetlands on the NYSDOT Parcel and its proximity to Rye Lake, at a distance of less than 100 feet, this development scenario would pose a much greater potential for impacting surface water quality than pertains to the

Proposed Action on the Project Site located a distance of approximately 800 feet from Rye Lake, even with the provision of on-site stormwater management in accordance with applicable regulations and a SWPPP (and associated Erosion and Sediment Control Plan).

- As noted above, development under Alternative 8 would place the proposed filtration plant at a site that is less than 100 feet from Rye Lake, which is part of the Kensico Reservoir system, whereas the Proposed Action would place this plant at a distance of approximately 800 feet from the lake. Thus, even if development under Alternative 8 were feasible, it would pose a much greater potential for impacting the Kensico Reservoir water supply system than pertains to use of the Project Site for the Proposed Action.
- Westchester County GIS analysis of the NYSDOT Parcel indicates that approximately 47 percent of its area comprises freshwater wetlands (**Figure 5-13, Alternative 8 Wetlands**). Assuming that the intent would be to avoid disturbance of this wetland area, since the Proposed Action does not encroach into wetlands, only about 5.2 acres of the NYSDOT Parcel would remain available for potential development. This non-wetland area on the NYSDOT Parcel is less than the approximately 6.16 acres that would be disturbed on the Project Site under the Proposed Action, not accounting for any protection of 100-foot-wide wetland buffers that are likely to account for substantial additional area surrounding the wetlands on the NYSDOT Parcel.

Stormwater/Utilities/Energy

- The Project Site to be developed under the Proposed Action has convenient connections to nearby existing infrastructure, would not be expected to place a significant demand on wastewater treatment and electric utilities, and would result in a significant enhancement to the local potable water supply system. It is anticipated that Alternative 8 would have similar impacts as the Proposed Action. In contrast, engineering design of water, wastewater and other utilities would need to be undertaken for Alternative 8 as the NYSDOT Parcel does not contain utilities. Therefore, even if Alternative 8 were feasible, it would not result in a significant benefit over the Proposed Action with respect to utilities.
- If Alternative 8 were feasible, it would be expected to have a similar area of impervious surfaces and resulting stormwater volume as would occur under the Proposed Action. However, due to the extensive areas of freshwater wetlands on the NYSDOT Parcel and its proximity to Rye Lake, at a distance of less than 100 feet, this development scenario would pose a much greater potential for impacting surface water quality than pertains to the Proposed Action on the Project Site located a distance of approximately 800 feet from Rye Lake, even with the provision of on-site stormwater management in accordance with applicable regulations and a SWPPP (and associated Erosion and Sediment Control Plan).
- The Proposed Action includes green infrastructure measures (e.g., constructed wetlands and/or a bioretention area), which would occupy the ample area on the Project Site situated outside the development footprint for the filtration plant. Even if Alternative 8 were feasible, the spatial constraints of the NYSDOT Parcel make it unlikely that equivalent green infrastructure could be accommodated at this location.
- The Proposed Action includes green building and energy-saving design. Therefore, even if Alternative 8 were feasible and included such measures, it would not result in a significant

benefit over the Proposed Action with respect to energy conservation and greenhouse gas emissions.

Traffic

- Operation of the proposed filtration plant would require minimal staffing and generate negligible traffic during operation; and traffic generated during construction would have a minimal, temporary effect on roadway operations. Therefore, even if Alternative 8 were feasible, it would not result in a significant benefit over the Proposed Action with respect to traffic impacts.

Vegetation and Wildlife

- The Proposed Action involves the development of a parcel containing a relatively high degree of invasive species and general site disturbance, which does not possess important ecological resources. Even if Alternative 8 were feasible, the location of the NYSDOT Parcel in close proximity to Rye Lake, and the presence of extensive freshwater wetlands and associated buffers on this site, indicate that implementation of this alternative would greatly magnify the potential for significant impacts to ecological resources in comparison to the Proposed Action.
- The currently undeveloped areas of the NYSDOT Parcel appear in recent aerial photographs to be largely occupied with tree cover (in addition to open water areas) (**Figure 5-14, Alternative 8 Aerial**). The removal of these trees would require a permit from the Town/Village of Harrison and compliance with the requirements of the Town/Village Tree Ordinance, as is the case for the Project Site under the Proposed Action. Therefore, even if Alternative 8 were feasible, it would not result in a significant benefit over the Proposed Action with respect to the protection of trees.
- Even if Alternative 8 were feasible, the spatial constraints of the NYSDOT Parcel would limit the opportunity for the use of native landscaping species outside of impervious surface areas needed for the proposed filtration plant, with a commensurate decrease in wildlife benefits, as compared to the Proposed Action.

Archeological and Historical Resources

- SHPO has concurred with a conclusion of no effect on historic or archaeological resources for development of the filtration plant on the Project Site for the Proposed Action, such that implementation of Alternative 8 would not enhance the protection of cultural resources in comparison to the Proposed Action. In both cases, site development would abide by New York State regulations governing potential future archaeological finds.

Hazardous Materials

- A Phase I ESA for the proposed Project Site did not reveal conditions requiring remediation. Similar investigations would need to be conducted for Alternative 8. Chemical storage for the proposed Project under the Proposed Action would comply with all applicable regulations, including spill prevention and secondary containment. Based on these considerations, even if Alternative 8 were feasible, it would not result in a significant benefit over the Proposed Action with respect to public health and safety.



Figure 5-14: Alternative 8, Aerial

Sources: Westchester County GIS, 2020
Scale: 1 inch equals 235 feet



Westchester Joint
Water Works
Water Filtration Plant

Noise/Air

- The Proposed Action would be required to comply with the requirements of the Town/Village of Harrison Noise Ordinance, including limitations on the hours of construction. Furthermore, operational noise would be minimal because the filtration building would be sealed, and exterior operations would be intermittent and primarily would occur at the rear of the building. Therefore, even if Alternative 8 were feasible, it would not result in a significant benefit over the Proposed Action with respect to noise.
- The Proposed Action would not result in a significant increase in air emissions due to plant operations. Therefore, even if Alternative 8 were feasible, it would not result in a significant benefit over the Proposed Action with respect to air quality.

Construction

- The Proposed Action would include best management practices and other suitable measures to avoid or minimize construction-related impacts to the degree practicable. Therefore, even if Alternative 8 were feasible, it would not result in a significant benefit over the Proposed Action with respect to potential construction impacts.

Site Control

- WJWW does not own this property and it has not been offered by NYSDOT as a development site for the filtration plant.

Site Access

- Site access under Alternative 8 would be located off of Purchase Street.

To summarize, use of the NYSDOT Parcel to construct the proposed water filtration plant under Alternative 8 is not a reasonable or feasible alternative because WJWW does not have ownership interest in this land, which currently is partially occupied by an active State highway maintenance operation; and it has been indicated that this land cannot be made available for construction of the proposed facility in consideration of goals for the protection of New York City's water supply governing development in the watershed. Furthermore, this site has substantial spatial and environmental constraints which appear to preclude it from accommodating the development footprint that is necessary to construct the proposed filtration plant. Additionally, even if Alternative 8 were practical, the NYSDOT Parcel, containing extensive freshwater wetlands and located in close proximity to Rye Lake, has a much greater degree of environmental sensitivity, and construction of the proposed plant at this location would substantially magnify the potential for impacts to surface waters and related resources, and would not render significant environmental benefits or mitigative enhancements in comparison to the Proposed Action.

IX. ALTERNATIVE 9: CONNECTION TO NYCDEP SHAFT 20

Description of Alternative

Although the USEPA Administrative Order and New York State Court Order requires filtration, WJWW did explore possible alternatives to filtration. This alternative was explored after the SEQRA process did not result in a findings statement and allow regulatory decisions to proceed on the proposal for a water treatment plant on the WJWW-owned site to the south of the Airport (currently called the Exchange Parcel) as presented in the 2008 FEIS. A conceptual engineering analysis of an alternative to connect to Shaft 20 on NYCDEP's Delaware Aqueduct System is presented in a December 2014 draft report prepared by HDR, Woodward & Curran, Gannett Fleming, and D&B Engineers & Architects, titled *Draft Conceptual Design of an Alternative to the Rye Lake Source Using Shafts 20 & 22 of the Delaware Aqueduct* (2014 Draft Conceptual Design Report).

At the time of the 2014 Draft Conceptual Design Report, the project concept included three components: (a) establishing a new connection for WJWW at Shaft 20 on NYCDEP's Delaware Aqueduct System; (b) improvements to WJWW's existing connection to Shaft 22 on NYCDEP's Delaware Aqueduct System to maximize the use of this source during the October-through-May non-peak period; and (c) a separate, backup connection to NYCDEP's Catskill Aqueduct System. **Figure 5-15, Shaft 20 Conceptual Plan** displays the conceptual route for the new Shaft 20 connection. Once completed, this project would allow WJWW to eliminate its use of the Rye Lake water source. Water from the Delaware and Catskill Aqueduct Systems meets the regulatory standards for a waiver from the filtration requirements which apply to water from Rye Lake. At that time, NYCDEP confirmed the availability of capacity to meet WJWW's 50-year water demand projections.

The new connection to Shaft 20 alone, combined with the existing supply from Shaft 22, would be adequate to serve WJWW's needs. However, at the time of the 2014 Draft Conceptual Design Report this project was not expected to be completed until 2020. The Shaft 22 improvements were planned for completion in 2017 as an interim measure to decrease WJWW's reliance on Rye Lake as a water source and, thereby, to improve WJWW's compliance with its regulatory requirements while awaiting the additional supply from Shaft 20 to come on-line. If Alternative 9 were to be implemented at this time, it would not include the transitional improvements at Shaft 22. However, the Catskill Aqueduct component of the project would still be needed under current conditions, as NYCDEP is continuing to require that all users of Delaware Aqueduct water provide a contingency plan in the event that supply is interrupted for repairs or maintenance.

According to the 2014 Draft Conceptual Design Report, connection to Shaft 20 would entail the installation of a new 48-inch-diameter main from Shaft 20 to WJWW's existing water system infrastructure. This main would total approximately 6.5 miles in length extending through Greenburgh and the City of White Plains, connecting to WJWW's system at the intersection of Anderson Hill Road and Purchase Street in the Town of Harrison. A new pump station would be installed at Stadium Road near Shaft 20, as well as a new West Harrison-Woodside Pump Station near WJWW's existing Woodside storage tank.

The project component to maximize the Shaft 22 water supply would have entailed upgrades to the existing Weaver Street Pump Station and Kenilworth Road Booster Station, as well as a new Osborn Road-United Water Booster Pump Station. The establishment of a backup connection to NYCDEP's Catskill Aqueduct System would require the installation of a new 30-inch-diameter, approximately 1.0-mile long main connecting to the new Stadium Road Pump Station, as well as an additional pump station at the Catskill Aqueduct connection point.

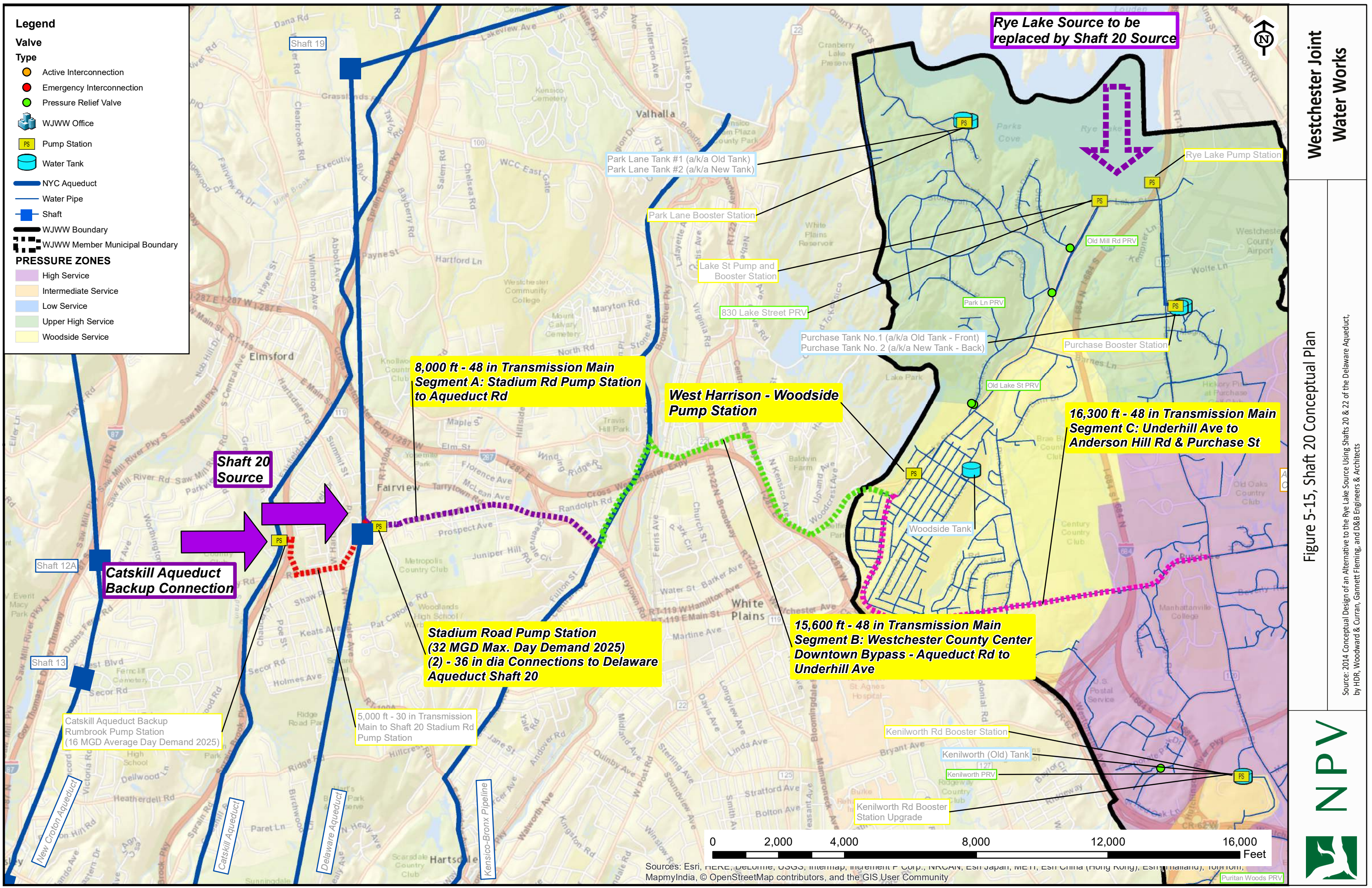


Figure 5-15, Shaft 20 Conceptual Plan

Source: 2014 Conceptual Design of an Alternative to the Rye Lake Source Using Shafts 20 & 22 of the Delaware Aqueduct, by HDR, Woodward & Curran, Gannett Fleming, and D&B Engineers & Architects

SEQRA Analysis

A detailed comparison of Alternative 9 with the current Proposed Action follows, with information regarding Alternative 9 taken from the 2014 Draft Conceptual Design Report except where otherwise indicated. As discussed above, Alternative 9 does not include the interim Shaft 22 component of the overall project presented in the 2014 Draft Conceptual Design Report and is limited to the improvements to effectuate the other two project components (i.e., new connection to Shaft 20 of NYCDEP's Delaware Aqueduct System and new backup connection to NYCDEP's Catskill Aqueduct System).

Compliance with Administrative Order and Court Order

- Compliance with the USEPA Administrative Order and New York State Supreme Court Order would not be achieved if Alternative 9 were implemented because the filtration plant proposed in the Proposed Action would not be built under Alternative 9.
- The public policy purpose and health benefit of providing filtration to WJWW's Rye Lake water supply that complies with the USEPA's Stage 2 Disinfectants and Disinfection Byproducts Rule would not take place under Alternative 9.
- In theory, actual discontinuance of the use of the Rye Lake source could provide a basis for WJWW to seek to modify the USEPA Administrative Order and New York State Supreme Court Order. However, the extensive scope of Alternative 9 – were it to be implemented – would substantially prolong the period of time in which WJWW is continuing to use the Rye Lake water source without complying with the USEPA Administrative Order and New York State Supreme Court Order and without complying with the safe drinking water regulations that apply to WJWW's use of the Rye Lake water source.

Land Use and Zoning

- The exact location of the line and placement of the buildings included in Alternative 9 would be required to determine the zoning to these areas. However, the Proposed Action would be situated in Special Business District (SB-0), which is an appropriate location for the filtration plant based on zoning. Therefore, no additional zoning benefits would be gained from Alternative 9.
- The exact location of the line and placement of the proposed buildings under Alternative 9 would be required to determine impacts to surrounding land use. The proposed Project Site is located in an appropriate land use setting for the Proposed Action, as it adjoins Westchester County Airport to the east and south, with Purchase Street to the west separating the site from residences in that direction, with setbacks and screening within the project site to provide separation from the residence and house of worship to the north.

Community Character and Visual Impacts

- It can be expected that construction of the three new pump station buildings under Alternative 9 would include vegetative screening and other measures to mitigate potential visual impacts in a similar manner as pertains to the Proposed Action, which has been specifically designed to avoid adverse impacts on the character of the surrounding neighborhood.

Fiscal and Economics

- The economic benefits that would result from Alternative 9 are not specified in the 2014 Draft Conceptual Design Report. However, like the Proposed Action, certain benefits would be associated with construction, while minimal economic activity would occur during operation due to the small number of permanent new jobs that would be created.
- Alternative 9 entails a 2014 construction cost estimated at \$171 million or approximately \$193 million in 2022 (i.e., including the new connection to Shaft 20 and new backup connection to the Catskill Aqueduct System, but not including the Shaft 22 component of the overall project presented in the 2014 Draft Conceptual Design Report, which is approximately \$85 million (2022 dollars) more than the \$108 million estimated cost for the Proposed Action. As discussed above, Alternative 9 would not render significant environmental benefits or mitigative enhancements in comparison to the Proposed Action; and, in fact, this alternative entails potentially significant increases in impacts, particularly with respect to its more expansive construction footprint and land disturbance that would occur at stream crossings and in freshwater wetlands as identified in the 2014 Draft Conceptual Design Report (see further discussion in the section on Wetlands and Floodplains, below). Therefore, Alternative 9 is not a reasonable or feasible alternative, does not warrant the substantially higher cost to WJWW, and is not viable for WJWW to undertake in lieu of the proposed filtration plant.

Community Services

- Alternative 9 and the Proposed Action would be expected to result in a similar, non-significant demand on community services (i.e., police, fire and emergency/medical services, and solid waste management).
- As with the proposed filtration building, the three pump stations required under Alternative 9 would be in compliance with all applicable fire access and building codes and expected to be designed in accordance with input from the involved emergency response agencies.

Geology, Soils and Topography

- The total area of disturbance area for construction under Alternative 9 would exceed ten acres, according to the 2014 Draft Conceptual Design Report. It is estimated that 6.16± acres of disturbance would occur under the Proposed Action. Thus, Alternative 9 would pose an increased potential for stormwater-related impacts during construction, particularly given the closer proximity of the construction area to water courses and wetlands as compared to the Proposed Action (see further discussion in the section on Wetlands and Floodplains, below).
- Under both Alternative 9 and the Proposed Action, soils excavated during construction would be retained and reused on-site to the degree practicable, with any excess soils requiring removal to be tested to ensure proper disposal and any unsuitable soils to be replaced with clean fill.
- Alternative 9 mostly involves construction along public roadway right-of ways (ROWs), which generally have gently sloping topography; and the 2014 Draft Conceptual Design Report shows that the locations of the three new pump stations that would be constructed under Alternative 9 also have gently sloping topography. As with the Proposed Action, this would minimize potential impacts with respect to erosion and sediment transport during construction and the generation of stormwater runoff during operation, as compared to development that occurs on steep slopes.

Wetlands and Floodplains

- As detailed in the 2014 Draft Conceptual Design Report, pipeline construction under Alternative 9 would cross ten (10) streams, including Bronx River and Mamaroneck River, and would encroach into freshwater wetlands. Construction under the Proposed Action avoids disturbance of watercourses and wetlands and includes mitigation to compensate for disturbance that would occur in wetland buffer areas.
- Pipeline construction under Alternative 9 would also require major infrastructure crossings, including major transportation corridors (i.e., Bronx River Parkway, Route 287, Sprain Brook Parkway, Interstate 684, and Metro North rail line), as well as the Catskill Aqueduct.
- Construction of the 7.5-mile pipeline under Alternative 9 would involve excavation within roadway ROWs directly adjacent to sensitive land uses, including several residential neighborhoods. As noted above, the construction of the Proposed Action would almost entirely be confined to the Project Site.
- The Proposed Action involves the construction of the new water treatment plant in the Kensico Reservoir drainage basin. However, as noted above, Alternative 9 involves pipeline construction activities at ten (10) stream crossings and in freshwater wetland areas; whereas, the Proposed Action would avoid wetland encroachment. Therefore, it appears that development under Alternative 9 would pose a greater potential for impacts to surface water resources than is the case for the Proposed Action.
- The proposed Project Site is not located in a designated 100-year floodplain and, therefore, involves minimal or no potential impacts with respect to flooding. Further assessment, beyond the conceptual analysis presented in the 2014 Draft Conceptual Design Report would be needed to determine whether Alternative 9 includes flood-prone areas and, if so, how this would affect development under this scenario.
- Although the Proposed Action would not disturb regulated wetlands, the analysis performed for this DEIS indicates that there would be disturbance in wetland adjacent areas, for which constructed wetlands and/or bioretention area and an underground detention system for drainage bypass flow is proposed. The 2014 Draft Conceptual Design Report does not address the disturbance of wetland buffer areas for the development contemplated at that time. However, given that there would be disturbance within wetland boundaries, it is likely that disturbance also would be required in the 100-foot-wide regulatory buffer around these wetlands. Therefore, it is expected that the project plan for Alternative 9 would require additional mitigation to compensate for wetland buffer encroachment.

Stormwater/Utilities/Energy

- Alternative 9 would require the construction of significant additional infrastructure beyond the piping described above, including three new buildings – i.e., Stadium Road Pump Station with a footprint of approximately 6,000 square feet; Pembroke Pump Station with a footprint of approximately 4,500 square feet; and West Harrison-Woodside Pump Station with a footprint of less than 800 square feet. The Proposed Action involves the construction of a single 30-MGD filtration building with a footprint of approximately 37,360 square feet according to the 2019 Tower Road Site Viability Report, with limited off-site infrastructure. The Stadium Road Pump Station would occupy about 18 percent of the approximately 0.75-acre site on which it would be

located. The filtration plant under the Proposed Action would occupy about six (6) percent of the 13.4-acre Project Site.

- Alternative 9 and the Proposed Action would be expected to place a similar, non-significant demand on wastewater treatment and electric utilities, and both would enhance the local potable water supply system. However, the long-term practicality of Alternative 9 relies upon NYCDEP's ability to maintain its waivers from filtration requirements for the Delaware and Catskill Aqueduct Systems, which are re-evaluated periodically and are not guaranteed to be renewed. If filtration is mandated for these water supplies in the future by the USEPA/NYSDOH, UV treatment alone would no longer be sufficient to meet regulatory requirements. If such a contingency were to occur after WJWW connected to NYCDEP's Delaware and Catskill Aqueduct Systems, filtration would have to be added in the same manner as is currently proposed for the Rye Lake water source, despite the expenditures that would be incurred by WJWW to connect to these systems with the specific intent of avoiding the need for filtration. This treatment also does not comply with the Administrative Order and Court Order.
- It appears likely that construction under Alternative 9 would involve a smaller area of new impervious surfaces constructed, as compared to the approximately 2.4 acres of impervious surface coverage that would result from the Proposed Action, given the smaller total building area (approximately 11,300 square feet versus 37,360 square feet) and the expectation that areas disturbed for the approximately 7.5 miles of pipeline installation would be restored in-kind. Therefore, Alternative 9 would be expected to involve a decreased volume of stormwater runoff generated. However, both scenarios would be required to provide on-site stormwater management in accordance with applicable regulations, and both would involve the preparation and implementation of a SWPPP and associated Erosion and Sediment Control Plan to control stormwater during construction and to provide for long-term stormwater management during plant operation.
- The 2014 Draft Conceptual Design Report does not discuss green infrastructure for the three new pump stations that would be constructed under Alternative 9. However, it may be feasible to include green infrastructure measures in a similar manner as is to be provided in the Proposed Action (e.g., constructed wetlands and/or a bioretention area).
- The conceptual analysis presented in the 2014 Draft Conceptual Design Report does not address energy conservation. However, the pump station buildings that would be constructed under Alternative 9 likely could provide a similar degree of green building and energy-saving design that have been incorporated into the Proposed Action.

Traffic

- The Proposed Action would require minimal staffing and generate negligible traffic during operation. The 2014 Draft Conceptual Design Report does not discuss staffing needs for the facilities comprising Alternative 9. However, it is anticipated that the three new pump stations, pipeline, and appurtenances under this development scenario would not create a significant personnel demand, likely only involving periodic maintenance and repairs, such that traffic generation during operation would also be negligible.

Vegetation and Wildlife

- A relatively high degree of invasive species and general disturbance are evident on the proposed Project Site, which diminishes the ecological value of this property as compared to lands that are

less disturbed and contain more natural vegetative communities. The 2014 Draft Conceptual Design Report does not discuss the ecological characteristics of the three parcels on which new pump stations would be constructed under Alternative 9. The pipeline route primarily follows roadway ROWs, which generally do not possess high-value habitat. However, ten (10) stream crossings and freshwater wetlands disturbance would occur under this alternative, which could adversely affect ecological resources unless effective mitigation measures are implemented.

- The Proposed Action would require tree removal to accommodate the filtration plant at the Project Site, which would be subject to the provisions of the Town/Village of Harrison Tree Ordinance. Recent aerial photographs indicate that some tree removal would also be anticipated for construction of the three new pump stations and additional tree removal may be needed to install the pipeline for Alternative 9, with site-specific investigation and design necessary to determine precise plant placement and impact to trees. Such activities would be subject to local tree removal permitting and related requirements.
- The 2014 Draft Conceptual Design Report does not contain a level of detail that addresses landscaping design for the three pump stations that would be required under Alternative 9. However, it likely would be feasible to accommodate native species in this alternative in a similar manner as would occur under the Proposed Action, so as to provide enhanced benefits for wildlife and minimize the use of fertilizer and other landscape treatments.

Archeological and Historical Resources

- SHPO has concurred with a conclusion of no effect on historic or archaeological resources for the Proposed Action. Similar consultation with SHPO would be required for development under Alternative 9, as the conceptual analysis in the 2014 Draft Conceptual Design Report does not include an assessment of potential impacts with respect to cultural resources. In both scenarios, site development would be required to abide by New York State regulations governing potential future archaeological finds.

Hazardous Materials

- A Phase I ESA has been completed in connection with the analysis of the proposed Project, which did not reveal conditions requiring remediation. The 2014 Draft Conceptual Design Report does not include a similar assessment for the area that would be developed under Alternative 9, which would be needed to demonstrate that remediation is not required in this area or to identify any cleanup actions necessary to achieve a clean site.
- As with the proposed filtration plant under the Proposed Action, the pump stations constructed under Alternative 9 would require the storage and use of chemicals for water treatment. In both scenarios, such chemical storage would be required to comply with all applicable regulations, including spill prevention and secondary containment.

Noise/Air

- The Proposed Action would be required to comply with the requirements of the Town/Village of Harrison Noise Ordinance, including limitations on the hours of construction. Furthermore, operational noise would be minimal because the filtration building would be sealed, and exterior operations would be intermittent and primarily would occur at the rear of the building. Therefore, Alternative 9 would not result in a significant benefit over the Proposed Action with respect to noise.

- As with the Proposed Action, Alternative 9 would be required to comply with the requirements of applicable local noise ordinances.
- As with the Proposed Action, Alternative 9 would not result in a significant increase in air emissions due to operations.

Construction

- Alternative 9 would necessitate the construction of a total of approximately 7.5 miles of pipeline – i.e., approximately 6.5 miles for the Shaft 20 connection and 1.0± mile for the Catskill Aqueduct backup connection, primarily along public roadway ROWs – to tie the two water sources into WJWW’s existing infrastructure. This involves a larger, more dispersed footprint of construction than would occur under the Proposed Action. The Proposed Action has the advantage of proximity to WJWW’s existing infrastructure (i.e., Rye Lake Pump Station, Rye Lake source water transmission main, Purchase Street Pump Station, and Purchase Street storage tanks) and would have its construction almost entirely limited to the Project Site.
- Construction under Alternative 9 would have the potential to result in temporary disruptions of traffic flow and access to properties along the affected roadways. In contrast, construction activities under the Proposed Action would be almost entirely confined to the Project Site; and construction-related traffic generation would be temporary and would have minimal effect on roadway operations.
- As with the Proposed Action, Alternative 9 would include best management practices and other suitable measures to avoid or minimize construction-related impacts to the degree practicable. However, because it would involve construction along roadway ROWs in areas adjacent to active land uses, including several segments of the 7.5-mile pipeline route which front along residential neighborhoods, it can be expected that the potential for construction-related impacts would be increased under Alternative 9.

Site Control and Site Access

- WJWW does not currently have access rights to the approximately 7.5-mile pipeline route and sites for the three new pump stations and other appurtenances required for Alternative 9. Obtaining the necessary easements from multiple jurisdictions, possibly including some private landowners, would entail a complex and arduous process, and is not guaranteed. The access procurement process for the Proposed Action is much simplified, primarily involving a one-for-one land swap with Westchester County, and perhaps minor easements for utility connections.
- Obtaining the necessary regulatory permits and approvals along the approximately 7.5-mile pipeline route and sites for the three new pump stations and other appurtenances required for Alternative 9 would also entail an arduous process through a complex maze of governmental jurisdictions, distinct from the aforementioned easement procurement process, and also is not guaranteed. Again, the process for the Proposed Action is much simplified with respect to regulatory permitting, with a much narrower geographic scope (i.e., primarily covering a single, discrete site) and entailing a more limited range of involved agencies.

In summary, Alternative 9 does not meet the objectives of WJWW that are outlined in **Section 5-A**. Alternative 9 does not appear to offer any significant, relative benefits, except avoiding limited, site-specific potential impacts associated with the Proposed Action. However, the Proposed Action includes measures to minimize impacts to the extent practicable, including substantial landscaping and other treatments to mitigate potential visual/aesthetic and related impacts; and Alternative 9 would result in an increased

range of more extensive potential impacts over a much wider geographic area. These unfavorable consequences of Alternative 9 include, but are not limited to: the potential for visual/aesthetic effects from the construction of three new buildings, as compared to a single building under the Proposed Action; increased potential impacts to water courses and wetlands, which are present at numerous locations along the 7.5-mile-long pipeline route for Alternative 9, whereas direct encroachment into wetland areas would be avoided under the Proposed Action; and impacts related to the significant increase in land disturbance and related potential impacts (e.g., erosion and sediment transport) that would occur along the Alternative 9 pipeline route, as compared to limiting Project-related land disturbance almost entirely to an approximately 6.16-acre development footprint (with minor, additional disturbance outside this area for utility connections) under the Proposed Action.

Alternative 9 also suffers from a critical shortcoming in its reliance on NYCDEP's ability to maintain its waiver from filtration requirements for the Delaware and Catskill Aqueduct Systems, which is not guaranteed over the long term. If this waiver is not renewed at some point in the future, filtration would be mandated for these water supplies; and if Alternative 9 were to be implemented, WJWW would then have to undertake supplemental treatment in the form of the type of plant that is currently proposed for the Rye Lake water source. Under these circumstances, WJWW would be burdened with the additional cost to address this contingency despite having already expended significant capital in excess of this amount to connect to the Delaware and Catskill Aqueduct Systems with the express intent of avoiding the need to provide such filtration. Alternative 9 would also cost approximately \$85 million more than the Proposed Action and, if it could be implemented, would delay WJWW's compliance with SDWA regulations.

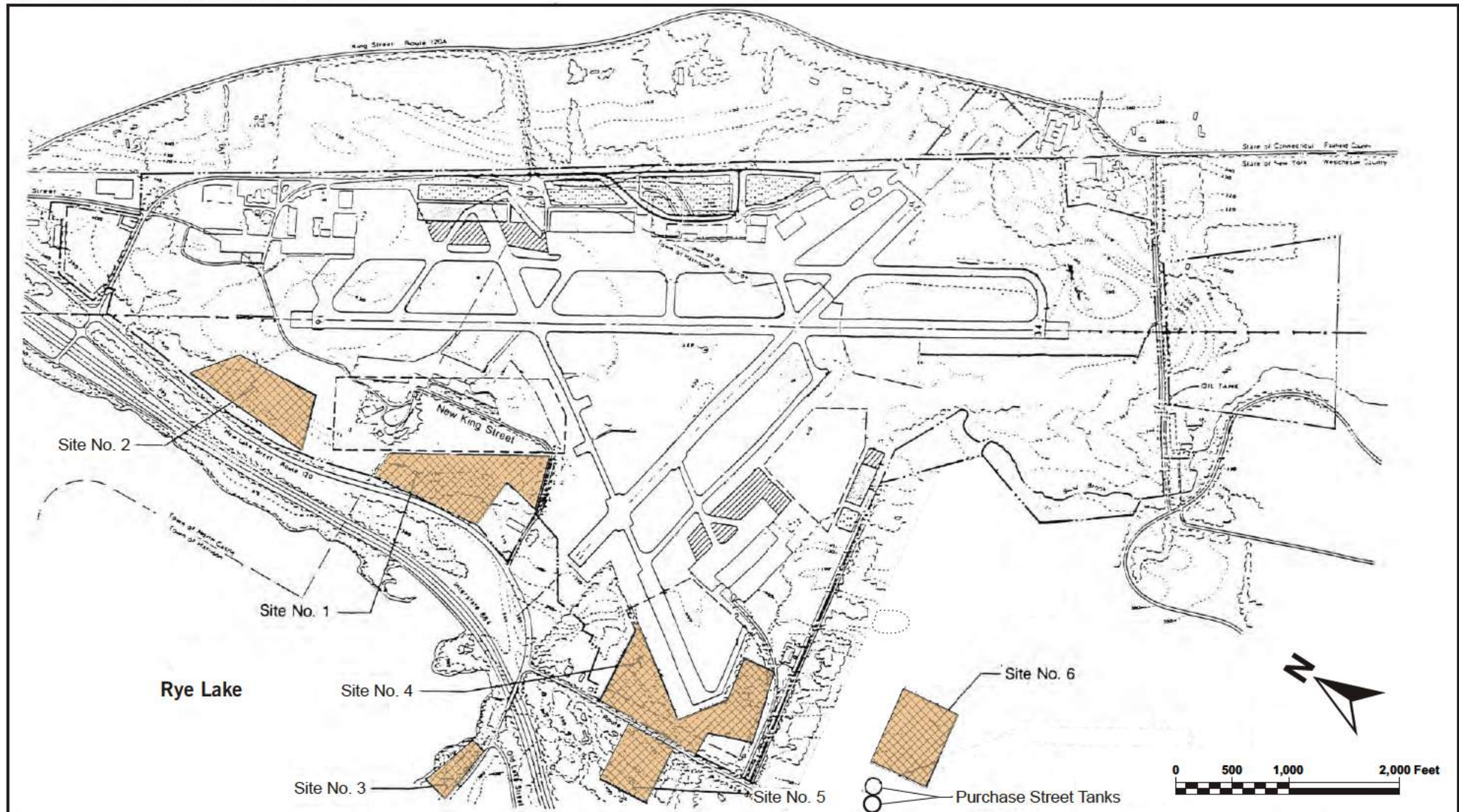
C. OTHER ALTERNATIVES CONSIDERED

The following discussion summarizes information about additional alternatives that were discussed in the 2008 FEIS.

I. OTHER AIRPORT PARCELS

The 2008 FEIS examined three parcels located on the grounds of Westchester County Airport as alternatives to the then-proposed use of the Exchange Parcel for WJWW's filtration plant (**Figure 5-16, 2008 FEIS Alternate Facility Locations**). Two of these alternate parcels (identified as Site No. 1 and Site No. 2 in the 2008 FEIS) are situated to the north of the current location of the Proposed Action, while the third parcel (identified as Site No. 4 in the 2008 FEIS) spans between the current location of the Proposed Action and Tower Road to the south. A public comment on the Draft Scope requested that a site at the Airport with frontage on Tower Road be revisited. This alternative location, which is similar to Site No. 4 in the 2008 FEIS, is analyzed in detail as Alternative 6 in this DEIS.

As with development scenarios discussed in **Sections B-II, B-V and B-VI** of this DEIS involving alternate roadway connections to the Exchange Parcel which were analyzed in the 2008 FEIS and alternatives with roadway access to Tower Road, any scenario involving use of the Airport property would necessitate proprietary approval from Westchester County. However, to reiterate, the County has indicated that it is only amenable to entertaining the WJWW's proposal for the current Project Site and would not contemplate other locations for the Proposed Action at the Airport since any such alternative location would entail access to the Airport's internal roadway system, which is precluded by the conditions of the County's funding agreements with the federal government; whereas the Proposed Action has its driveway on a public roadway (Purchase Street). Furthermore, the remaining two Airport parcels examined in the 2008 FEIS (Site Nos. 1 and 2) were described as suffering from significant constraints, including the presence of steep slopes, protected soils and wetlands, proximity to and drainage towards Rye Lake, and limited availability for development. Further, it should be noted that Sites 1 and 2 are also



under the control of Westchester County and based on recent conversations with Westchester County the potential for development of these sites is not an option at this time.

Based on the foregoing and considering that this DEIS does address an alternative location at the Airport in Alternative 6 (**Section B-VI**), this scenario of siting the proposed filtration plant at other locations at the Airport is not a realistic or viable alternative.

II. OTHER NON-AIRPORT PARCELS

The 2008 FEIS examined three additional alternate sites located outside of the Airport property, which are discussed below and identified in **Figure 5-16, 2008 FEIS Alternate Facility Locations**:

- Site No. 3 – This approximately 2.2-acre, NYCDEP-owned parcel is located directly on the south shore of Rye Lake and is bound by New Lake Street to the south and Interstate 684 to the east. While this site is located close to the existing transmission mains, it is very small, and the available area is not adequate to accommodate the proposed plant. These constraints prevent NYCDEP from allowing the proposed water filtration plant to be placed here, making this alternative infeasible.
- Site No. 5 – This approximately 6.0-acre parcel is located on the west side of Purchase Street approximately 150 feet south of Kempner Lane. Drainage from this site is directed away from Rye Lake (i.e., it is located outside the Kensico Reservoir basin), and it is located in close proximity to the existing transmission main. However, during the analysis of the prior application, this site is more incompatible with the existing land uses, particularly with respect to the presence of adjacent residential units on three sides. Furthermore, this parcel experienced subsequent residential development, such that no portion of its area is available for the Proposed Action and, therefore, it is not a feasible alternative.
- Site No. 6 – This approximately 8.0-acre parcel is located on the east side of Purchase Street, to the east of WJWW's water storage tanks. This site is also located outside the Kensico Reservoir basin, and it is located in close proximity to the existing transmission main. However, at the time of the prior application reflected in the 2008 FEIS, this site was located within a residential subdivision, and it was determined that acquisition from the property owner would be difficult based on WJWW's experiences with the same developer. Furthermore, this site is part of a major development including a golf course, a country club and residential units; and this parcel has seen continued development of the residential subdivision, such that no portion of its area is available for the Proposed Action and, therefore, it is not a feasible alternative.

III. ULTRAVIOLET (UV) TREATMENT

Under this alternative, identified in the 2008 FEIS, UV treatment would be used as a substitute for the proposed water filtration plant. The 2008 FEIS eliminated this scenario as not viable based on the considerations discussed below.

UV light inactivates biological organisms that can be pathogenic to humans. UV light is effective at inactivating many pathogens in water at relatively low doses. UV disinfection does not remove organisms from the water in the way filtration does, and the disinfection mechanism is considerably different from chemical disinfectants such as chlorine and ozone. UV light inactivates microorganisms by damaging their DNA and RNA, which inhibits their ability to replicate. Microorganisms that are unable to

replicate cannot infect a host. Some microorganisms, such as certain viruses, require higher UV doses than those needed for *Cryptosporidium* inactivation to be effective; and for these microorganisms, disinfection by chlorine would be required to meet USEPA and NYSDOH regulations. For this reason, UV disinfection is always followed by chlorination.

WJWW pursued UV treatment as a substitute to filtration prior to the 2008 FEIS because the capital costs for a UV plant are approximately one-tenth the cost of a filtration plant, operation and maintenance costs are also significantly less for UV treatment than for filtration, and a UV plant involves a smaller development footprint than a filtration plant. However, NYSDOH denied WJWW's petition for UV treatment in lieu of filtration – via correspondence dated January 23, 2002; February 3, 2004; June 9, 2004; and May 18, 2007 – concluding that filtration is the only option that meets the current and anticipated treatment requirements for Rye Lake source water.

As discussed previously, WJWW recently installed a new UV disinfection plant at the Rye Lake Pump Station Parcel to provide enhanced treatment of the Rye Lake water supply, which is operating in conjunction with the chlorination facility to provide greater inactivation efficiencies of pathogenic organisms and to improve protection of public health. However, this would not meet the filtration requirements of the EPA Administrative Order, the Supreme Court Judgment and Order, and current federal drinking water standards and, therefore, would not accomplish WJWW's objectives for the Proposed Action.

IV. OTHER NEW YORK CITY WATER SOURCES

This alternative, identified in the 2008 FEIS, involves various means of acquiring additional water from the New York City system, to replace the current supply drawn from Rye Lake, whereby a filtration plant would not be constructed. More specifically, the 2008 FEIS examined three such scenarios:

- (d) Water from Shaft 17, conveyed through Kensico Reservoir, with UV treatment
- (e) Water from Shaft 17, conveyed along Interstate 684, with UV treatment
- (f) UV-treated water from Shaft 19, conveyed to WJWW's Purchase Street Storage Tanks

The 2008 FEIS eliminated these scenarios as not viable based on the considerations discussed below.

a) WATER FROM SHAFT 17, CONVEYED THROUGH KENSICO RESERVOIR, WITH UV TREATMENT

A connection to NYC's Delaware Aqueduct could provide WJWW with water that meets USEPA Filtration Avoidance Determination requirements. Implementation of this scenario requires the construction and operation of a UV treatment plant for additional treatment (which recently was completed at WJWW's Rye Lake Pump Station Parcel). This scenario was identified and evaluated in the 2008 FEIS to transmit Delaware Aqueduct water from Shaft 17 to the WJWW storage tanks on Purchase Street.

This scenario would involve piping water by gravity through a transmission main constructed in the Kensico Reservoir from the NYCDEP Delaware Aqueduct Shaft 17 on the north shore of Kensico Reservoir to WJWW's existing Rye Lake Pump Station. It would require approximately 2.3 miles of 30-inch water main from Shaft 17 through Kensico Reservoir's Dark Hollow and Rye Lake water sources to WJWW's existing Rye Lake Pump Station. The main would be laid along the lakebed and anchored with weights. Once the water reached WJWW's Rye Lake Pump Station, it would then be treated by the UV treatment plant (recently completed) at that location. The cost of construction under this scenario would be comparable to the then-proposed action (involving construction of the filtration plant on the Exchange Parcel), but without the water quality benefits gained by filtration.

It is extremely unlikely that NYCDEP would approve construction under this scenario because of its anticipated impact on Kensico Reservoir and Shaft 17, as well as being within the 300-foot NYCDEP

watershed buffer. Installing a major water main through the reservoir has the potential to create turbidity and cause other disruptions during construction. This would negatively affect the water supplies of both WJWW and NYCDEP. Tying into Shaft 17 could put the shaft at risk, leading to a water continuity supply risk to New York City itself.

Based on the foregoing, this scenario would not meet WJWW's objectives for the Proposed Action and, thus, is not a viable alternative.

b) WATER FROM SHAFT 17, CONVEYED ALONG INTERSTATE 684, WITH UV TREATMENT

This scenario would involve pumping water from Shaft 17 overland to the WJWW Purchase Street Storage Tanks and a new UV treatment plant and would require a water main from a new pump station located at Shaft 17 to an existing transmission main near the Rye Lake Pump Station.

This scenario would require approximately 2.8 miles of 42-inch water main from Shaft 17 along Interstate 684 to WJWW's existing Rye Lake Pump Station. The main would have to be constructed by hanging pipe along the overpass or jacking underground. Extensive permitting would be required to cross the interstate highway.

It is extremely unlikely that NYCDEP would approve another utility constructing a pump station so close to Shaft 17 or connecting into the shaft. If NYCDEP approval was given, there are space constraints at Shaft 17 that would make it very difficult to site the required pump station. The design and construction of a new pump station and new transmission main and discontinuing the use of the existing Rye Lake Pump Station, would require significant capital expenditure. (The Rye Lake Pump Station would be available for emergency use only.) The cost of constructing this alternative would be comparable to the then-proposed action, but without the water quality benefits gained by filtration.

Based on the foregoing, this scenario would not meet WJWW's objectives for the Proposed Action and, thus, is not a viable alternative.

c) UV-TREATED WATER FROM SHAFT 19, CONVEYED TO WJWW'S PURCHASE STREET STORAGE TANKS

This scenario would involve purchasing UV-treated water from New York City and pumping and conveying this water from NYCDEP's Delaware Aqueduct Shaft 19 to the Purchase Street Storage Tanks. Under this this scenario, a pump station at the Shaft 19 site would be required to transmit water from Grasslands Road.

Significant capital expenditure would be necessary to construct a new pump station at Eastview, and it would mean abandoning (available for emergency use only) the existing Rye Lake Pump Station. A land use permit would be needed to construct this pump station at the Eastview site on land owned by NYCDEP.

The pipeline between Shaft 19 and the Purchase Street Storage Tanks would be approximately 6.6 miles in length. Land easements would need to be acquired and permitted between Eastview and the Purchase Street Storage Tanks located in the Town of Harrison. Since WJWW does not own or control this land, there is no guarantee that it could be obtained for a pipeline. Pipe jacking would be required to cross the Bronx River Parkway and significant rock removal is expected along the length of pipe. The cost of constructing this alternative would be comparable to, if not more than, the then-proposed action.

Based on the foregoing, this scenario would not meet WJWW's objectives for the Proposed Action and, thus, is not a viable alternative.

V. CONSTRUCTING GROUNDWATER WELLS

This alternative, identified in the 2008 FEIS, involves the installation of groundwater wells as a means of acquiring additional water, to replace the current supply drawn from Rye Lake, whereby the proposed filtration plant would not be constructed. The 2008 FEIS eliminated this scenario as not viable based on the considerations discussed below.

Unlike the Rye Lake source used under the Proposed Action, the use of groundwater wells would not necessarily require the construction of filtration facilities. Although the use of groundwater can be an attractive source for some communities because it may not always require significant water treatment, few locations in the Westchester County area exhibit the necessary conditions to make groundwater a viable source alternative.

A well needs to be able to provide a consistent output quantity and quality to be considered a viable water supply source. This usually requires the presence of a substantial and protected aquifer. In 1980, a U.S. Geological Survey program was started to create detailed aquifer maps. This program has not identified any substantial aquifers in the area. Westchester County's most productive water-bearing material is found in glacial till deposits. Productive deposits of this material in Westchester County are principally found in the valleys of Peekskill Hollow Creek, Canopus Creek, Croton River, and Saw Mill River, in northern and southwestern Westchester County, outside of WJWW's service area. With the exception of these four locations, other aquifers in the County have poor water-bearing quality.

In order to replace the then-proposed 20-mgd output for the filtration plant, approximately 174 wells would be needed with an output of 80 gpm per well. With the current filtration plant capacity increased by 50 percent (to 30 mgd), approximately 261 wells would be needed. Even the original production capacity of 80 gpm was believed to be highly optimistic because it reflects best-case conditions in glacial till soils in other areas of Westchester County. WJWW's service area does not include such deposits, so it is highly likely that more than 261 wells would be necessary after comprehensive study. Siting this number of wells within the WJWW service area would require a substantial area of land above productive aquifers.

Water quality conditions and the influence of surface waters may still necessitate filtration of water supply drawn from groundwater. Groundwater under the influence of surface water needs to be filtered according to the Surface Water Treatment Rule. Additionally, each well or cluster of wells would require pumps, utilities, power and standby generators, treatment chemicals, and piping to connect to the existing distribution system, and potentially treatment equipment. The Town/Village of Harrison previously utilized groundwater via two wells drilled near St. Mary's Lake (now known as Silver Lake) in West Harrison. These wells were equipped with 300-gpm pumps, but could not be pumped over 100 gpm because of excessive drawdown. In 1973, about 20 percent of the total water consumption for Harrison Water District No. 1 was supplied by these wells. Like WJWW, other communities that historically used well supplies have found that while these supplies were adequate in the early days of the water supply system, over the years it has become necessary to augment the supplies with water from other sources.

Based on the poor availability of groundwater and the large number of wells that would be needed to support the service area, extensive development of groundwater as a dependable source of supply for WJWW is infeasible. Furthermore, siting 174 or more wells along with the necessary infrastructure for water supply purposes could result in potentially larger impacts than the proposed project in terms of water resources, natural resources and land use.

Based on the foregoing, this scenario would not be reasonable or feasible and, thus, is not a viable alternative.

VI. WESTCHESTER COUNTY REGIONAL WATER SYSTEM

This alternative, discussed in the 2008 FEIS, involves the acquisition of additional water by WJWW via a regional water system overseen by Westchester County, to replace the current supply drawn from Rye Lake. The 2008 FEIS eliminated this scenario as not viable based on the considerations discussed below.

At the time of the 2008 FEIS, Westchester County Department of Environmental Facilities (WCDEF) was in the process of developing and considering two regional approaches for providing water to their service areas. One option involved connection to NYCDEP's Catskill/Delaware UV Plant at the Eastview property and pumping water to the County's service areas. The second option involved construction of a new County UV plant near the Kensico Dam. WJWW worked in conjunction with the County to explore sharing the new NYCDEP connection or the new UV plant to provide treated water to its service area. At the time of the issuance of the 2008 FEIS, Westchester County had not concluded its investigation into these approaches, but had advanced them to the point that they could be discussed and evaluated in the FEIS.

The concept of the County's first approach is discussed in **Section C-IV** of this DEIS (UV-treated Water from Shaft 19, conveyed to WJWW's Purchase Street Storage Tanks). The County's second approach (UV Treatment and Pumping from Kensico Dam to Park Lane) is discussed below.

A UV disinfection plant was investigated by WCDEF, which would involve constructing a 40- to 60-mgd UV plant in the vicinity of Kensico Dam in the Town of Valhalla. This plant would provide UV-disinfected water to Westchester County Water District #1 via the 48-inch Bronx Kensico Pipeline, and possibly to the City of White Plains and other communities in the area. Under this regional approach, an additional 20 mgd of capacity would be included in the plant to provide UV-treated water to meet WJWW's demands. The majority of the UV-treated water from the plant would serve other areas of Westchester County.

To provide water to WJWW's distribution system, a new 20-mgd pump station specifically dedicated to meet WJWW's hydraulic conditions would be needed in the vicinity of the new UV plant and a new pipeline would have to be constructed through the Quarry Heights region of North Castle to convey this flow to WJWW's Park Lane Storage Tanks, with a gravity main to the Purchase Street Storage Tanks via Park Lane, Lake Street and Purchase Street. The pump station would require chemical addition for disinfection and corrosion control.

Approximately 1.4 miles of transmission main would be required in the Town of North Castle and 3.1 miles of transmission main would be needed in the Town of Harrison. Land easements would have to be acquired and permitted between Kensico Dam and the Purchase Street Storage Tanks. Since WJWW does not own or control most of this land, there is no guarantee that it could be obtained for a pipeline. Pipe jacking or hanging pipe would be required to cross Interstate 684, along with significant rock removal along the length of pipe. Extensive permitting would be required to cross the interstate highway. Alternate pipeline routes between Kensico Dam and the WJWW system were investigated by WJWW in conjunction with the preparation of the 2008 FEIS, and the route described is representative of the area's geology and the major road and utility crossings needed to connect the two systems. Although a final route would be determined during design, variations in pipeline route are not anticipated to significantly influence costs or permitting needs.

UV-treated water from a regional UV plant in the vicinity of Kensico Dam would take several years to permit, design and construct. Since the raw water for the UV plant would come from NYCDEP's Kensico Reservoir, filtration could be required in the future.

It can be anticipated that WJWW would be responsible for a portion of the construction and operations cost of the regional UV disinfection plant and pump stations. The costs of the regional UV disinfection

plant and the WJWW's financial responsibility had not been established by the County at the time of the 2008 FEIS. Significant capital expenditure would be necessary to construct a new UV plant, pump station, and transmission main, and it would mean discontinuing use of the existing Rye Lake Pump Station, except under emergency conditions. The value of these unused assets would need to be included in the economic evaluation of the regional alternative.

A planning level construction cost estimate was developed for the 2008 FEIS, taking into account major components. This estimate was developed to represent only WJWW's 20-mgd portion of the regional system, and included costs for UV treatment, pumping, and the required pipeline to from the regional system to WJWW's system.

As indicated, significant costs are associated with this option, including siting, design and construction of a UV plant, and water mains to and from the chosen location. The capital cost for WJWW's portion of the UV plant, a pump station and a pipeline were expected to be similar to the proposed filtration plant.

Based on the 2008 FEIS alternatives analysis, either of the WCDEF regional alternatives would have costs for WJWW similar to that of the proposed filtration plant. It is possible that there could be economic advantages to WJWW with a regional UV plant, based on how the costs for construction and operation of the plant are apportioned. Since all costs associated with the regional supply had not been developed by WCDEF at the time of the 2008 FEIS, only the costs estimated for WJWW's portion of the needed facilities were used in the alternative evaluation.

Providing UV treatment and pumping from Kensico Dam to Park Lane would require extensive permitting before construction can begin, which would be time consuming. It can be expected that the schedule to permit, design and construct this alternative would be significantly longer than the proposed water treatment plant. The environmental impacts of a UV treatment plant, pipeline and pump station could be extensive. Furthermore, potential impacts associated with construction of a UV plant on parkland or a pipeline within the 300-foot NYCDEP buffer would be significant.

After the 2008 FEIS was issued, there was significant interest among project stakeholders in a County-led regional water treatment and conveyance alternative. These options were further evaluated by WJWW but, ultimately, the regional water utilities pursued options that did not provide any means for WJWW to obtain treated water, thereby increasing the uncertainty in the timing of possible action on a Westchester County Regional Water System, and even whether this scenario ultimately would ever come to fruition. Furthermore, WJWW was a secondary partner in this endeavor, with Westchester County primarily controlling project development and advancement. However, WJWW alone is subject to the EPA Administrative Order and the Supreme Court Judgment and Order; and these directives, and the associated penalties, are not incumbent upon Westchester County or other potential partners. In September 2013, WJWW became aware Westchester County would no longer be pursuing a new Regional Water System and would instead be developing a plan to evaluate other options that did not include WJWW. Therefore, it is no longer practicable for WJWW to pursue this option in lieu of the proposed filtration plant; accordingly, this scenario is not reasonable or feasible and, thus, is not a viable alternative.

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