



Kensico-Eastview Connection Project

Final Scope of Work

CEQR No. 21DEP020U



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December 2021

Kensico – Eastview Connection Project DEIS
Draft Final Scope of Work

Prepared for:



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List of Acronyms

APE	Area of Potential Effects
ATR	Automatic Traffic Recorders
bgd	Billion Gallons Per Day
CAA	Clean Air Act
CDUV	Catskill/Delaware Ultraviolet Disinfection
CEA	Critical Environmental Areas
CEQR	City Environmental Quality Review
CIC	Catskill Influent Chamber
DEIS	Draft Environmental Impact Statement
DEP	New York City Department of Environmental Protection
EIS	Environmental Impact Statement
EJ	Environmental Justice
ESA	Environmental Site Assessment
FAD	Filtration Avoidance Determination
FEIS	Final Environmental Impact Statement
FHWA	Federal Highway Administration
GHG	Greenhouse Gases
HVAC	Heating, Ventilation, and Air Conditioning
IPaC	Information, Planning, and Conservation
KEC	Kensico-Eastview Connection
LEC	Lower Effluent Chamber
LT2	Long Term 2 Enhanced Surface Water Treatment Rule
MOVES	Motor Vehicle Emissions Simulator
NHL	National Historic Landmarks
NHP	Natural Heritage Program
NHPA	National Historic Preservation Act
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
OPRHP	New York State Office of Parks, Recreation, and Historic Preservation
PCE	Passenger Car Equivalents
PEJ	Potential Environmental Justice
PM	Particulate Matter
REC	Recognized Environmental Conditions
SEQRA	State Environmental Quality Review Act
SIP	State Implementation Plan

SPDES	State Pollutant Discharge Elimination System
SWPPP	Stormwater Pollution Prevention Plan
SWTR	Surface Water Treatment Rule
TBM	Tunnel Boring Machine
TNM	Traffic Noise Model
UEC	Upper Effluent Chamber
USACE	United States Army Corps of Engineers
USBM	United States Bureau of Mines
USEPA	United States Environmental Protection Agency
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Survey
UV	Ultraviolet
WOH	West of Hudson

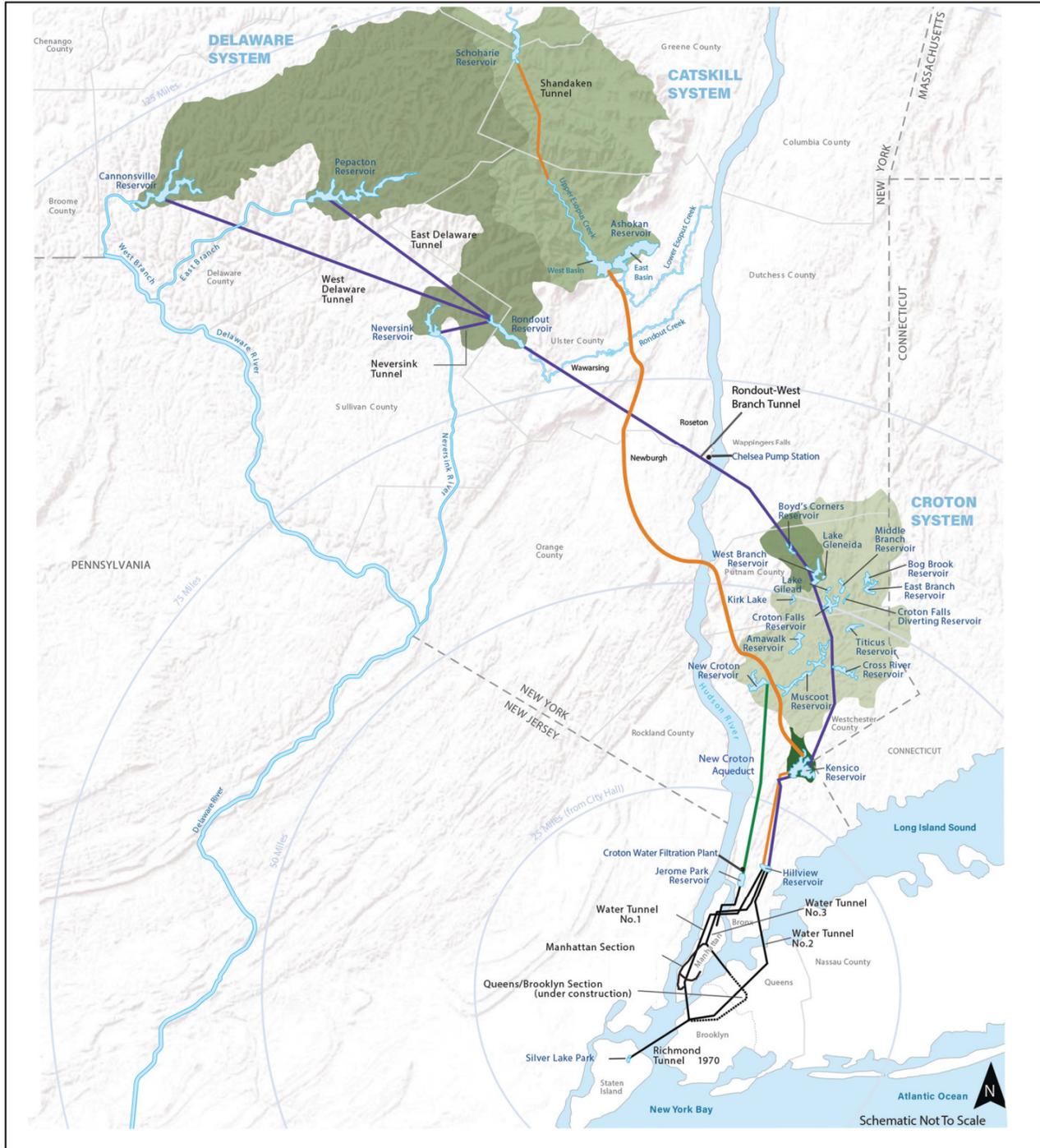
1.0 Introduction

More than 90 percent of New York City’s drinking water is supplied by the Catskill and Delaware watersheds located in upstate New York. The Catskill and Delaware aqueducts currently convey water by gravity from these upstate watersheds to the Kensico Reservoir located in Westchester County, New York (see **Figure 1**). Prior to the activation of the New York City Department of Environmental Protection’s (DEP’s) Catskill/Delaware Ultraviolet Disinfection (CDUV) Facility, located within the northern portion of the City’s property at Eastview, both the Catskill and Delaware aqueducts were used to convey water from the Kensico Reservoir to Hillview Reservoir located in Yonkers, New York. However, when the CDUV Facility was activated in 2012 to comply with the United States Environmental Protection Agency’s (USEPA) Long Term 2 Enhanced Surface Water Treatment Rule (LT2 Rule), the section of the Catskill Aqueduct that runs between Kensico Reservoir and the CDUV Facility was taken out of service because of hydraulic grade limitations that prohibited the gravitational conveyance of water to the new CDUV Facility.

The proposed Kensico-Eastview Connection (KEC) Project (the Proposed Action) would enhance system resiliency and redundancy by providing a new water conveyance tunnel between the Kensico Reservoir and the CDUV Facility. The KEC Project (including its environmental review) must be completed prior to the construction of a cover over the Hillview Reservoir, in accordance with the terms of the Hillview Consent Decree and Judgment entered in the United States District Court for the Eastern District of New York on May 15, 2019.

The Proposed Action would be located in the Town of Mount Pleasant, Westchester County (see **Figure 2**); and would largely involve the construction and operation of new or modified facilities on what, for the purposes of the Proposed Action, has been identified as the Kensico Campus and KEC Eastview Site. The Kensico Campus is a portion of the City’s property adjacent to the Kensico Reservoir, as shown on **Figure 3**. The Kensico Campus is generally bounded by the Kensico Reservoir to the east, West Westlake Drive to the south, Columbus Avenue to the west and Valhalla High School to the north. The KEC Eastview Site contains DEP’s CDUV Facility, as shown on **Figure 4**, and is generally bounded by the Westchester County Correction Center to the east, NY State Route 100C (NY100C) to the south, Walker Road to the west, and Westchester County Laboratories and Research to the north.

Because the Proposed Action would be located within the State of New York and would be undertaken by DEP, a mayoral agency of the City of New York, it is subject to environmental review pursuant to the New York State Environmental Quality Review Act (SEQRA) and the City of New York’s City Environmental Quality Review (CEQR) process. Further, because the Proposed Action may result in one or more significant adverse environmental impacts, DEP, as



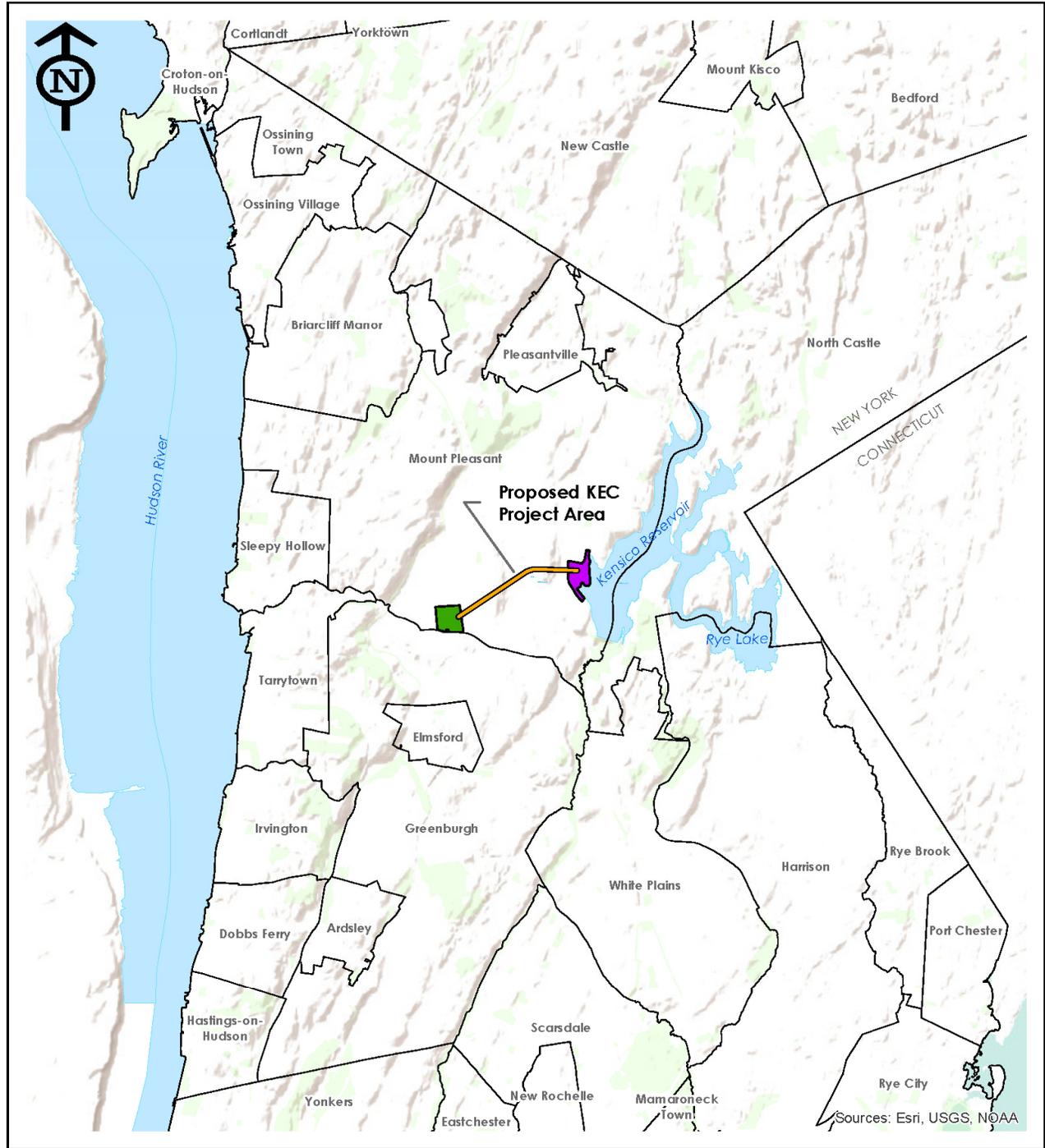
LEGEND

- Delaware Aqueduct
- Catskill Aqueduct
- New Croton Aqueduct
- Water Tunnels
- Delaware System
- Catskill System
- Croton System
- Kensico Reservoir Watershed



Water Supply System Map

Kensico-Eastview Connection Figure 1

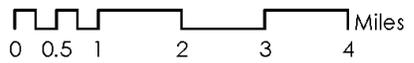


Source: USGS Base map, NYS DEC Hydrography, Parks

Sources: Esri, USGS, NOAA

LEGEND

- KEC Eastview Site
- Kensico Campus
- Municipal Boundary
- Proposed KEC Tunnel Alignment



Regional Map
Kensico-Eastview Connection: Figure 2



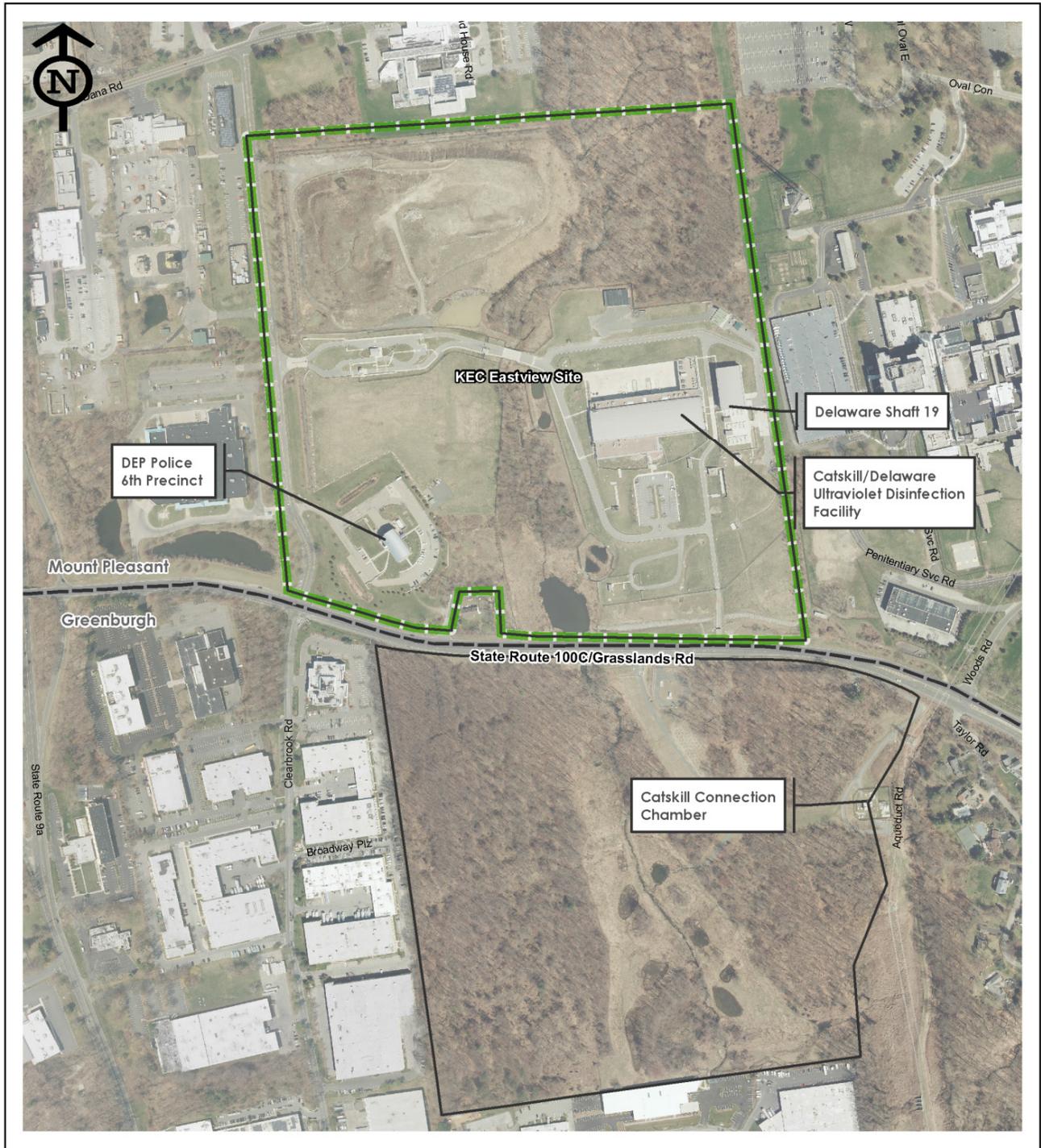
Source: USGS Aerial Base map, 2020 Westchester County GIS

LEGEND

-  Kensico Campus
-  Dike Grade Tunnel
-  DEP Parcels



Kensico Campus – Existing
Kensico-Eastview Connection. Figure 3



Source: USGS Aerial Base map, 2020 Westchester County GIS

LEGEND

-  KEC Eastview Site
-  Municipal Boundary Line
-  DEP Parcel



0 250 500 1,000 Feet

KEC Eastview Site - Existing

Kensico-Eastview Connection Figure: 4

Lead Agency, will prepare a Draft Environmental Impact Statement (DEIS) for review and comment, and for consideration by other involved and interested agencies.

Public scoping is an element of the environmental review process and provides interested government agencies, elected officials, community organizations, groups and individuals with an opportunity to review and comment on the Proposed Action’s Draft Scope of Work (Draft Scope), which is thereafter used to inform and prepare a DEIS, and ultimately the final EIS. Scoping is intended to determine the range of issues and considerations that must be evaluated in the DEIS. This ~~Draft~~ Final Scope therefore describes the purpose and need for the Proposed Action, a summary of the Proposed Action and its alternatives, and the methodologies to be used in assessing the potential for impacts associated with the Proposed Action and its alternatives. The proposed DEIS impact assessment criteria and methodologies contained in this ~~Draft~~ Final Scope are primarily based on the guidance set forth in the *CEQR Technical Manual*¹, but also draw upon applicable federal and State guidelines, as appropriate. The proposed scope of work for each DEIS technical area is briefly described in the sections below. The potential for impacts would be assessed and disclosed in the DEIS.

2.0 Purpose and Need for the Proposed Action

Since the activation of the CDUV Facility in 2012, DEP has used the Delaware Aqueduct to supply water to the CDUV Facility. To increase operational flexibility and system redundancy, DEP undertook a Master Planning and Facilities Planning effort to identify alternative water conveyance options from the Kensico Reservoir to the CDUV Facility. A new tunnel (the KEC) was identified as the preferential alternative.

Completion of the KEC Project would increase flow to the CDUV Facility and improve DEP’s ability to maintain Hillview Reservoir water surface levels within normal operating limits during single-basin operations at the reservoir pursuant to the Hillview Consent Decree and Judgment’s mandates. Extended periods of single-basin operation of the Hillview Reservoir are anticipated during construction of the cover required under the Hillview Reservoir Consent Decree and Judgment. The reduction in storage capacity at Hillview Reservoir during this time would impact the City’s ability to meet peak distribution demands and reduce operational flexibility. Completion of the KEC Project tie-in and sequencing with the future Hillview Reservoir cover construction is critical to ensure sufficient transmission capacity to offset the reduction in storage capacity.

¹ New York City Mayor's Office of Environmental Coordination. 2020. City Environmental Quality Review (CEQR) Technical Manual. <https://www1.nyc.gov/site/oec/environmental-quality-review/technical-manual.page>

The Proposed Action would be comprised of the following major components:

- A new approximately 2-mile-long, deep rock tunnel between the Kensico Reservoir and the CDUV Facility;
- A new uptake shaft (Shaft 2C) at the KEC Eastview Site;
- A new downtake shaft (Shaft 1C) and vent building at the Kensico Campus;
- A potential construction drop pipe along the tunnel alignment (to be discussed in the construction alternatives section);
- Subsurface utility easements along the tunnel corridor;
- Construction of a new KEC Screen Chamber;
- Construction of connecting tunnels to the new Screen Chamber and modifications to the existing Dike Grade Tunnel;
- Consolidation of the electrical supply to the Kensico Campus and construction of a new electrical building;
- Redevelopment of the Kensico Campus including the relocation of Westlake Drive, regrading of the overall site, a new DEP Police booth, and other security improvements;
- Modifications to the chemical feed system at Delaware (Del) Shaft 18;
- Modifications to the existing Catskill Upper Effluent Chamber (UEC) located within and adjacent to the Kensico Reservoir;
- Construction of a new Eastview Connection Chamber and interconnection to the CDUV Facility;
- Management of excavated materials from construction;
- Shoreline stabilization efforts along Kensico Reservoir south of the UEC; and
- Mitigation as needed for the project.

The project goals and objectives identified by DEP for the proposed KEC Project include:

- Enhanced operational resiliency and redundancy for the water supply system;
- Provide target capacity to the CDUV Facility;
- Preserve the potential for the Catskill Aqueduct to bypass the Kensico Reservoir;
- Facilitate emergency and planned outages; and
- Provide compatibility with future infrastructure projects.

3.0 Organization of the ~~Draft~~ Final Scope

As discussed above, the sponsor of the Proposed Action is DEP, a mayoral agency of the City of New York. The Proposed Action is therefore subject to CEQR in addition to SEQRA. The City of New York’s *CEQR Technical Manual* provides guidance for conducting environmental assessments performed under CEQR.

This ~~Draft~~ Final Scope describes the proposed project’s background and context, a description of the Proposed Action and the analysis methodologies that would be used in the DEIS to assess the potential environmental effects of the Proposed Action. Specifically, this ~~Draft~~ Final Scope includes the following sections:

- Section 2.0 includes discussion of the Purpose and Need for the Proposed Action;
- Section 4.0 provides background information for the Proposed Action including a general overview of the New York City Water Supply System, the City’s Filtration Avoidance Determination, the Hillview Reservoir Consent Decree and Judgment and current operations at the Kensico Campus and KEC Eastview Site;
- Section 5.0 provides a detailed description of the KEC Project and its major elements;
- Section 6.0 briefly discusses the anticipated project schedule and phasing;
- Section 7.0 identifies the major discretionary federal, State, and local permits and approvals that would be required for the Proposed Action;
- Section 8.0 provides a brief overview of the environmental review process; and
- Section 9.0 summarizes the organization of the DEIS that would be prepared and describes the methodologies and scope of work to be utilized to assess each environmental impact category as part of the DEIS.

4.0 Background

4.1 New York City Water Supply System

The New York City water supply system was originally developed through the visionary planning of those who understood the importance of delivering an abundant and reliable supply of clean drinking water to the City. It is among one of the most complex systems in the world, comprised of 19 reservoirs and 3 controlled lakes, and a combined total water storage capacity of approximately 570 billion gallons. The City’s water supply system was also designed and constructed with various interconnections to increase the overall system’s flexibility and permit the exchange of water which reduces the effects of localized droughts. On average, more than 1.1 billion gallons of water flow each day by gravity from upstate New York to meet the water supply needs of ~~more than eight~~ nearly nine million in-City consumers and one million residents north of the City. DEP is

responsible for operating and maintaining the New York City water supply system and delivering clean drinking water in sufficient quantities to meet present and future water demands.

The City supplies water to its consumers from three surface water supply systems: the Croton, the Catskill, and the Delaware water supply systems (**Figure 1**). Waters from the Croton System travel to Jerome Park Reservoir prior to distribution. Waters from the Catskill and Delaware Systems (collectively Catskill/Delaware) are discharged first into Kensico Reservoir.

The Kensico Reservoir is situated approximately 30 miles north of Manhattan in the towns of Mount Pleasant, North Castle, and Harrison (**Figure 2**). As the water leaves Kensico Reservoir at the southwestern shore, it is chlorinated for primary disinfection and fluoridated to reduce tooth decay. The water supply was historically returned to the Catskill and Delaware aqueducts and conveyed to Hillview Reservoir, but since 2012, water from Kensico has been conveyed to the CDUV Facility solely through the Delaware Aqueduct prior to its release from the CDUV Facility. Subsequent to treatment at the CDUV Facility, water then flows downstream via the Catskill and Delaware aqueducts to Hillview Reservoir.

4.2 Filtration Avoidance Determination

The Surface Water Treatment Rule (SWTR), adopted by USEPA pursuant to the Federal Safe Drinking Water Act, requires, among other things, that a public water system using surface water sources either filter the surface water prior to distribution or meet and maintain specific filtration avoidance criteria. These criteria include standards for source water quality, treatment requirements, and watershed control requirements. Under the SWTR, a public water supply may seek a Filtration Avoidance Determination (FAD) from USEPA or from a delegated State agency such as the New York State Department of Health (NYSDOH), to which USEPA has granted “primacy,” responsibility for implementing and enforcing the SWTR.

The City received a FAD for its Catskill/Delaware Water Supply System from USEPA in 1993. Thereafter, USEPA and, since 2007, NYSDOH, have re-issued a series of FADs for the Catskill/Delaware System, based on the high quality of the City’s source waters, treatment methods, extensive monitoring, and the effectiveness of the City’s source water protection program. The most recent 10-year FAD was issued in 2017.

4.3 Hillview Reservoir Consent Decree and Judgment

On May 15, 2019, the United States District Court for the Eastern District of New York entered a Consent Decree and Judgment between the United States, New York State (as Plaintiff and Plaintiff-Intervenor, respectively), the City of New York and DEP (as Defendants) in settlement of the lawsuit filed against the City and DEP for failure to cover the Hillview Reservoir as required by federal law and regulation (the Safe Drinking Water Act and the Long Term 2 Enhanced Surface Water Treatment Rule) and noncompliance with pre-existing federal and New York State administrative orders on consent. The Consent Decree sets forth a schedule of compliance that

requires the City to cover the Hillview Reservoir after first completing two enumerated critical path water system improvement projects: KEC and the Hillview Reservoir Improvements.

The KEC Project must be completed prior to the start of the Hillview Cover’s construction because it would increase the flow from the Kensico Reservoir to the City’s CDUV Facility and reduce hydraulic losses. These changes would greatly improve the City’s ability to maintain Hillview Reservoir water surface levels within the normal operating range during extended single-basin operation at Hillview Reservoir, which is required for construction of each basin cover. As such, completion of the KEC Project in advance of the Hillview Cover’s construction is absolutely critical to ensure sufficient transmission capacity to consumers is maintained during single-basin operation, which would be done by offsetting the reduction in storage capacity via operation of the KEC.

Completion of the proposed DEIS and Final Environmental Impact Statement (FEIS) for the proposed KEC Project are identified as part of the Long Term Compliance Requirements set forth within the Hillview Reservoir Consent Decree and Judgment. Subsequent design, procurement, initiation, and completion of construction, and ultimately, operation, are also set forth in the Consent Decree’s schedule of compliance.

4.4 Current Operations

4.4.1 Kensico Campus

4.4.1.1 Introduction

DEP has a number of existing facilities and operations that are located within the Kensico Campus as defined within this ~~Draft~~ Final Scope. The Kensico Campus includes Del Shaft 18 that allows Kensico Reservoir waters to enter the Delaware Aqueduct for conveyance to the CDUV Facility, as well as the Catskill UEC that historically allowed reservoir waters to enter the Catskill Aqueduct. As part of historical UEC operations, waters would flow through the existing Dike Grade Tunnel, Lower Effluent Chamber (LEC), and existing Kensico Screen Chamber before continuing to Hillview Reservoir through the Catskill Aqueduct (**Figure 3**). Facilities for the addition of chemicals to provide disinfection and fluoridation of both waters entering Del Shaft 18 and the LEC are also located at the Kensico Campus. Finally, DEP maintains several other operations and structures including, but not limited to, the Kensico Laboratory building and waterfowl management operations.

Provided within this section is a brief discussion of existing Kensico Campus elements that would be modified, expanded, or otherwise potentially affected by the proposed KEC Project.

4.4.1.2 Kensico Reservoir

As discussed in Section 4.1, the Kensico Reservoir is the major feature associated with and immediately adjacent to the Kensico Campus. The major function of the Kensico Reservoir is to make waters available to meet the fluctuating daily demands of New York City water users.

~~Ordinarily, Kensico Reservoir is the “last stop” for all Catskill and Delaware system waters before distribution throughout New York City.~~

Water from Kensico Reservoir currently enters the Delaware Aqueduct at Del Shaft 18 for conveyance to the CDUV Facility. Water from Kensico Reservoir historically entered the Catskill Aqueduct at the UEC for conveyance downstream. As the terminal reservoir in the Catskill and Delaware Systems before water enters the distribution network, the Kensico Reservoir is subject to federal water quality standards for coliform and turbidity.

4.4.1.3 Delaware Shaft 18

The existing Del Shaft 18, located on the western shore of the Kensico Reservoir, serves as the intake for the Delaware Aqueduct (see **Figure 3**). Reservoir water enters the shaft, receives chemical treatment (chlorination and fluoridation), and is then conveyed to the CDUV Facility.

4.4.1.4 Upper Effluent Chamber (UEC)

The existing UEC, located on the western shore of the Kensico Reservoir, serves as the intake for the Catskill Aqueduct (see **Figure 3**). The UEC contains bar racks to pre-screen the water of larger debris before it enters the Catskill Aqueduct. After the bar racks, water is directed through four channels into a small forebay before entering the existing Dike Grade Tunnel, a segment of the Catskill Aqueduct, through the UEC effluent portal. The forebay is also connected to the Kensico Bypass (see **Figure 5**), which connects the Catskill Influent Chamber (CIC) where the Catskill Aqueduct discharges to Kensico Reservoir (located approximately 2 miles northeast of the UEC on the west shore of the reservoir) to the UEC. The existing UEC contains four pairs of sluice gates, two per channel, providing isolation from the reservoir when required. Stop shutter grooves are located in each of the four channels, both upstream and downstream of each sluice gate pair. An electric bridge crane services the entire operating floor.

4.4.1.5 Lower Effluent Chamber (LEC)

Water was historically conveyed from the UEC to the forebay of the LEC via the Dike Grade Tunnel. Water from the Dike Grade Tunnel would then enter the LEC forebay through an opening in the east wall of the LEC and was historically discharged through any of three sets of gates. The three southern generator gates direct water to the Catskill Aqueduct via a 17-foot diameter tailrace tunnel, located within the substructure of the LEC.

The northern gates are two rows of four gates each – a row of four lower sluice gates and a row of four upper sluice gates. Both rows of gates direct flow into the Catskill Aqueduct. Historically, the northern gates would control flow into the aqueduct. The northern gates, when closed in combination with the southern gates, could shut off flow into the aqueduct downstream of the LEC.

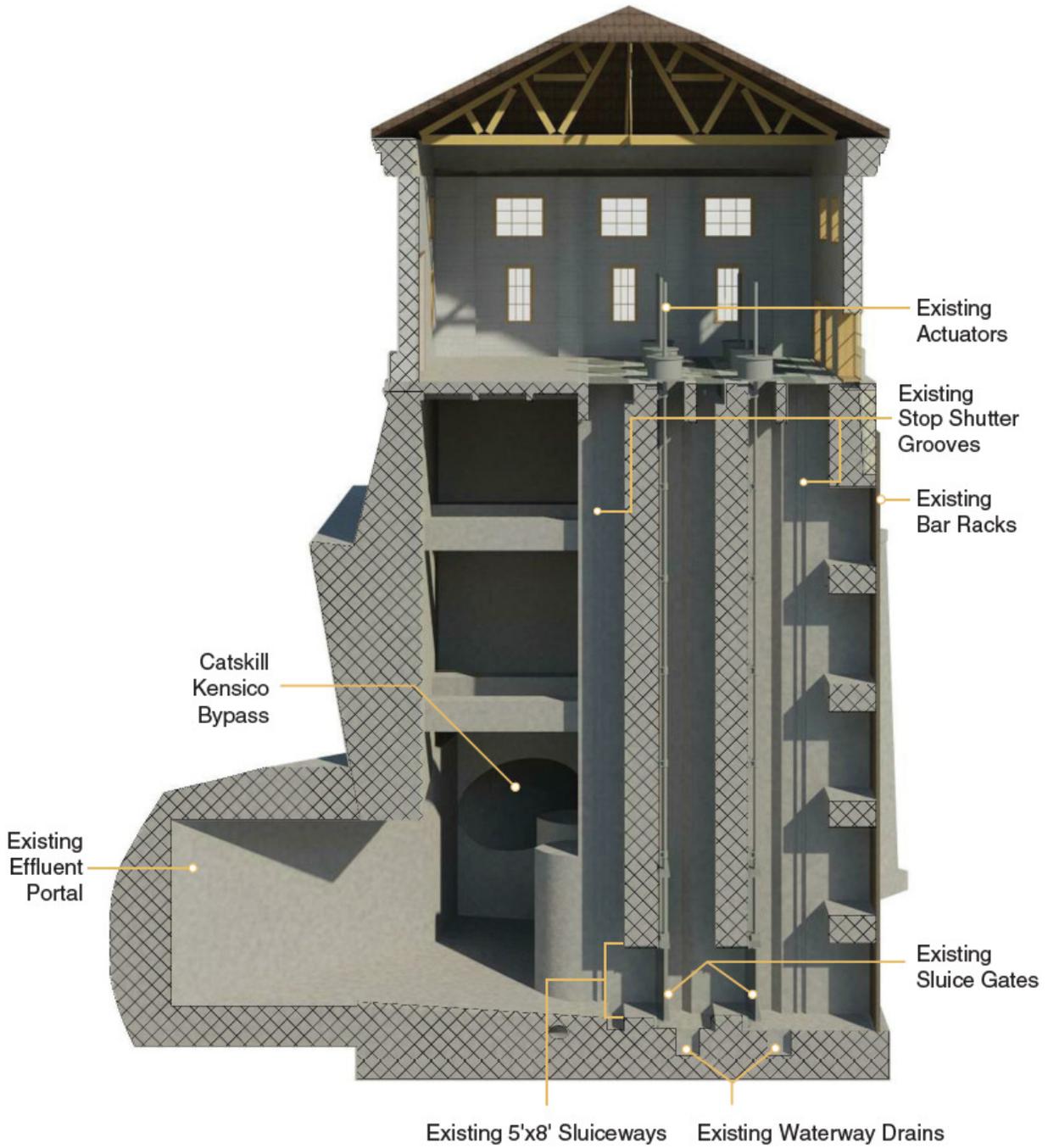


Figure 5. Catskill Upper Effluent Chamber

Aerator supply gates on the western wall of the forebay were once used to direct flow to the Catskill Aerator (Aerator No. 1). The water was conveyed to Aerator No. 1 and then back into the Catskill Aqueduct at the Aerator Connection Chamber (a part of which is now called the Fluoridation Pit). The aerator is no longer in use.

4.4.1.6 *Dike Grade Tunnel*

The Dike Grade Tunnel, constructed circa 1913, is a segment of the Catskill Aqueduct that conveys water from the UEC and its effluent portal to the LEC (**Figure 3**). The tunnel has the capacity to convey between 600 and 800 million gallons per day (mgd) of flow.

4.4.1.7 *Fluoridation Pit*

The Aerator Connection Chamber/Fluoridation Pit was once used as the connection between the Catskill Aerator and the Catskill Aqueduct and is located on the western edge of the Kensico Campus in proximity to Columbus Avenue. The aerator portion of this structure was abandoned over 40 years ago along with the Catskill Aerator. The aqueduct connection portion of this structure is now known as the Fluoridation Pit. Fluoride from the Fluoridation Building located off Westlake Drive is fed into the Catskill Aqueduct at this location.

4.4.1.8 *Kensico Screen Chamber*

The existing Kensico Screen Chamber (a/k/a Catskill Screen Chamber) is located downstream of the Fluoridation Pit. While the existing chamber is located west of Columbus Avenue and the Kensico Campus, the Proposed Action would largely replace the operations associated with the existing chamber. The existing Screen Chamber contains seven mesh water screens to prevent debris from traveling further down the aqueduct. Debris collected from these screens is conveyed via a concrete channel into a removable basket strainer. The existing Screen Chamber also houses a chlorination injection system for disinfection purposes.

4.4.2 *KEC Eastview Site*

The property at Eastview owned by the City of New York, is a 153-acre property situated in the Towns of Mount Pleasant and Greenburgh in Westchester County, New York, and is located north and south of NY100C, see **Figure 4**. The CDUV Facility is situated on the northern portion of the site (north of NY100C), which is located solely in the Town of Mount Pleasant. A portion of the City's property at Eastview is reserved for possible future use as the site for a Catskill-Delaware filtration plant. **Figure 4** shows the City's property at Eastview and the infrastructure associated with the CDUV Facility that was placed into operation in September 2012 on the KEC Eastview Site.

The CDUV Facility is designed to provide enhanced disinfection of up to 2,020 mgd of Catskill and Delaware supply. Treatment capacity of the UV units varies with water quality, and is typically highest during summer months, when the UV transmittance of source water is usually highest. The

CDUV Facility is sized for an ultimate seasonal treatment capacity of 2,400 mgd while achieving 2-log inactivation² of *Cryptosporidium* in accordance with regulatory requirements.

Two 108-inch diameter mains then convey UV-treated water from the CDUV Facility to the Catskill Aqueduct. Their maximum capacity as individual pipelines is about 400 mgd, while their combined maximum capacity to deliver UV-treated water to the Catskill Aqueduct is about 710 mgd.

The CDUV Facility was placed in service in 2012. The facility presently receives raw water via the Delaware Aqueduct and discharges the UV-treated water to both the Catskill and Delaware aqueducts.

Additional facilities currently located at the KEC Eastview Site include administrative offices located in the north central section of the site north of the CDUV building. The DEP Police, 6th Precinct is also located within the southwest portion of the KEC Eastview Site. Finally, the site has access from Walker Road to the west and emergency access from NY100C to the south. Access from Walker Road is directed to a gated and manned entrance that provides controlled access to the site.

5.0 Kensico-Eastview Connection Project Description

5.1 Introduction

As discussed above, the KEC Project would provide for the construction and operation of a new, additional water conveyance tunnel between Kensico Reservoir and the CDUV Facility, which would enhance system resiliency and redundancy, preserve the potential for a Catskill Aqueduct bypass of the Kensico Reservoir, allow DEP to meet target capacities for the CDUV Facility, and allow for emergency and planned system outages. DEP is also obligated to construct the KEC Project under the Hillview Reservoir Consent Decree and Judgment.

The KEC Project would be located in the Town of Mount Pleasant, Westchester County, New York as shown in **Figure 2** and **Figure 6**. The proposed KEC Project would be comprised of several elements as discussed in more detail below.

5.2 KEC Downtake and Uptake Shafts

Two new shafts, the KEC Downtake Shaft (KEC Shaft 1C) and KEC Uptake Shaft (KEC Shaft 2C) would be constructed as part of the Proposed Action. These shafts would facilitate the KEC Tunnel's construction and ultimately convey water to and from the KEC Tunnel once the KEC Project is completed. Both shafts would be "belled out" at the proposed tunnel level. KEC Shaft 1C would be

² Log inactivation expresses the number or percent of microorganisms inactivated (killed or unable to replicate) through the disinfection process.

located at the Kensico Campus in the vicinity of the newly proposed KEC Screen Chamber and KEC Shaft 2C would be located at the KEC Eastview Site.

The shafts would be excavated utilizing typical mechanical excavation equipment through soft ground and controlled blasting through rock. Shaft support would then be constructed using appropriate means and methods applicable for the initial soft ground or overburden at the project sites and the rock expected within the deeper portions of the shafts. Both shafts would be lined with cast in place concrete. It is anticipated that the finished diameter of KEC Shaft 1C would be approximately 27 feet and KEC Shaft 2C would be approximately 32 feet.

5.3 Construction Drop Pipe (Construction Alternative)

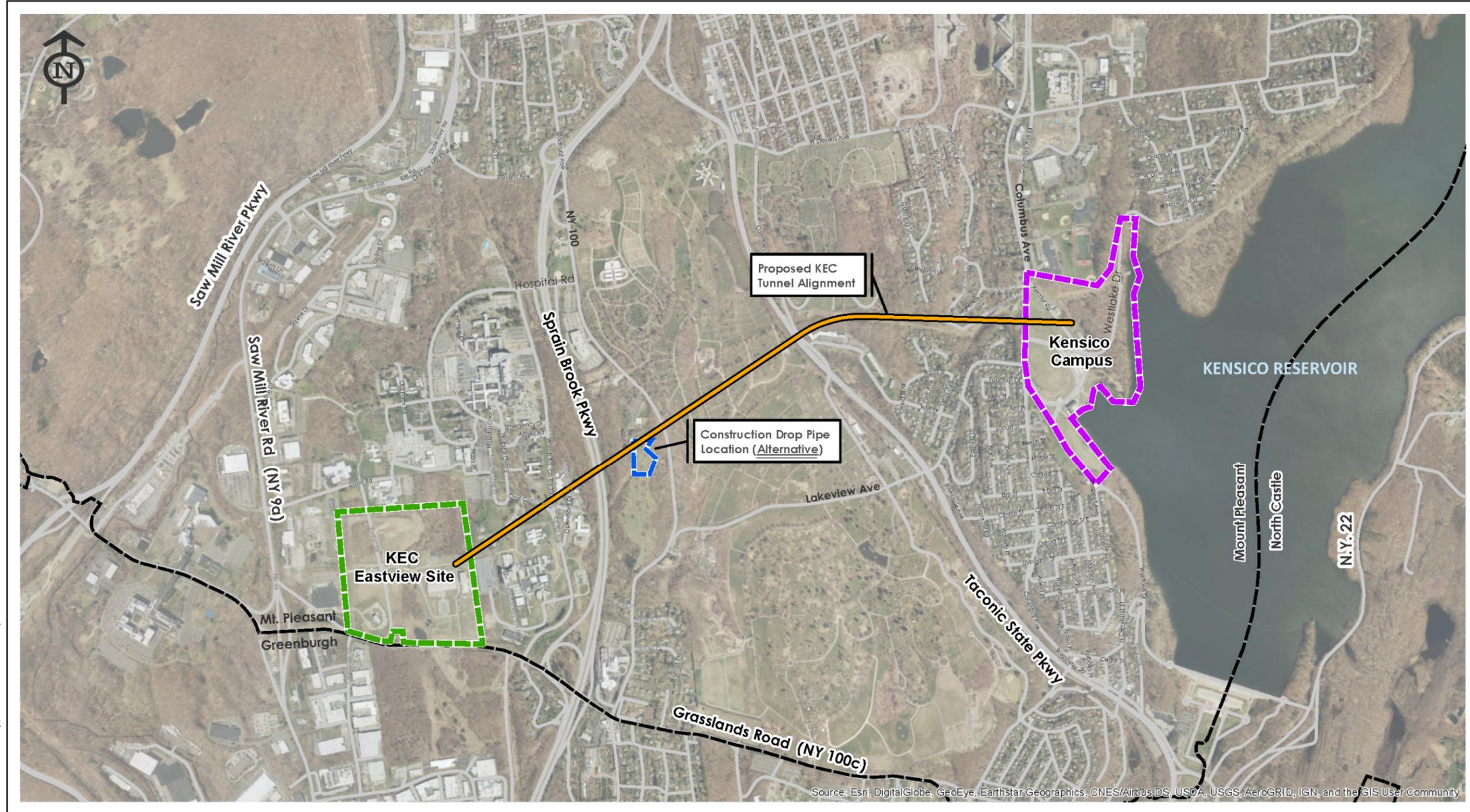
In addition to the construction of KEC Shafts 1C and 2C, the KEC Project may also include a separate Construction Drop Pipe. The potential proposed Construction Drop Pipe would be located on property owned by Westchester County and would be accessed from Bradhurst Avenue (**Figure 7**). If constructed, the Construction Drop Pipe would be a maximum internal diameter of approximately 8 inches and constructed using a rotary boring method, similar to a well. The Construction Drop Pipe would extend to the depth of the tunnel at this site and provide an additional point along the KEC Tunnel alignment to deliver grout or concrete for tunnel lining, if needed. At the end of the tunnel lining, the drop pipe would be sealed. This would be assessed as a construction alternative.

5.4 Deep Rock Tunnel

A new deep rock tunnel would be constructed between the proposed KEC Shaft 2C located at the KEC Eastview Site and the KEC Shaft 1C located adjacent to the new KEC Screen Chamber at the Kensico Campus (**Figure 6**). The proposed alignment would result in a tunnel length of approximately 2 miles with a finished diameter of approximately 27 feet. It is anticipated that a Tunnel Boring Machine (TBM) would be used to construct the tunnel with tunnel initiation from the KEC Eastview Site. The tunnel would include a concrete lining.

Along the tunnel corridor, DEP would need to secure subsurface utility easements for the protection of the tunnel during construction and operation. The proposed utility easement for each property along the tunnel corridor would extend horizontally on either side of the centerline of the tunnel. Within the corridor, the proposed easements would restrict certain subsurface development activities.

The proposed deep rock tunnel and corresponding utility easements would not result in any physical change to the current ground surface, subsurface structures, or land features. With the exception of prohibiting future subsurface activities, such as the drilling of new wells, within each proposed utility easement, the proposed utility easements would not restrict future expansion or modification of existing structures, or development of parcels above or at grade. A Tunnel Protection Zone would provide a protective easement that would extend on either side from the tunnel centerline, both vertically and horizontally.

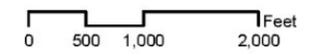


Source: USGS Basemap, 2020 Westchester County GIS

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

LEGEND

-  Proposed Tunnel Alignment
-  KEK Eastview Site
-  Construction Drop Pipe Site (Alternative)
-  Kensico Campus
-  Municipal Boundary



Project Overview

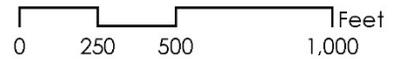
Kensico-Eastview Connection

Figure 6



LEGEND

-  Construction Drop Pipe Site (Alternative)
-  Construction Drop Pipe Location (Alternative)
-  Construction Drop Pipe Parcel



Construction Drop Pipe Site
 Kensico-Eastview Connection. Figure 7

5.5 Upper Effluent Chamber Improvements

The UEC, which serves as an intake structure for the Catskill Aqueduct on the Kensico Reservoir, was constructed between 1910 and 1918. In its current configuration, the UEC is capable of withdrawing 600 to 800 mgd of water from the Kensico Reservoir. Modifications to increase the capacity of the structure would be required as part of the KEC Project.

The UEC (see **Figure 5**) is a concrete structure founded on bedrock and is similar to other Catskill Aqueduct facilities. The UEC is not currently in use due to the insufficient hydraulic grade to convey water to the CDUV Facility.

In order to accommodate the proposed design flow for the KEC Project, modifications to the UEC are required. Proposed improvements would include:

- Removal of existing sluice gates and gang drive;
- Creation of four new gate openings above the existing gates, in the upstream and downstream isolation walls;
- Enlargement of the four existing gate openings;
- Installation of eight new sluice gates with electric actuators; and
- Enlargement Modification of the UEC effluent portal, which currently connects the UEC to the Dike Grade Tunnel.

In addition, various modifications would also be required including upgrading bar racks, masonry repointing, crack repair, and operating floor repair or replacement, roof and eave work, upgrading of the electrical system, potential removal of accumulated materials from the start of the UEC inlet channel leading to the face of the UEC in Kensico Reservoir, and remediation of potential remaining legacy constituents of concern as necessary.

5.6 New Screen Chamber

A new Screen Chamber designed for full capacity would be constructed as part of the KEC Project at the Kensico Campus. The KEC Screen Chamber would include duty dual-flow screens to minimize the risk of large objects possibly damaging CDUV equipment. No screen redundancy would be anticipated at the maximum flow rate.

In addition, the KEC Screen Chamber would include a debris handling system. Facility process water systems would be provided to accommodate non-potable water needs throughout the facility. A potable water connection to the Town of Mount Pleasant's system would also be provided. Heating and ventilation would be provided, along with restroom facilities.

The KEC Screen Chamber would include three separate connections as discussed in Section 5.7 and would also potentially provide for additional future connections along the south side of the KEC Screen Chamber building.

5.7 Connecting Tunnels and Dike Grade Tunnel Modifications

The KEC Project would also include the modification and/or construction of several additional tunnels at the Kensico Campus. The three connecting tunnels at the KEC Screen Chamber would be (1) the UEC Connection Tunnel; (2) the Dike Grade Return Tunnel; and (3) the Downtake Shaft Connection Tunnel (**Figure 8**).

The UEC Connection Tunnel would be an enlargement of a portion of the existing Dike Grade Tunnel from the UEC to the KEC Screen Chamber. The Dike Grade Return Tunnel would be a new connection from the KEC Screen Chamber back to the existing Dike Grade Tunnel that is required in order to maintain use of the Catskill Aqueduct and bypass of the CDUV Facility in the event of an emergency. The Dike Grade Return Tunnel would have a capacity similar to the Catskill Aqueduct and the intake capacity of the unimproved UEC. A concrete plug would be installed within the abandoned section of the Dike Grade Tunnel between the UEC Connection Tunnel and the Dike Grade Return Tunnel in order to route flows to the new Screen Chamber and allow for connection to the Catskill Aqueduct.

The Downtake Shaft Connection Tunnel would be constructed between the new KEC Screen Chamber and Shaft 1C. This tunnel would convey the water from the Screen Chamber to the Downtake Shaft and ultimately the new KEC Tunnel.

5.8 Modification of Chemical Addition Facilities

Primary disinfection and fluoridation of the water to be delivered through the KEC Project would be required. The existing chlorination and fluoridation systems at Del Shaft 18 and the Fluoride Building would be used to provide the necessary chemical addition. Both the chlorine and fluoride systems at Del Shaft 18 have been upgraded in the past 20 years. With relatively minor modifications, the chemical feed facilities that had previously been used for the Catskill Aqueduct segment between Kensico and Eastview are considered suitable for use as part of the KEC Project.

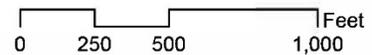
Minor modifications (e.g., installation of isolation valves, piping interconnections, selector switches) would be required to enable use of the chlorination system for either the Delaware Aqueduct, KEC Project, or both. Dedicated chlorine addition to the existing Catskill Aqueduct would not be required as there would be no flow of the water through the existing Catskill Aqueduct, however, a manual means to chlorinate the aqueduct in an emergency would be provided. The existing Catskill fluoride pumps would need to be replaced with higher capacity pumps and dedicated to the KEC Project flow. Modifications to existing chemical storage or handling facilities would not be anticipated as part of the KEC Project. Redundant transmission lines for both the chlorine and fluoride systems between Del Shaft 18 and the KEC Shaft 1C (located adjacent to the KEC Screen Chamber) would also be required. Flow metering would be provided to control chemical dosage.



Source: USGS Aerial Base map, 2020, Westchester County GIS

LEGEND

- Kensico Campus
- Proposed Buildings
- Proposed Connection Tunnels
- Proposed KEC Tunnel Alignment
- Shoreline Stabilization
- Limit of Disturbance
- Major Project Elements



Kensico Campus - Proposed
Kensico-Eastview Connection Figure 8

5.9 Westlake Drive and Kensico Campus Site Improvements

Westlake Drive currently bisects the Kensico Campus and provides unrestricted access to the public. As a result of the anticipated redevelopment of the overall Kensico Campus and in the interest of providing increased security and controlled access across the entire Kensico Campus, the proposed KEC Project would result in the closure of the existing section of Westlake Drive from its intersection with Columbus Avenue to a location in the vicinity of the UEC. As part of the Proposed Action, a new connection between Westlake Drive and Columbus Avenue would be located near the current intersection of Aerator Road and Columbus Avenue. In addition, a parking lot would be constructed near the current intersection of Aerator Road and Columbus Avenue, with a pedestrian link to Columbus Avenue.

The proposed relocated roadway would then extend to the east, largely parallel to an existing transmission line right-of-way. In proximity to the UEC, the proposed relocated roadway would turn to the north where it would reconnect with the original Westlake Drive to allow for connectivity between Westlake Drive and Columbus Avenue. The relocation would also serve to shift and separate public access away from the anticipated construction access for the project that would otherwise have been shared if not for the proposed relocation.

The closure of the existing section of Westlake Drive would allow DEP to eliminate currently unrestricted public access in proximity to the City's critical water supply facilities. This would allow for the development of a more robust security perimeter (fence) around the main portion of the Kensico Campus and the development of a new secure and manned access point that would be constructed along the alignment of the closed section of Westlake Drive.

Additional activities at the Kensico Campus associated with the Proposed Action would include tree clearing and regrading across a large portion of the Campus. The Proposed Action would disturb approximately ~~40~~50 acres of land and would result in the clearing of approximately 915 wooded acres. Additional site improvements during construction ~~and/or for future operations~~ would include construction staging, ~~potential~~ installation of temporary construction office trailers, spoils stockpiling and management, dewatering, erosion and sediment control, stormwater management, and utility and water supply improvements.

The construction of a new electrical building would serve as a local power feed during construction of the KEC Project, as well as power source for operations once construction is complete. The new electrical building would obtain power feed from nearby Con Edison power lines via underground duct banks.

5.10 Shoreline Stabilization

The KEC Project would also include shoreline stabilization and improvement efforts along the western shoreline of the Kensico Reservoir, starting from the UEC and extending approximately 1,700 feet to the south.

During Superstorm Sandy in October 2012, the western and cove shorelines and adjacent upland areas of Kensico Reservoir suffered severe erosion from excessive wind and wave action. The erosive forces from this storm caused high levels of sedimentation and suspended solids in the Kensico water column, which in turn caused turbidity issues in the water areas near the existing Kensico Reservoir intakes - UEC and Del Shaft 18. To prevent similar issues from occurring again in the future, the proposed KEC Project would include construction of soil protection and stabilization of the Kensico Reservoir's western shorelines running south of the UEC. These activities are intended to append with the adjacent existing shoreline stabilization work done under DEP's current Kensico Shoreline Stabilization Project, CRO-543, located immediately southeast, and north of Del Shaft 18. Shoreline stabilization under the CRO-543 project and the additional effort as part of the Proposed Action consist of placing riprap along the water's edge of the reservoir in order to provide continuous shoreline stabilization from the UEC to an area in proximity to Del Shaft 18.

As noted previously, the KEC Project would also reactivate the UEC intake to draw water from the reservoir into the new KEC Tunnel, including an increase from its original capacity. The increased level of water withdrawal, combined with the potentially unstable conditions of the shoreline and nearby upland areas, are equally important issues that would be addressed by the proposed shoreline stabilization and improvement efforts proposed under the KEC Project.

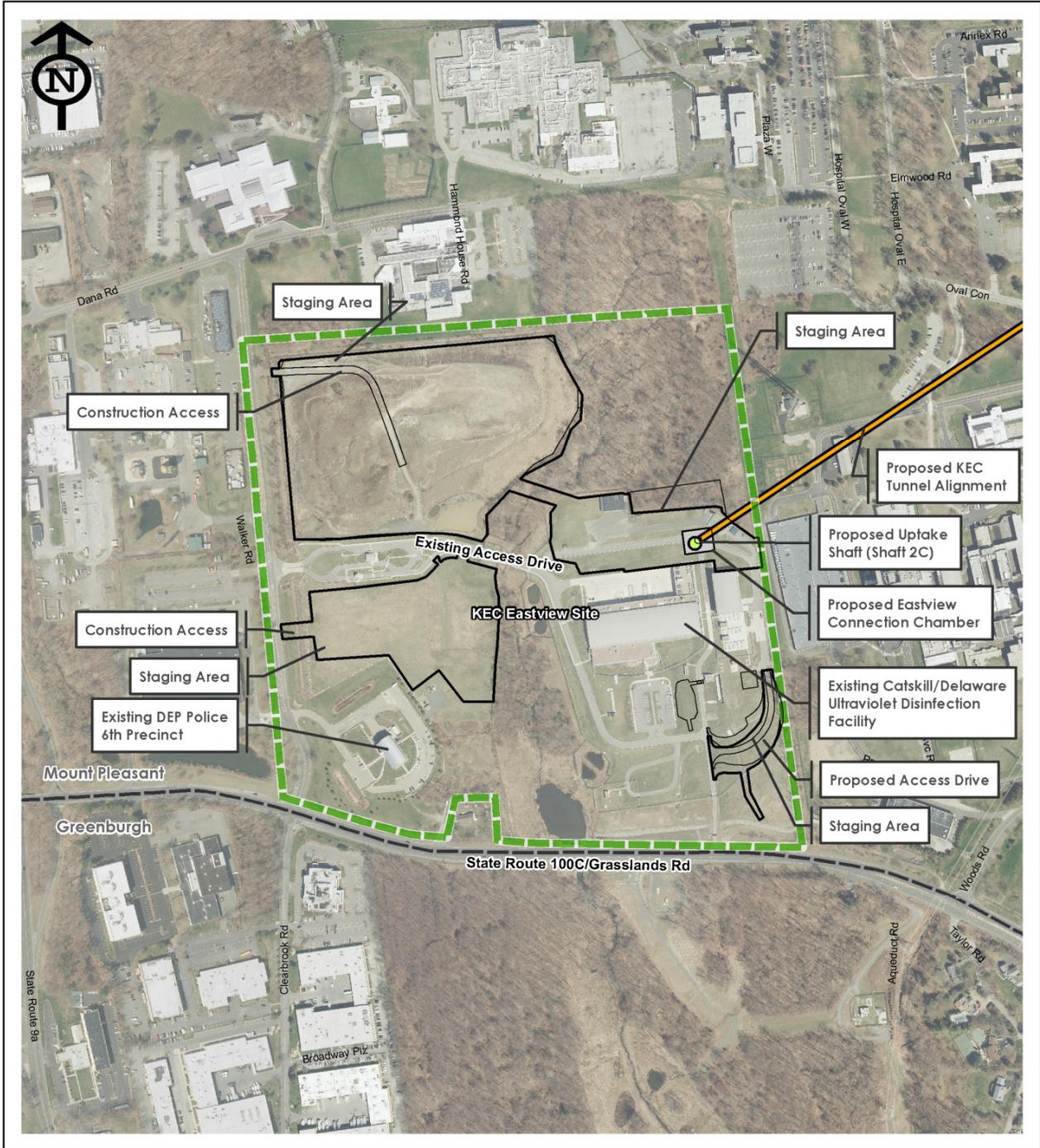
5.11 Eastview Connection Chamber

The proposed terminus of the KEC Tunnel would be the new Uptake Shaft (KEC Shaft 2C) and Eastview Connection Chamber that would be located at the KEC Eastview Site in the Town of Mount Pleasant. Existing facilities located in proximity to this new shaft and facility are the CDUV Facility, North Forebay, and Del Shaft 19 (**Figure 9**).

The proposed Eastview Connection Chamber would connect the KEC Tunnel to the CDUV Facility. The Eastview Connection Chamber would be centered above KEC Shaft 2C, located approximately 90 feet northwest of the North Forebay. The Eastview Connection Chamber would connect to the CDUV Facility by extending four existing 12-foot pipe stubs (originally intended to divert flow from the North Forebay to a potential future filter plant) to the south wall of the chamber. Roller gates and stop shutters would be used to provide isolation.

The Eastview Connection Chamber would be designed to allow for potential future KEC Tunnel bypass and filter plant connections. The top slab of the proposed Eastview Connection Chamber would also be designed for vehicular loading to allow for vehicle and equipment access.

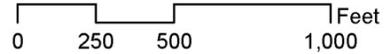
A superstructure similar to the North Forebay superstructure may be constructed over the top slab to house a bridge crane capable of maneuvering the roller shutters. Other features housed within the superstructure could be a ventilation system, water quality analyzers and controls, and an electrical room.



Source: USGS Aerial Basemap, 2020 Westchester County GIS

LEGEND

-  KEC Eastview Site
-  Proposed KEC Tunnel Alignment
-  Municipal Boundary Line
-  Limits of Construction



KEC Eastview Site - Proposed
Kensico-Eastview Connection **Figure: 9**

5.12 Additional KEC Eastview Site Improvements

Additional activities at the KEC Eastview Site associated with the Proposed Action would include removal and replacement of the existing temporary office trailer complex located within the KEC Eastview Site. Improvements to on-site access roads would also be implemented. Additional activities due to the Proposed Action would include tree clearing and regrading within portions of the site and development of construction staging areas. Shaft, chamber, and tunnel spoils would also be managed in the northwest corner of the site prior to off-site removal. Additional site activities would include dewatering, erosion and sediment control, stormwater management, and utility improvements.

6.0 Project Schedule and Phasing

For the purposes of the DEIS analyses, it would be conservatively assumed that site preparation activities for the Proposed Action would begin in 2024, with peak construction periods to be identified in the DEIS. The Proposed Action would begin with site preparation and the relocation of Westlake Drive. Construction of major elements of the Proposed Action, such as the modifications of the UEC and the construction of the main tunnel and shafts at the KEC Eastview Site and Kensico Campus, the Eastview Connection Chamber, and Kensico Screen Chamber are anticipated to begin in 2025. Completion is anticipated to be in 2034 or earlier, with start-up lasting approximately 12 months following major construction. Work related to shoreline stabilization is anticipated to be completed prior to tunnel start-up.

7.0 Discretionary Project Approvals

Implementation of the Proposed Action would require discretionary federal, State, and local permits and approvals. **Table 1** provides a summary of major anticipated permits and approvals. In addition, coordination with private property owners within the project area would be required and may involve the acquisition of property easements to support the project implementation.

Table 1. Potential Major Discretionary Permits and Approvals

Agency	Permit/Approval	Applicability
Federal		
U.S. Army Corps of Engineers	Individual or Nationwide Permit	In-water work in Kensico Reservoir Tunnel or other crossings under or over surface waters
U.S. Environmental Protection Agency	State Revolving Fund	State Revolving Fund administered by New York State Environmental Facilities Corporation

State		
New York State Department of Environmental Conservation	Beneficial Use Determination	Reuse of soil/rock removed from shaft, tunnel, and/or chamber construction.
	Chemical Bulk Storage	On-site storage of chemicals
	Freshwater Wetlands Permit	Disturbance within mapped freshwater wetlands or their designated buffers
	Mined Land Reclamation Exemption	Exemption for excavated material disposal during shaft, tunnel, and chamber construction
	Minor Facility Registration: Permit to Construct and Certificate to Operate	Use of fuel burning equipment during construction and/or operation
	Petroleum Bulk Storage	On-site storage of petroleum products
	Protection of Waters and Section 401 Water Quality Certification	Potential in-water work in Kensico Reservoir, Mine Brook and/or Clove Brook or their regulated buffers.
	State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges Associated with Construction Activity (GP-0-20-001)	Discharge of construction stormwater to surface waters
	Individual SPDES Permit (NY-2C)	Discharge of treated industrial (shaft, tunnel, and chamber dewatering) wastewaters to surface waters.
Water Withdrawal Permit	Withdrawal of 100,000 gallons per day or more of surface water, groundwater, or both.	
New York State Department of Health	Approval of Public Water Supply Improvements	Approval of plans for changes to a public water supply
<u>New York State Department of Transportation</u>	<u>Highway Work Permit</u>	<u>Activities on roadways/property under NYSDOT jurisdiction</u>
Local		
New York City Public Design Commission	Design Approval	Design approvals for structures on City property
New York City Department of Environmental Protection	SWPPP Review and Approval	Ground disturbance within New York City East of Hudson Watershed
County/Town Approvals	Floodplain Development	Proposed activities within regulated floodway or floodplain
	Public Water Supply	Modifications to an existing water supply source
	Site Plan Approval	Activities that require approval by the Planning and Advisory Boards

County/Town Approvals	<u>County DPW</u>	<u>Activities affecting roadways/property under Westchester County jurisdiction</u>
	Municipal Separate Storm Sewer System (MS4) Approval	Discharges to a Municipal Separate Storm Water System
	Excavation/Steep Slope	Excavation of soils and/or within slopes equal to or greater than 15%
	Tree Removal	Planting, maintenance, or removal of trees at least four inches or more in diameter
	Wetlands and Watercourses	Disturbance within regulated wetlands, watercourses, or their buffers.
	Zoning Ordinance	Approvals for variances from the zoning ordinance

8.0 Environmental Review Process

The environmental review process provides a means for decision-makers to systematically consider environmental effects along with other aspects of project planning and design, to evaluate and compare reasonable alternatives, and to identify and mitigate, where practicable, any significant adverse environmental impacts. DEP, as Lead Agency, has determined that the Proposed Action has the potential to result in significant adverse environmental impacts. Therefore, an EIS must be prepared. Any proposed action funded, approved, or directly undertaken by a New York State or local agency must comply with the provisions of SEQRA and its implementing regulations (6 NYCRR Part 617). As the Proposed Action is located in the State of New York and is an action to be undertaken by an agency of the City of New York, it is subject to environmental review pursuant to both SEQRA and the CEQR process.

DEP has prepared this ~~Draft~~ Final Scope for the DEIS to describe the proposed content of the DEIS, the methodologies to be used in the impact analyses, and ~~to~~ allowed for public and stakeholder participation as recommended by 6 NYCRR Part 617.

A copy of the ~~Draft~~ Final Scope can be obtained online at the website below or by contacting:

<https://www1.nyc.gov/site/dep/about/kensico-eastview-connection.page>

Susan Darling, Senior Project Manager
 Office of Water Supply Infrastructure & Watershed Assessment
 New York City Department of Environmental Protection
 Bureau of Environmental Planning and Analysis
 59-17 Junction Boulevard, 11th Floor
 Flushing, NY 11373
EISComments@dep.nyc.gov
 (718) 595-4614

To solicit comments on the Proposed Action, the alternatives to be assessed in the DEIS, and ~~this~~ the Draft Scope, a virtual public hearing was held at ~~has been scheduled for~~ 6:00 PM on

Wednesday, April 7, 2021. ~~No comments were received. To register for this virtual hearing and receive the Zoom link, please go to:~~

~~<https://www1.nyc.gov/site/dep/about/kensico-eastview-connection.page>~~

~~Written comments on this Draft Scope will be accepted by DEP until the close of business on April 21, 2021. Comments can be submitted in writing, via mail and email and should be addressed to:~~

~~Attention: Susan Darling, Senior Project Manager
Address: New York City Department of Environmental Protection
59-17 Junction Boulevard, 11th Floor
Flushing, NY 11373
Email: EISComments@dep.nyc.gov~~

~~DEP will consider comments submitted on the Draft Scope and issue a Final Scope of Work (Final Scope) to respond to those received during the review period and finalize changes to the assessment to be conducted in the DEIS.~~

DEP will then prepare a DEIS based on the this Final Scope. ~~The Final Scope would include responses to comments submitted on the Draft Scope and any modifications, as necessary, to address those comments.~~ As stated above, the DEIS and subsequent FEIS will serve to fulfill the statutory obligations of SEQRA and CEQR, as well as those milestone requirements set forth in the Consent Decree. Once DEP has determined that the DEIS is complete, a Notice of Completion (pursuant to SEQRA/CEQR) will be prepared, distributed, and published in accordance with applicable regulations. The DEIS would then be subject to additional public review, in accordance with SEQRA and CEQR procedures, including a public hearing and a period for public comment. After the DEIS public comment period has closed, a FEIS will be prepared, which would include a summary of the comments received on the DEIS, responses to all substantive comments, and any necessary revisions to the DEIS to address those comments. No sooner than 30 days after publishing the FEIS, DEP, as Lead Agency, will prepare a Statement of Findings that would describe the Proposed Action for the project, its potential environmental impacts, and any required mitigation.

9.0 Organization and Scope of the Environmental Impact Statement

The format of the DEIS and methodologies that will be used to assess the potential environmental impacts of the Proposed Action will follow SEQRA guidelines. In addition to SEQRA, DEP, as a City agency and the agency responsible for undertaking this action, is subject to requirements of CEQR. The City's *CEQR Technical Manual* provides the suggested methodologies for conducting an environmental review under CEQR, outlining a structured approach to addressing the potential for significant adverse impacts. This ~~Draft~~ Final Scope

follows the approaches identified in SEQRA to the extent applicable, and the *CEQR Technical Manual* methodologies that will be applied in cases where State methodologies are either not applicable or less stringent.

General guidelines for the DEIS include the following:

- The DEIS will cover all items in the Final Scope and will conform to the format outlined in this document.
- Narrative discussions will be accompanied by appropriate tables, charts, graphs, and figures, whenever possible. If a particular subject can be most effectively described in graphic format, the narrative discussion will summarize and highlight information presented graphically.
- Information will be presented in a manner that can be readily understood by the public.
- Where reasonable and necessary, mitigation measures will be incorporated into the Proposed Action, if they are not already included. For any mitigation measure listed in the ~~Draft~~ Final Scope that is not incorporated into the Proposed Action, the specific reason why will be discussed in the DEIS. Additional mitigation measures may be included where appropriate. When no mitigation is provided, the DEIS would explain why
- The DEIS will be written in the third person (i.e., the terms “we” and “our” shall not be used). Conclusions and opinions, if given, shall be identified as those of the DEP. When describing the project and its potential impacts, the DEIS should use the word “would” rather than “will”.
- The entire document will be checked carefully to ensure consistency with respect to the information presented in the various sections.

The DEIS will contain the following information:

- A Cover Sheet identifying:
 - The Proposed Action and its location, including tax map designations;
 - The name, address, and telephone number of the Lead Agency and contact person;
 - The name, address, and telephone number of the preparer of the DEIS;
 - The date of DEIS submission and acceptance;
 - The public hearing date and DEIS comment period; and
 - The name, address, and telephone number of DEP, as the Applicant.
- Following the cover sheet, a list (name, address and telephone numbers) of all consultants involved in the project should be provided.

- Table of Contents, indicating the chapters of the DEIS and page numbers, as well as lists of exhibits, tables, and appendices, as applicable.

The DEIS will include the following chapters: Executive Summary; Introduction; Purpose and Need; Background, Project Description, Project Approvals and Coordination; Analytical Framework; Probable Impacts of the Proposed Action; Cumulative Impacts; Description of Alternatives, including a No Action Alternative; Mitigation Measures; Unavoidable Adverse Impacts; and Irreversible and Irrecoverable Commitment of Resources. The following sections of the Draft Final Scope provide a description of the DEIS approach and analyses for the DEIS Chapters.

9.1 Executive Summary

The DEIS will include an Executive Summary that would provide the reader with a clear and concise understanding of the information provided within the main sections of the DEIS. The Executive Summary would highlight relevant material from the DEIS to provide a synopsis of the Proposed Action, potential environmental impacts associated with the Proposed Action's construction and/or operation, measures to mitigate potential impacts of the Proposed Action, and alternatives to the Proposed Action.

The DEIS Executive Summary would consist of:

- A brief description of the proposed program, including background leading to its development and anticipated analysis years.
- List of involved and interested agencies and required approvals/permits.
- Concise list of the anticipated significant adverse impacts and proposed mitigation measures.
- Description of the alternatives to the proposed program considered in the DEIS. A tabular summary comparing the alternatives will be included, as applicable.

9.2 Chapter 1: Project Description

The section will provide a thorough description of the Proposed Action and its individual components and would set the context to assess the potential impacts. The project description would be essential to understanding the Proposed Action.

This chapter will include a complete identification and description of the regional context, area location, tax map designation, site access, and abutting land uses and zoning categories. This chapter will include a description of relevant facilities that are currently located on the project sites. This chapter will provide an overview of the site character and environmental conditions with additional resource specific discussions provided in the chapters below. The relationship of the Proposed Action to the adjacent properties and land uses will also be included. A detailed

description of the overall project will be provided, the nature of its individual elements, and a list of all actions and approvals associated with the Proposed Action. The Project Description chapter would include a summary of the historic use of the properties involved in the Proposed Action and will also incorporate a statement of the purpose and need for the Proposed Action.

9.3 Chapter 2: Analytical Framework for the Environmental Review

This chapter will discuss the framework for the DEIS technical analyses. It will identify the analysis year for the Proposed Action and describe the study area that would be assessed in the DEIS. The DEIS would consider both the construction and operational impacts, as well as potential benefits of the Proposed Action. The DEIS would include a modified analytical approach since it includes a substantial multi-year construction effort related to various project elements over several sites, with relatively limited operational impacts anticipated. The Kensico Campus and KEC Eastview Site currently operate as part of DEP’s Water Supply System and would continue to operate as such after the Proposed Action is completed. Therefore, the DEIS impact analyses chapters would focus primarily on the construction of the Proposed Action, with potential operational impacts addressed as a separate section of the DEIS.

For each impact category, the DEIS would discuss existing conditions and conditions in the future with and without the Proposed Action. The technical analysis and identification of potential significant adverse impacts would be focused on the incremental change to existing conditions that the Proposed Action would potentially create as compared with the future without the Proposed Action. The future without the Proposed Action condition would include a discussion of projects expected to be completed independent of the Proposed Action by the proposed Build Year, in addition to baseline growth for each applicable technical area.

The DEIS will describe the analytical framework as follows:

- **Existing Conditions.** In the DEIS, existing conditions would be described in order to establish a baseline against which future conditions can be projected.
- **Future without the Proposed Action Condition.** Using existing conditions as a baseline, conditions known to occur or expected to occur in the future regardless of the Proposed Action, would then be evaluated for the Proposed Action’s analysis year(s). This “future without the Proposed Action” condition is the baseline condition against which the effects of the “future with the Proposed Action” are measured.
- **Future with the Proposed Action Condition.** Using existing conditions as a baseline, conditions known to occur or expected to occur in the future, including the Proposed Action as required under the Hillview Reservoir Consent Decree and Judgment, and as additionally presented herein, would then be evaluated for the Proposed Action’s analysis year(s).

- **Analysis Year.** The analysis year refers to the future year(s) when a proposed project is likely to affect its environmental setting. The analysis year (Build Year) is typically representative of the anticipated completion date of major construction of the Proposed Action. The Build Year is anticipated to be 2034 or earlier.
- **Probable Impacts with the Proposed Action.** Potential changes resulting from temporary construction or operation of the Proposed Action (future with the Proposed Action) would be compared to the future without the Proposed Action condition to assess the potential for significant adverse impacts. This comparison provides for an understanding of the potential impacts that could result with the Proposed Action. Future conditions would be evaluated and represent a “reasonable worst-case scenario” in order to determine the probable impacts with the Proposed Action.

The following impact categories would warrant analysis for potential impacts as a result of construction and/or operation for the Proposed Action: land use, zoning, and public policy; socioeconomic conditions; community facilities and services; open space and recreation; Critical Environmental Areas (CEA); historic and cultural resources; urban design and visual resources; natural and water resources; hazardous materials; traffic and transportation; air quality; greenhouse gas emissions and climate change; noise; water and sewer infrastructure; solid waste and sanitation services; energy; neighborhood character; public health; environmental justice; and growth inducement.

Based on the anticipated nature of the Proposed Action, no new structures or additions to existing structures greater than 50 feet, or located adjacent to, or across from, a sunlight-sensitive resource are anticipated. Therefore, based on *CEQR Technical Manual* guidance, a shadows impact analysis will not be performed.

9.4 Chapter 3: Probable Impacts of the Proposed Action

9.4.1 Chapter 3.1: Land Use, Zoning, and Public Policy

A land use analysis characterizes the uses and development trends in the area that may be affected by a proposed project and determines whether a proposed project is either compatible with those conditions or whether it may affect them. Similarly, the analysis would consider the project’s compliance with, and effect on, the area’s zoning and other applicable public policies. Following *CEQR Technical Manual* guidelines, the land use, zoning, and public policy analyses would be conducted within a study area extending 1/2 mile from the project site (e.g., Kensico Campus, potential Construction Drop Pipe, and KEC Eastview Site) and 400 feet from the proposed tunnel alignment (**Figure 10**).

The assessment would characterize existing and future land uses, as well as existing zoning conditions, and describe the current public policies that guide development within the study area, including any formal neighborhood or community plans. The assessment would determine

whether the Proposed Action is compatible with the land use and zoning conditions and public policies or whether it may affect them.

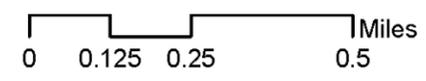
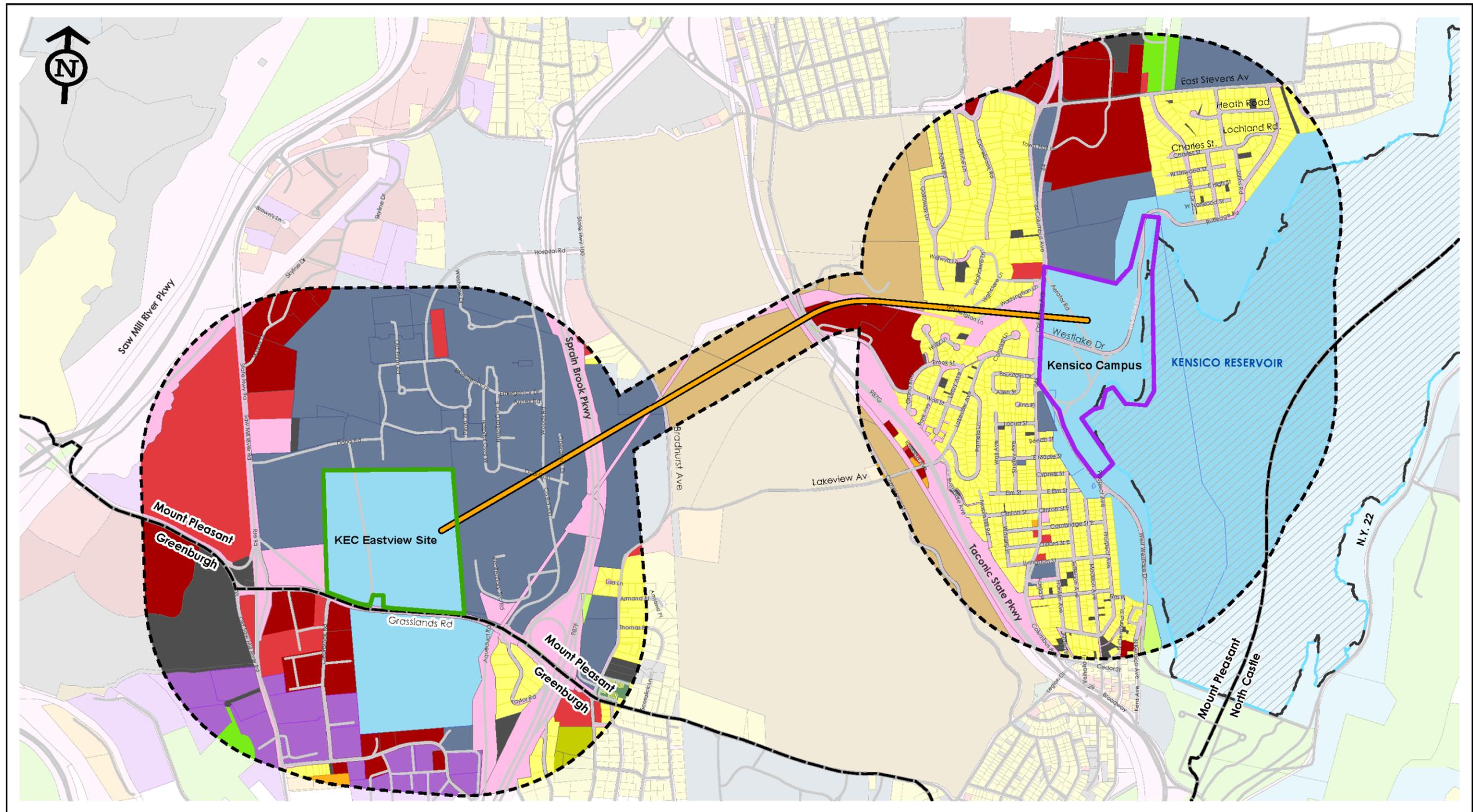
More specifically, the land use analysis would describe existing land uses within the study area. Land use information will be compiled and mapped from published data, and supplemented with existing field surveys and aerial photography, as available. The land use analysis would also provide a baseline for other analyses, such as transportation, noise, and neighborhood character. The zoning analysis will describe existing zoning regulations that apply to the study area, including information on allowed uses, building bulk, and setbacks required within the zoning districts. The potential for the Proposed Action to impact existing and planned land uses and zoning on or near the proposed sites would be assessed. Any pending zoning actions that may affect land use patterns in the study areas would also be identified. While located just beyond the 1/2 mile study area, this analysis will also include the proposed North 60 development. The public policy analysis would outline and evaluate potential compliance with public policies that may apply to the project site, including any adopted or proposed neighborhood or community plans, including the Town’s draft Comprehensive Plan “Envision Mount Pleasant.”

The potential for impacts would be determined by evaluating whether the Proposed Action would result in direct or indirect displacement or alteration of land uses or zoning districts, would preclude future development of the land, would result in direct or indirect impacts to future development due to the restriction of subsurface activities associated with the proposed utility easements along the tunnel alignment, or would potentially be non-compatible with applicable public policies.

9.4.2 Chapter 3.2: Socioeconomic Conditions

The socioeconomic character of an area includes its population, housing, and economic activity. The *CEQR Technical Manual* notes that a socioeconomic assessment should be conducted if a project may be reasonably expected to create socioeconomic changes within the area affected by a proposed action that would not be expected to occur without the project. As per the *CEQR Technical Manual*, a socioeconomic analysis considers five specific elements that may result in significant adverse socioeconomic impacts:

1. Direct displacement of 500 or more residences;
2. Direct displacement of more than 100 employees or displacement of a business whose products or services are uniquely dependent on its location;
3. Indirect displacement of a residential population in a study area;
4. Indirect displacement of businesses or institutions in a study area provided that more than 100 employees are directly displaced, or the project would result in new commercial development of more than 200,000 square feet; and/or
5. Adverse effect on conditions within a specific industry.



Kensico-Eastview Connection
Figure 10: Land Use

Existing demographic and economic conditions in the study area would be determined using available data from State and local agencies and other sources and summarized in the DEIS. The Proposed Action would not be anticipated to directly or indirectly displace any residence, business, or institution; would not result in new commercial development; and would not affect conditions on any industry. Therefore, the Proposed Action would not warrant an analysis of the five specific elements noted above.

The costs associated with the Proposed Action (capital and operations/maintenance), however, would be shared across DEP's water supply customers, and spread over decades. Therefore, potential changes to the water rates as a result of the Proposed Action would be described. The assessment would include the potential for these changes to result in adverse impacts on economic and operational conditions on specific businesses or processes that may affect socioeconomic conditions.

The Proposed Action would also include subsurface utility easements associated with the construction and operation of the proposed tunnel. The potential for the proposed easements to have a significant adverse impact on socioeconomic conditions would be evaluated based on an assessment of the following: the proposed easement's potential to impact residential populations, businesses, and industries of importance in the area, potential restrictions that would be imposed by the proposed easements that limit landowners' abilities to develop land; and the potential for the proposed easements to cause a significant decrease in real estate-related tax revenues to the Town of Mount Pleasant compared to what might have otherwise been realized.

9.4.3 Chapter 3.3: Community Facilities and Services

As defined in the *CEQR Technical Manual*, community facilities include public or publicly funded schools, libraries, child care centers, health care facilities, and fire and police protection. A proposed project can affect community facility services when it physically displaces or alters a community facility or causes a change in population that may affect the services delivered by a community facility, as might happen if a facility is already over-utilized, or if a project creates a demand that would exceed the capacity of the existing facility.

The DEIS will include a qualitative assessment of the Proposed Action's potential to affect community facilities and services, including the benefits to the New York City water supply system as a result of the Proposed Action. This assessment would address the ability of local police, fire, ambulance, and associated emergency service providers to respond to emergencies at the project site during construction and operation of the Proposed Action. In addition, potential impacts to the ability of these service providers to respond to emergencies or result in longer response times would also be assessed. Staffing levels and equipment for each service provider would be discussed. The type and size of a new population introduced to an area by a proposed project directly affects the demand for community facilities and services. An increase in workers to an area tends to create temporary and limited demands for community facilities and services, while new residents create more significant and permanent demands.

9.4.4 Chapter 3.4: Open Space and Recreation

Open space is defined as publicly or privately owned land that is publicly accessible and available for leisure, play, or sport, or is set aside for the protection and/or enhancement of the natural environment. An open space analysis is conducted to determine whether or not a proposed project would result in changes to open space and recreation that could significantly alter the quality or availability of open spaces for continued public and private recreational uses. A direct impact to open space and recreation would result from the elimination or alteration of open space, whereas an indirect impact would result from overtaxing available open space. An open space analysis focuses on officially designated existing or planned public open space.

The Proposed Action would not introduce a new residential or non-residential population warranting an analysis of indirect effects. As such, this analysis would focus on direct effects on open space and recreational resources within 1/2 mile from the project sites due to and during the construction of the Proposed Action. As per the *CEQR Technical Manual*, direct effects occur if a proposed action would:

- Result in a physical loss of public open space (by encroaching on or displacing an open space);
- Change the use of an open space so that it no longer serves the same user population (e.g., elimination of playground equipment);
- Limit public access to an open space; or
- Cause increased noise or air pollutant emissions, odors, or shadows on public open space that would affect its usefulness, whether on a permanent or temporary basis.

9.4.5 Chapter 3.5: Critical Environmental Areas

Critical Environmental Areas (CEA) are specific geographic areas with exceptional or unique character as designated by local agencies and the New York State Department of Environmental Conservation (NYSDEC). Certain criteria must be met for an area to be designated as a CEA; specifically, the area must present one of the following:

- A benefit or threat to human health;
- An exceptional or unique natural setting (fish and wildlife habitat, forest and vegetation, open space and recreation) of important aesthetic or scenic quality;
- An exceptional or unique social, historic, archaeological, recreational, or educational value; or
- An inherent ecological, geological, or hydrological sensitivity to change that may be adversely affected by any change.

A CEA analysis is conducted to determine whether or not a proposed project would result in changes to the exceptional or unique character of CEAs at or within the surrounding study area. There are no CEAs specific to the Town of Mount Pleasant. Westchester County has designated 15 CEAs. A portion of the Westchester County Airport 60 Ldn Noise Contour CEA (Airport CEA) is located in the Town of Mount Pleasant adjacent to the KEC Project area. While the Airport CEA encompasses a portion of Kensico Reservoir adjacent to the Kensico Campus, the Kensico Campus is not located within the Airport CEA. A qualitative assessment would determine if the exceptional or unique character of the Airport CEA would be adversely impacted as a result of the construction of the Proposed Action.

9.4.6 Chapter 3.6: Historic and Cultural Resources

Historic and cultural resources include both architectural and archaeological resources. These resources may be located above ground, underground or underwater, and have significance in the history, pre-history, architecture or culture of the nation, the State, or local or tribal communities. Historic and archaeological resources consist of districts, buildings, structures, sites, and objects of historical, aesthetic, cultural, and archaeological importance. Historic and cultural resources include properties listed on the New York State and National Registers of Historic Places (S/NR) or formally determined eligible for S/NR listing (S/NR-eligible), or properties contained within a S/NR listed or eligible district; properties recommended by the New York State Review Board for listing on the S/NR; National Historic Landmarks (NHLs); and potential historic resources (i.e., properties not identified by one of the programs listed above, but that appear to meet their eligibility requirements). An impact assessment is required if there is the potential for a proposed project to affect either archaeological or architectural resources.

The Proposed Action includes potential changes within and adjacent to a historic complex, the Kensico Reservoir Campus, which was determined eligible for the S/NR by the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) on August 29, 2019 (11908.000423). The larger project area (e.g., KEC Eastview Site and the potential Construction Drop Pipe Site) may also be sensitive for archaeological resources, subject to further consultation with OPRHP.

Since U.S. Army Corps of Engineers (USACE) permits and/or authorizations are required for the shoreline stabilization activities proposed, the historic and cultural resources assessment would be prepared in accordance with Section 106 of the 1966 National Historic Preservation Act (NHPA). Section 106 mandates that federal agencies consider the effect of their actions on any properties or districts listed on or meeting the criteria for listing on the S/NR. The historic and cultural resources assessment would also be prepared consistent with Section 14.09 of the New York State Historic Preservation Act. The assessment would include the following:

- Identify and delineate the Proposed Action’s study area, i.e., the Area of Potential Effect (APE), for direct and indirect effects in consultation with OPRHP, and potentially other entities called “consulting parties,” which may include local governments, the Town of

Mount Pleasant Historical Society and the Town Historian, permit or license applicants, and members of the public;

- Assess the potential for archaeological resources in the area to be directly affected (the Archaeological APE) in consultation with OPRHP and potentially other “consulting parties;”
- Map and briefly describe designated architectural resources within the APE, i.e., the Proposed Action limits, and a wider study area that takes viewscales and context into consideration;
- Conduct a field survey of the wider study area to identify any potential architectural resources that could be affected by the Proposed Action. The field survey would be supplemented with research at relevant repositories, online sources, and the OPRHP Cultural Resource Information System (CRIS);
- Seek determinations of eligibility from OPRHP and appropriate Tribal Historical Preservation Officers that may attach religious or cultural importance to the resource for any potentially significant architectural and archaeological resources not previously recorded. Map and describe the resources identified through this process;
- Assess the potential for the Proposed Action to have direct, physical impacts on architectural and archaeological resources. Assess the Proposed Action’s potential to result in any physical, visual, and contextual impacts on architectural resources. The DEIS would include a description of the consultation undertaken with OPRHP, and potentially other “consulting parties;” and
- Identify any measures that would be necessary to mitigate and/or reduce any potential adverse impacts on historic or cultural resources, in consultation with OPRHP and potentially other “consulting parties.”

9.4.7 Chapter 3.7: Urban Design and Visual Resources

According to the methodologies of the *CEQR Technical Manual*, if a project requires actions that would result in physical changes to a project area beyond those allowable by existing zoning and which could be observed by a pedestrian from street level, an assessment of urban design and visual resources should be prepared. Visual resources may include public view corridors, vistas, and natural or built features.

This section of the DEIS would assess changes in identified visual resources within the study area as a result of the construction of above grade structures and changes in landforms due to the Proposed Action. The assessment would be prepared following *CEQR Technical Manual* methodologies and in conformance with NYSDEC guidance for visual assessments (“*Assessing and Mitigating Visual and Aesthetic Impacts*”; DEP-00-2). The assessment would draw on information from field visits to the project area and surrounding area as well as visual materials

prepared for the Proposed Action and would present, as warranted, sketches or comparative photo renderings of the Proposed Action depicting both existing and proposed views, elevations, and sections. As the project area includes the Kensico Reservoir, the assessment would include longer views from the Kensico Dam. Likewise, the visual character of the “campus” would be assessed from the following viewpoints:

- West Westlake Drive and Prospect Street;
- West Westlake Drive, on the northeast side of the Valhalla United Methodist Church;
- Columbus Avenue and Fountain Drive;
- Columbus Avenue and Lakeview Avenue;
- Columbus Avenue and Aerator Road; and
- Westlake Drive – behind the Valhalla High School, where the new roadway connection is proposed.

The assessment would describe and illustrate with photographs the urban design and visual character of the project area. The assessment would describe the potential changes that could occur to visual resources with the Proposed Action in comparison to the future without the Proposed Action. If adverse impacts are identified, mitigation measures to avoid or reduce potential significant impacts would be identified.

9.4.8 Chapter 3.8: Natural Resources

The Proposed Action may affect natural resources and water quality, including wetlands, vegetative communities, and aquatic/terrestrial fauna and flora. Characterization of the existing natural resources within the study area will be presented in the DEIS pursuant to the *CEQR Technical Manual*, including identification of any potential natural resources that may be directly or indirectly affected by the Proposed Action. An assessment to define the affected environment would include:

- Compile baseline vegetation and wildlife data for the study area based on available habitat maps, published literature, and field surveys conducted within the study area to date;
- Review the study area for the presence of wetlands. Previous delineations conducted within the study areas would be reviewed. The documentation from these reports, in conjunction with additional field investigations would be used to describe wetlands and vegetation within and adjoining the study areas;
- Describe tree species, understory, and herbaceous layers. Describe tree composition based on tree inventory data acquired from existing studies and during field surveys;

- Gather wildlife data from available site documentation and field investigations. During field investigations, note all observed avifauna (birds), herpetofauna (amphibians and reptiles), and mammals and any indirect observations thereof such as nests, tracks, and scat. Specifically, field work may include:
 - Habitat assessment for threatened and endangered species which may be utilizing the study area;
 - Tree surveys to identify, map and describe species (including measurement of diameter at breast height (dbh), noting whether they are invasive, non-native or native and describe any notable health issues) present in the areas which have not been previously surveyed;
 - Determine presence of potential wetlands and delineate any previously un-delineated wetlands within the study area; and
 - Potential stream or in-water surveys to characterize aquatic resources within selected water resources, if applicable.
- Consult New York Natural Heritage Program (NHP) database and consult the U.S. Fish & Wildlife Service (USFWS) Information, Planning, and Conservation (IPaC) database for information on federally and State-listed species, and significant habitats known to occur or identified as having the potential to occur within the study area;
- Conduct an Informal Section 7 Consultation with USFWS to confirm listed species, determining the potential effects the project may have on these species, and establish ways to minimize impacts to species as appropriate;
- Discuss existing surface waters within the study areas including general narrative of the characteristic of these waterbodies, their riparian characteristics, if applicable, and aquatic resources from readily available data or field surveys to date;
- Analyze the potential impacts of the Proposed Action within the study area due to the type of habitat to be cleared, filled, or otherwise disturbed, and identify mitigation measures, if necessary;
- Establish compliance with the Town’s Tree Ordinance (Chapter 201) and determine if reforestation is required through the tree density factor calculation; and
- Review the location of the designated 100-year floodplain at or in close proximity to the Proposed Action and assess potential for impacts associated with this. This analysis would include identifying possible alternatives to locating the Proposed Action in the floodplain, potential impacts associated with occupying the floodplain, along with proposed mitigation measures, as necessary. Compliance with the Town of Mount Pleasant’s Flood Damage Protection Ordinance, Chapter 108 would also be conducted, as applicable.

9.4.9 Chapter 3.9: Water Resources

The Proposed Action may also affect water resources, specifically surface waters (Mine Brook, Clove Brook, and Kensico Reservoir) and groundwater. Existing water resources within the study area would be identified and would be described based upon existing and available information. This would include NYSDEC classifications and existing water quality characteristics (physical and chemical), if readily available. Water resources that may be directly or indirectly affected by the Proposed Action would be discussed.

Potential sources of increased stormwater or other discharges to surface or groundwaters will be identified and discussed. Potential discharges would be described. Estimated flow volumes, duration of flows, and anticipated pollutant characteristics, if available, would be presented. Potential impacts to surface and groundwaters would be discussed and measures to address these, such as stormwater pollution prevention plans (SWPPP) prepared in accordance with applicable NYSDEC and the Town of Mount Pleasant's Stormwater Management and Erosion and Sediment Control Ordinance, Chapter 183, would be included, as applicable and appropriate.

9.4.10 Chapter 3.10: Hazardous Materials

According to the *CEQR Technical Manual*, a hazardous materials assessment should be conducted when elevated levels of hazardous materials may exist on a site, when a project would potentially increase pathways to their exposures, or when an action would introduce new activities or processes using hazardous materials, thereby increasing the risk of human or environmental exposure.

The DEIS will address the potential presence of hazardous materials either in soil/groundwater or in existing structures that may be affected by the Proposed Action. For locations where it is known that construction would occur, the DEIS would include a summary of previous hazardous materials assessments that have already been conducted, as well as additional Phase I/II environmental site assessments (ESA) that would be completed in support of the Proposed Action, as applicable.

A Phase I ESA level evaluation would be conducted to identify known and potential areas of contamination or Recognized Environmental Conditions (RECs) within or in the immediate vicinity of the Proposed Action consistent with *CEQR Technical Manual* requirements. In addition, a Phase II ESA would also be completed if determined to be required.

The Phase I/II ESA level reviews and investigations would involve the following:

- A regulatory database review search for the Kensico Campus, potential Construction Drop Pipe Site, KEC Eastview Site, and proposed KEC Tunnel alignment and surrounding properties. This would include federal and State standards, federal supplemental, State supplemental, and brownfields databases within a regulatory minimum-search distance of these sites.

- A historical land use review through the use of aerial photographs, USGS 7.5-minute topographic maps, fire insurance maps, a local street directories search, property tax files, building department records, recorded land title/deed records, and zoning/land use records.
- Review of readily available information concerning regional and local geology/soil conditions.
- Review of prior environmental reports and local records for each site.
- General reconnaissance of the sites in order to observe evidence of prior contamination or potential RECs.
- Interviews with people having knowledge of current and prior uses of the sites.
- A Phase II soil and/or groundwater sampling completed at the Kensico Campus, potential Construction Drop Pipe, and KEC Eastview Site to characterize soil and/or groundwater, as appropriate.

The hazardous materials chapter would summarize the Phase I level assessment, including potential RECs within or in the immediate vicinity of the Proposed Action. Information derived from the additional Phase II investigations, as well as the results of additional reports concerning hazardous materials completed previously would be summarized within the DEIS.

The DEIS, as applicable, would identify or discuss additional actions and/or procedures to reduce the potential for significant adverse impacts due to hazardous materials. This would potentially include procedures during construction to manage and dispose of excavated material and to protect the health of local residents, construction workers, and future users of the project site.

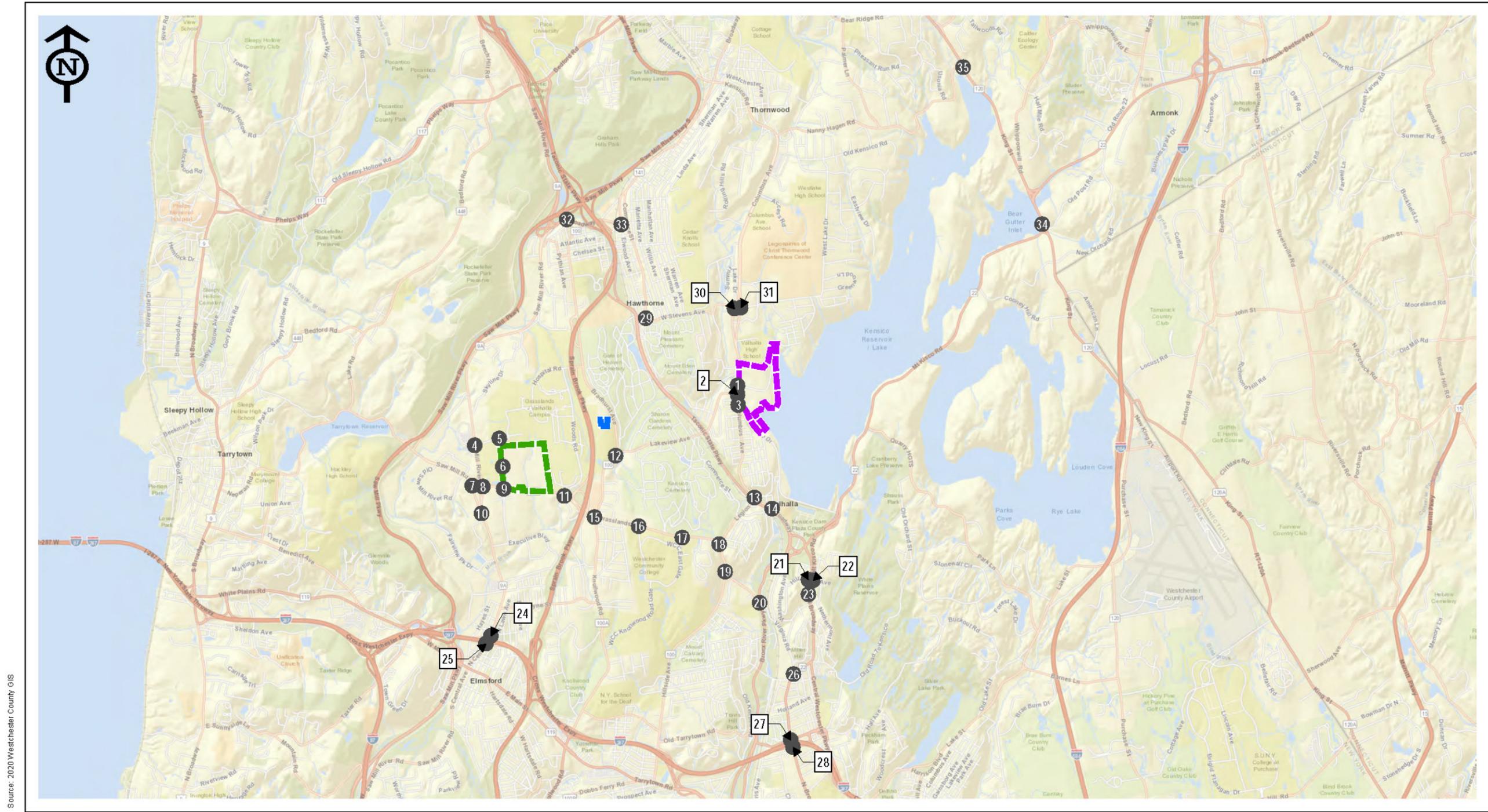
9.4.11 Chapter 3.11: Traffic and Transportation

This chapter of the DEIS would determine how much truck and construction worker traffic would be generated by the Proposed Action during the peak phase of construction. It will assess the potential for significant adverse traffic impacts during the peak quarter of construction during the Proposed Action’s construction period, which is considered a reasonable worst-case condition for impact analysis purposes. The analysis would involve a detailed assessment of existing traffic conditions at intersections that could potentially be impacted by construction-related traffic. This would include an analysis of projected future conditions without the Proposed Action (future without the Proposed Action) and with construction traffic superimposed on the roadway network (future with Proposed Action). Potential significant traffic impacts, if any, would be identified and traffic capacity improvements that could mitigate those impacts would be identified and evaluated, if required.

The detailed transportation analyses would encompass the following:

- Determine the volume of construction-related trucks and delivery vehicles, and the volume of construction worker vehicle trips (ins and outs), expected to access the Kensico Campus, KEC Eastview Site, and potential Construction Drop Pipe Site on a typical weekday by hour of the day. Determine the volume of vehicle traffic expected to drive between the Kensico Campus, KEC Eastview Site, and potential Construction Drop Pipe Site by time of day. Truck trips would be converted to passenger car equivalents (PCEs) so that total construction-related traffic can then be presented in PCEs.
- Determine the construction period AM and PM peak hours (including Saturday), whether or not they would overlap with anticipated background AM and PM traffic peak hours, and determine which represent the combined peak traffic analysis hours for the analysis. Determine whether there is a construction period midday peak hour that warrants analysis.
- Identify truck routes available for construction-related trucks and delivery vehicles. These would take into account routes not available for commercial vehicles such as “parkways,” residential streets, and roadways which do not have vertical clearances sufficient to accommodate construction vehicles, and roadways with difficult horizontal and/or vertical geometry; and, to the maximum extent possible, areas with schools, hospitals, and other sensitive land uses.
- Identify the distribution of truck and construction worker trips and assign vehicle trips to the most logical and appropriate routes to, from, and between the Kensico Campus, KEC Eastview Site, and potential Construction Drop Pipe Site. Determine project-generated incremental vehicle volumes for trucks, worker vehicles, and as combined PCEs for the peak hours.
- Identify a traffic study area consisting of selected intersections along roadways leading to the Kensico Campus, KEC Eastview Site, and potential Construction Drop Pipe Site, potentially including the following locations which have been preliminarily identified and are shown on **Figure 11**:
 1. Columbus Avenue (County Route [CR]64) & Westlake Drive
 2. Columbus Avenue (CR64) & Lakeview Avenue
 3. Columbus Avenue (CR64) & West Westlake Drive
 4. Saw Mill River Road (NY9A) & Dana Road
 5. Dana Road & Walker Road
 6. Walker Road & KEC Eastview Site driveway
 7. Grasslands Road (NY100C) & Old Saw Mill River Road
 8. Grasslands Road (NY100C) & Saw Mill River Road (NY9A) Northbound Ramps

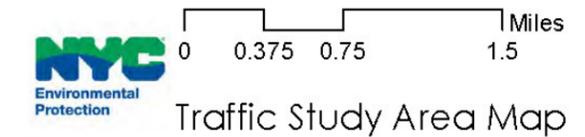
9. Grasslands Road (NY100C) & Walker Road/Clearbrook Road
10. Saw Mill River Road (NY9A) & Old Saw Mill River Road
11. Grasslands Road (NY100C) & Woods Road (CR300)
12. Bradhurst Avenue (NY100) & Lakeview Avenue
13. Columbus Avenue (CR64) & Legion Drive (CR29)
14. Broadway (CR29) & Cleveland Street
15. Grasslands Road (NY100C/NY100) & Bradhurst Avenue (NY100) & Knollwood Road (NY100A)
16. Grasslands Road (NY100) & Westchester Community College West Gate
17. Grasslands Road (NY100) & Westchester Community College East Gate
18. Grasslands Road (NY100) & Legion Drive (CR29)
19. Hillside Avenue (NY100) & Virginia Avenue (CR51)
20. Virginia Road (CR51) & Bronx River Parkway
21. North Broadway (CR29) & Hillandale Avenue
22. Mt. Kisco Road (NY22) & Hillandale Avenue
23. Mt. Kisco Road (NY22) & North Broadway (CR29)
24. Saw Mill River Road (NY9A) & Cross-Westchester Expressway (I-287) WB Ramps & White Plains Avenue
25. Saw Mill River Road (NY9A) & Frontage Street & William Street
26. North Broadway (NY22) & Virginia Road (CR51)
27. North Broadway (NY22) & Orchard Street/Cemetery Road
28. North Broadway (NY22) & Cross-Westchester Expressway (I-287) EB Ramps
29. West Stevens Avenue & Elwood Avenue & Commerce Street (CR29)
30. Columbus Avenue (CR64) & West Stevens Avenue
31. Columbus Avenue (CR64) & East Stevens Avenue
32. Brighton Avenue & Broadway (NY100)
33. Broadway (NY141) & Elwood Avenue & Sunset Place
34. Mt. Kisco Road (NY22) & King Street (NY120)
35. Nanny Hagen Road & King Street (NY120)



Source: 2020 Westchester County GIS

LEGEND

- Potential Analysis Location
- ▭ KEC Eastview Site
- ▭ Kensico Campus
- ▭ Construction Drop Pipe Site (Alternative)



Kensico-Eastview Connection Figure: 11

The final selection of locations for traffic data collection and detailed traffic analysis would be determined upon completion of the distribution and assignment of construction vehicles and construction worker vehicles, in conjunction with Town of Mount Pleasant officials.

- Conduct traffic counts via a combination of nine-day (a full week plus two weekends), 24-hour Automatic Traffic Recorders (ATR), video cameras and manual counts at selected intersections for a single typical weekday, and vehicle classification counts at representative locations for a single typical weekday. Counts would be conducted while schools are in session. Due to COVID-19 resulting in a significant reduction in normal traffic volumes starting in mid-March 2020 and continuing into 2021 and potentially beyond, an alternative method of developing existing traffic volumes for the study area may be required to more accurately reflect previous and/or more typical traffic conditions. New traffic counts would potentially be compared to pre-COVID counts at intersections and nearby ATR locations where such data is available, and adjustments may be made to the new traffic counts to reflect “normalized” conditions. Adjustment factors would be reviewed with State, county, and/or local municipal transportation officials.
- Video camera and/or manual counts at selected intersections would also be conducted for a single typical weekend to support the noise analysis.
- Tabulate traffic count data, establish specific peak traffic hours for existing background conditions and for projected peak construction period conditions, and identify the peak hours during which combined volumes would be highest and/or most likely to create potential adverse impact conditions.
- Obtain physical inventories needed for intersection capacity and level of service analyses, signal phasing and timing plans, locations of bus stops, and other data needed for the traffic analyses. Traffic conditions would be observed while the traffic count program is underway in order to correlate field-observed conditions with the level of service analyses. Particular attention would be paid to potential impacts on schools and school bus stop locations.
- Analyze existing peak hour traffic conditions at the intersections being analyzed – i.e., volume-to-capacity (v/c) ratios, average vehicle delays, and levels of service – using Synchro and/or Highway Capacity Manual software.
- Prepare future without the Proposed Action volumes by applying annual background traffic growth rates for the traffic study area, plus traffic generated by substantial development projects in the immediate vicinity of intersections analyzed. Identify and incorporate significant future traffic capacity improvements by the New York State Department of Transportation (NYSDOT), Westchester County, and/or the local jurisdictions for intersections analyzed. Analyze future without the Proposed Action traffic conditions.

- Prepare future with Proposed Action volumes by adding construction period traffic generated by the project to future without the Proposed Action volumes and analyze future with Proposed Action traffic conditions. Potential significant adverse traffic impacts would be identified along with traffic improvements that could mitigate such impacts during construction.
- Identify parking to be made available for construction workers, staging and parking areas for construction deliveries, and construction truck operations. The adequacy of on-site parking and the need for off-site parking or staging areas would be discussed.
- Review available accident data from NYSDOT, Westchester County, and/or local jurisdictions for the past three years where such data are available, tabulate the data, and identify high crash locations. Determine where significant project-generated construction traffic could overlap with high accident locations and identify potential measures to limit impacts at high crash locations.

9.4.12 Chapter 3.12: Air Quality

Construction of the Proposed Action would include emissions from mobile sources (i.e., on-road material and construction delivery vehicles, construction worker vehicles) and stationary sources (non-road construction equipment). Emissions from non-road construction equipment and on-road construction vehicles, as well as dust-generating construction activities, have the potential to affect air quality within the project area particularly neighborhood sensitive receptors in close proximity to each KEC Project site and main routes for construction-related vehicles. Sensitive receptors with the potential to be impacted by the Proposed Action may include, but not be limited to, the Valhalla Middle and High Schools and residences along Columbus Avenue adjacent to the Kensico Campus; the Hawthorne Country Day School near the potential Construction Drop Pipe Site; the Westchester County Medical Center, Westchester County Correction, Laboratories and Research, and Police Academy facilities and other educational or institutional facilities near the KEC Eastview Site; and potential receptors along anticipated main construction vehicle routes. Confirmation and/or identification of these or other sensitive receptors with the potential to be impacted would be based upon completion of the distribution and assignment of construction and construction worker vehicles associated with the Proposed Action.

In general, much of the heavy equipment used in construction is powered by diesel engines which can produce relatively high levels of nitrogen oxides (NO_x) and particulate matter (PM) emissions, primarily PM with an aerodynamic diameter below 2.5 microns (PM_{2.5}). Dust generated by construction activities is also a source of PM emissions, primarily PM with an aerodynamic diameter below 10 microns (PM₁₀). Similarly, gasoline engines produce relatively high levels of carbon monoxide (CO). As a result, the primary air pollutants of concern for construction activities would include nitrogen dioxide (NO₂), the component of NO_x that is a regulated pollutant, PM₁₀, PM_{2.5} and CO.

Construction activity resource data (estimated equipment types and quantities, number of workers and truck activity) based on both a daily and annual basis would be established based on a quarterly construction schedule estimating duration and sequencing for the Proposed Action. As the level of construction activities would vary from phase to phase, the approach to assessing the reasonable worst-case scenario for analysis would be based on an estimated quarterly construction work schedule, equipment employed, equipment emission rates, and usage factors. The DEIS would address venting or air handling discharges associated with the tunneling activities, as appropriate. The peak construction quarter and up to four consecutive quarters anticipated to have the highest short-term and annual emissions would be identified for short-term and annual average impact dispersion modeling, respectively, since they are expected to be the period of greatest potential impacts. Other less intensive construction quarters would either be modeled or presented as a qualitative discussion.

For on-site emissions modeling, construction equipment and truck emission factors would be estimated using the USEPA mobile source emissions model, Motor Vehicle Emissions Simulator (MOVES), in association with the county-specific inputs parameters to be provided by NYSDEC. The pollutant concentrations would be predicted using a refined dispersion model, the USEPA/American Meteorological Society (AMS) AERMOD Modeling system, to determine the potential for air quality impacts from construction of the Proposed Action. In addition, an off-site mobile source analysis at representative intersection(s) along major construction vehicle convergence locations would be performed according to the *CEQR Technical Manual* provided screening procedures for both CO and PM_{2.5}. At those intersections that exceed the *CEQR Technical Manual* screening thresholds, a microscale mobile source impact modeling analysis would be conducted at potential worst-case locations using MOVES and the dispersion model AERMOD.

For potential locations that would be affected by both stationary and mobile sources, the potential impacts from the combination of stationary and mobile sources would be determined, as applicable.

In addition, the Clean Air Act (CAA) (42 U.S.C. 7401 et seq.), and in particular Sections 176 (c) and (d), prohibits federal assistance to projects that are not in conformance with the State Implementation Plan (SIP). The criteria and procedures developed for this purpose are called "general conformity" rules (40 CFR 93.150-165). The general conformity requirements apply only in areas that are designated "nonattainment" or "maintenance" for CO, lead, NO_x, ozone (O₃), PM₁₀, PM_{2.5}, and sulfur dioxide (SO₂). Westchester County is designated by the USEPA as a serious nonattainment area for the 2008 O₃ National Ambient Air Quality Standards (NAAQS), a moderate nonattainment area for the 2015 NAAQS, and a maintenance area (former nonattainment area) for CO and PM_{2.5}. However, Westchester County is also included in a severe nonattainment area for the prior (revoked) 1-hour O₃ NAAQS, and therefore is subject to a lower general conformity threshold of 25 tons/year due to CAA anti-backsliding requirements. This

assessment may therefore also potentially include a general conformity analysis to determine the consistency of proposed construction activities.

9.4.13 Chapter 3.13: Greenhouse Gas Emissions and Climate Change

Greenhouse Gases (GHG) are gases that trap heat in the atmosphere. This phenomenon causes a general warming of the Earth’s atmosphere, or the “greenhouse effect.” Water vapor, carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), and O₃ are the primary GHGs in the Earth’s atmosphere. Human activity is increasing the concentration of GHG emissions in the atmosphere and there is consensus in the scientific community that GHG emissions are contributing to serious climate change. As a result, New York State and New York City have established initiatives and goals for greatly reducing GHG emissions and for adapting to climate change. As discussed in the NYSDEC Policy - *Assessing Energy Use and Greenhouse Gas Emissions in Environmental Impact Statements* (July 15, 2009), the *SEQR Handbook, Fourth Edition* (March 2020), and the *CEQR Technical Manual*, the DEIS would quantify GHG emissions for aspects of the Proposed Action that would require significant energy use. Construction of the Proposed Action would require energy use for on-site (stationary) equipment, mobile sources, and material extraction, production, and transport. Since construction emissions are a significant part of the total project emissions, construction-related GHG emissions would be quantified and evaluated for consistency with New York State’s GHG reduction goal of an 85 percent reduction in GHG emissions by 2050. Opportunities for reducing GHG emissions associated with construction would be documented, as appropriate. In addition, the reduction in carbon sequestration associated with the anticipated tree removal would also be assessed.

9.4.14 Chapter 3.14: Noise

Construction of the Proposed Action has the potential to increase noise levels due to stationary sources (construction equipment) and mobile sources (i.e., on-road material and construction delivery vehicles, construction worker vehicles). A quantitative assessment of increases in noise levels at noise-sensitive receptors due to construction equipment and vehicles will be performed.

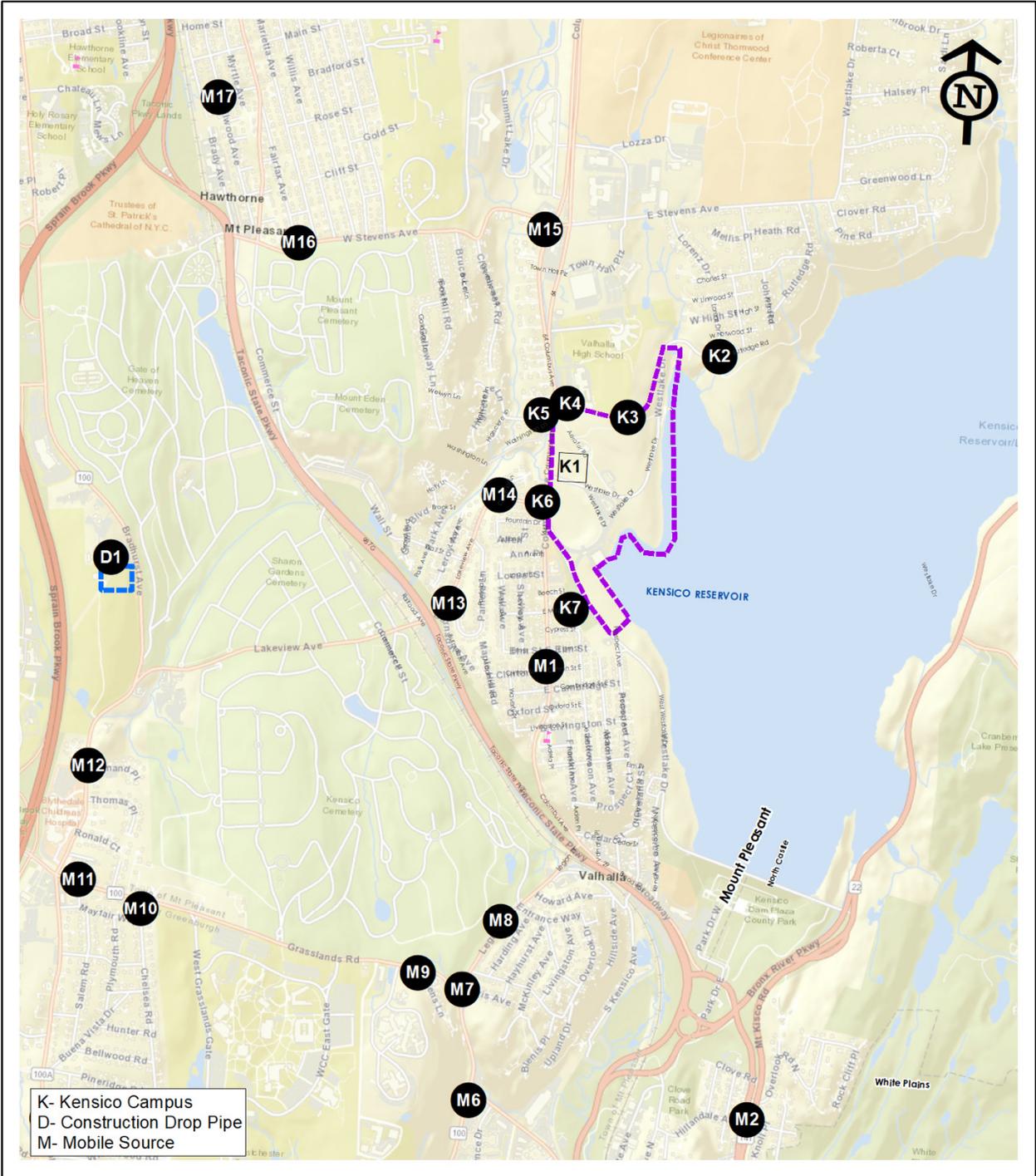
The analysis would include a conservative estimate of intensity, duration, and location of noise due to projected on-site construction activity over daytime and nighttime hours using the SoundPLAN or CadnaA model. The construction activities to be considered in this modeling would include on-site equipment and truck operation, as well as concurrent off-site construction vehicles traveling along major convergence locations to and from the construction sites. As discussed in Section 9.4.12, “Chapter 3.12: Air Quality,” the construction quarter anticipated to have the highest noise emissions would be identified for noise modeling. Reference equipment noise levels and usage factors for the impact analyses would be obtained from the *CEQR Technical Manual*. During the peak quarter, noise levels due to construction activities at each sensitive receptor would be determined and compared with existing noise levels. If the peak construction quarter results in potential noise impacts, further impact analysis of additional

periods with less than peak activity would be considered in order to determine the overall duration and significance of potential noise impacts. As part of the detailed construction noise analysis, noise receptors would be located at sensitive receptors (i.e., residences, open spaces, churches, schools, etc.) near the Kensico Campus, KEC Eastview Site, and potential Construction Drop Pipe including work areas and potential staging areas. Potential receptors may include, but not be limited to, the Valhalla Middle and High Schools and residences along Columbus Avenue adjacent to the Kensico Campus, and the Hawthorne Country Day School near the potential Construction Drop Pipe, and the Westchester County Medical Center, Westchester County Correction, Laboratories and Research, and Police Academy facilities and other educational or institutional facilities near the KEC Eastview Site.

Potential off-site mobile source noise impacts due to construction vehicles along major convergence locations would also be assessed using the *CEQR Technical Manual* screening process. The *CEQR Technical Manual* screening would be based on peak construction quarter vehicle trip forecasts for construction trucks and worker vehicles. If a more detailed analysis is required, the Federal Highway Administration (FHWA) Traffic Noise Model (TNM) would be used to predict future noise levels including from proposed construction vehicles as compared to the measured existing noise levels.

Noise monitoring locations at sensitive receptors would be selected based on the following criteria: (1) locations near construction activities and main construction truck routes; and (2) to provide comprehensive geographic coverage throughout the study area to provide an accurate picture of the ambient noise environment. Monitoring periods would be determined based upon ambient noise conditions during: (1) weekday peak hours when most intensive and long duration construction activities would occur; and (2) applicable early morning and nighttime hours in both weekday and weekend when noise is most intrusive, if construction activity is planned. The hours with the quietest ambient daytime and nighttime noise levels would be determined through on-site weekday and weekend 24-hour continuous noise level measurements. Existing noise levels at representative receptors during the quietest ambient hours, peak construction activity, and/or off-site peak traffic noise hours would be determined by obtaining 20-minute short-term noise measurements to represent the hourly noise level. **Figure 12** through **Figure 14** depict potential noise monitoring locations and anticipated noise monitoring durations at each site and along main truck routes, respectively. **Table 2** provides a brief description of each potential noise monitoring location. These potential locations may be adjusted prior to noise monitoring as a result of more detailed construction data and/or mobile noise screening, in consultation with Town of Mount Pleasant officials.

The potential for significant adverse noise impacts due to stationary and/or mobile construction activities would be determined based on whether noise levels emitted from construction of the Proposed Action would comply with local ordinances and *CEQR Technical Manual* guidance.



Source: 2020 Westchester County GIS

LEGEND

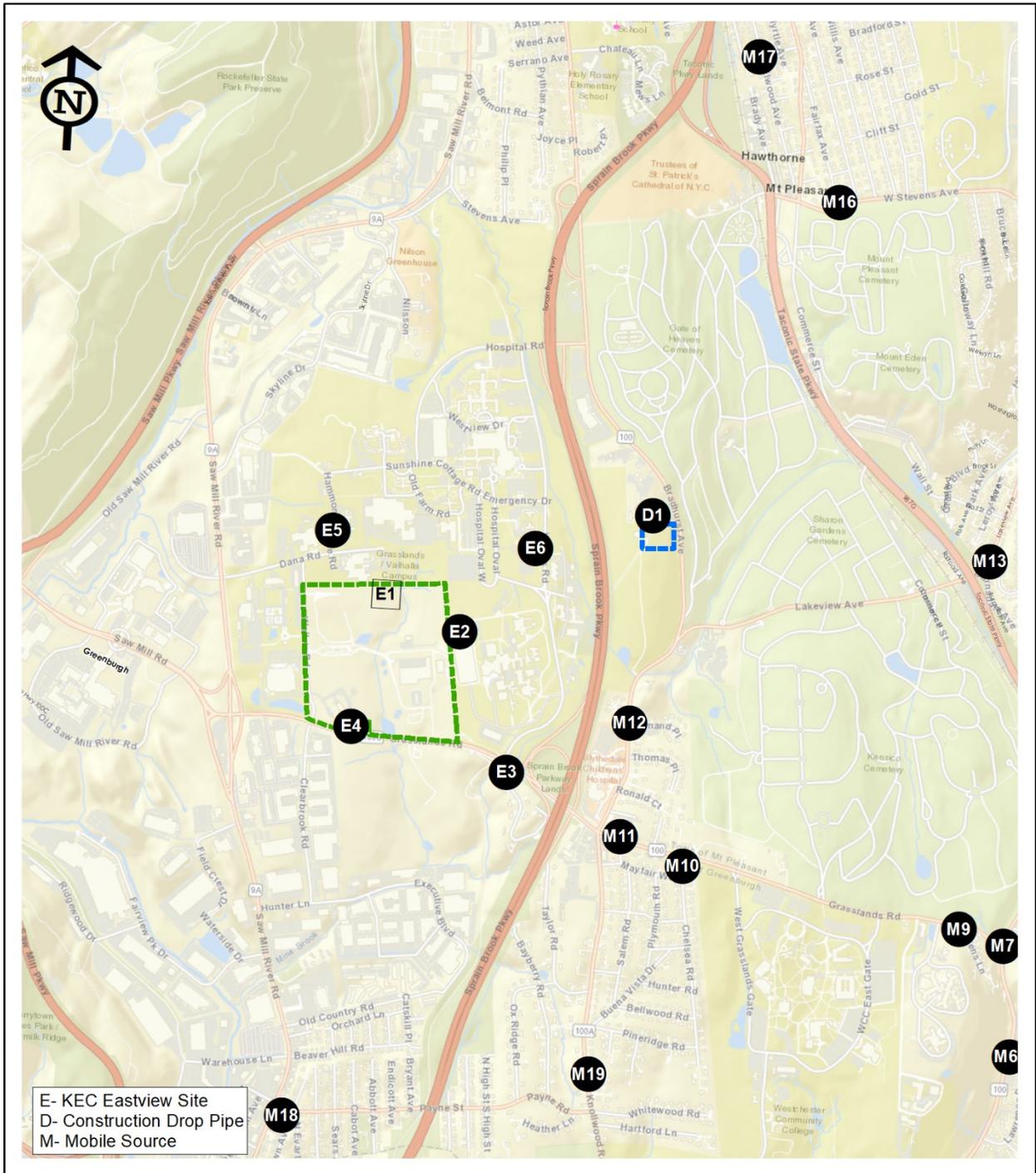
-  Kensico Campus
-  Construction Drop Pipe Location (Alternative)
-  K1 24-hr Noise Measurement Locations
-  K2 Short-term Noise Measurement Locations



0 3,000 Ft

Potential Noise Measurement Locations

Kensico-Eastview Connection Figure: 12



Source: 2020 Westchester County GIS

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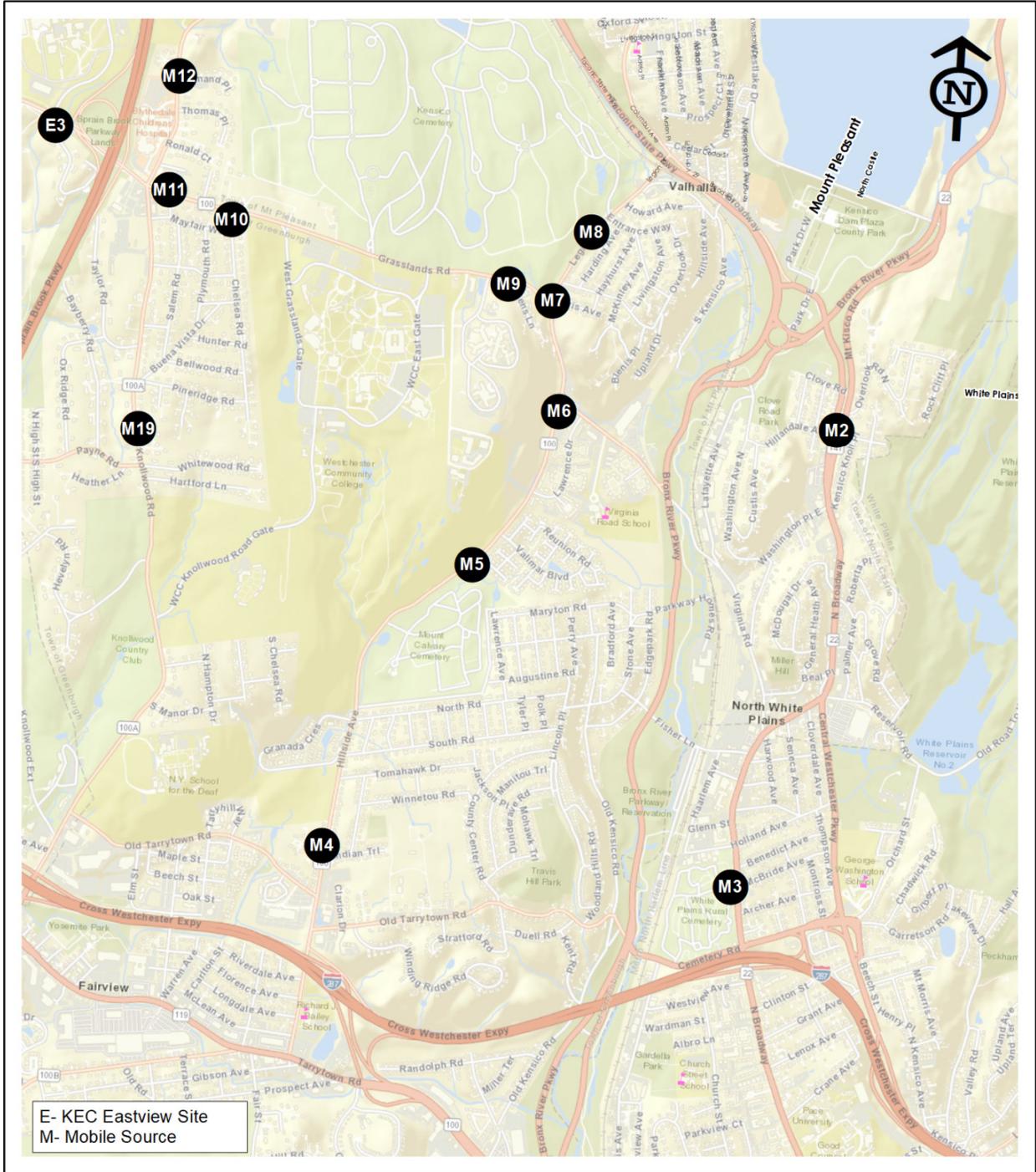
-  KEC Eastview Site
-  Construction Drop Pipe Location (Alternative)
-  24-hr Noise Measurement Locations
-  Short-term Noise Measurement Locations



0 3,000 Ft

Potential Noise Measurement Locations

Kensico-Eastview Connection Figure: 13



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M2 Short-term Noise Measurement Locations



0 3,000 Ft

Potential Noise Measurement Locations

Kensico-Eastview Connection Figure: 14

Table 2. Potential Noise Monitoring Location Descriptions

Site #	Monitoring Duration	Land Use	Tentative Location
Kensico Campus			
K1	24-hour	Government	On site; Northwest property boundary
K2	Short-term	Residential	Westlake Drive near Lorenz Drive
K3	Short-term	Institutional	Valhalla Middle School Baseball Field
K4	Short-term	Institutional	Valhalla Middle School
K5	Short-term	Residential	Highclere Lane near Columbus Avenue
K6	Short-term	Residential	Columbus Avenue near Lakeview Avenue
K7	Short-term	Residential	Lakeside Field near East Maple Street
Construction Drop Pipe Location			
D1	Short-term	Institutional	Hawthorne Country Day School
KEC Eastview Site			
E1	24-hour	Government	On site; North property boundary
E2	Short-term	Government	Westchester County Correction north of parking facility
E3	Short-term	Residential	Taylor Road near Grasslands Road
E4	Short-term	Residential	Hammond House
E5	Short-term	Government	Woodfield Detention Cottage
E6	Short-term	Residential	Beechwood Hall
Mobile Source Locations			
M1	Short-term	Residential	Columbus Avenue between East Elm Street and Clinton Street
M2	Short-term	Residential	North Broadway/Hillandale Avenue
M3	Short-term	Residential	North Broadway between Benedict Avenue and McBride Avenue
M4	Short-term	Residential	Hillside Close near Hillside Avenue
M5	Short-term	Residential	Victory Court near Hillside Avenue
M6	Short-term	Residential	Hillside Avenue south of Virginia Road
M7	Short-term	Residential	Davis Avenue near Legion Drive
M8	Short-term	Residential	Legion Drive south of Entrance Way
M9	Short-term	Residential	Grasslands Road near Stephens Lane
M10	Short-term	Residential	Grasslands Road near Chelsea Road
M11	Short-term	Residential	Grasslands Road near Pleasant Ridge Road
M12	Short-term	Residential	Bradhurst Avenue near Armand Place
M13	Short-term	Residential	Lakeview Avenue near Pamela Lane
M14	Short-term	Residential	Lakeview Avenue near Colonial Lane
M15	Short-term	Residential	Columbus Avenue south of West Stevens Avenue
M16	Short-term	Residential	West Stevens Avenue near Fairfax Avenue
M17	Short-term	Residential	Elwood Avenue near Bradford Street
M18	Short-term	Residential	NY9A south of Payne Street
M19	Short-term	Residential	Knollwood Road between Pineridge Road and Payne Road
M20	Short-term	Residential	Broadway between Cleveland Street and Madison Avenue

If warranted based on the results of the construction noise analysis, the feasibility, practicability, and effectiveness of implementing measures to mitigate any significant construction noise impacts would be examined. The SoundPLAN or CadnaA model would be used to aid in evaluating feasible noise mitigation design options to minimize potential significant on-site adverse impacts. These measures may include noise barriers, equipment enclosures, alternative construction techniques, and use of quieter equipment. For potential off-site significant mobile source noise impacts, an evaluation of noise control measures, to the extent practicable, would be discussed. These measures may include limiting the use of trucks along access routes that abut sensitive receptors, applying hospital-grade exhaust mufflers, implementing sound-absorbing hoods over engines, or substituting diesel engines with electric motors.

For locations that are affected by both on-site and off-site sources, potential impacts from both sources would be determined, as applicable, using the SoundPLAN or CadnaA model.

Additionally, construction activities including controlled blasting during the rock excavation have the potential to result in vibration levels that may result in structural or architectural damage, and/or annoyance or interference with vibration-sensitive activities. A construction vibration assessment would be performed using the Federal Transit Administration-developed construction vibration assessment methodologies and the results of blasting vibration research performed by the United States Bureau of Mines (USBM). This assessment would determine critical distances at which various pieces of equipment including controlled rock blasting may cause damage or annoyance to nearby structures based on the type of equipment, the construction activities, and applicable vibration assessment criteria. Should it be necessary for certain construction equipment to be located closer to a structure than its critical distance, vibration mitigation options would be proposed.

9.4.15 Chapter 3.15: Water and Sewer Infrastructure

The DEIS will include an assessment of the Proposed Action's potential to result in changes to conveyance and demand for water supply infrastructure, sewer infrastructure, discharges associated with construction of the Proposed Action, and whether these changes affect stormwater management.

The water and sewer infrastructure analysis would describe existing conditions by identifying and mapping existing municipal drinking water intakes or sewer infrastructure locations, including wells and septic systems, based on a review of federal, State, and local databases. The analysis would determine the potential impacts of the Proposed Action to water and sewer infrastructure such as municipal drinking water intakes, sewer capacity, drinking water wells, or septic systems within the study area. In addition, the analysis would determine the relationship between the average replenishment rate within Kensico Reservoir and the potential increased release associated with the Proposed Action to verify that a safe yield is maintained.

The stormwater analysis would assess potential changes to stormwater quantity, quality, and its management within the study areas as a result of the Proposed Action. The ability to

reuse/recycle any stormwater generated as a result of the Proposed Action would be evaluated in order to minimize the impacts on surface waters and/or water and sewer infrastructure. Likewise, a summary of potential wastewater discharges, primarily anticipated as a result of dewatering during the excavation of shafts, tunnels and connection and screening chambers would be estimated in order to assess potential impacts to local sewer infrastructure or surface waters.

9.4.16 Chapter 3.16: Solid Waste and Sanitation Services

According to the *CEQR Technical Manual*, if a proposed project may lead to substantial new development resulting in at least 50 tons (100,000 pounds) of solid waste generated per week, or if the project involves a regulatory change to public or private waste collection, processing, recycling, or disposal activity, a detailed solid waste and sanitation services analysis is warranted in order to assess the impacts of the Proposed Action on waste management capacity. A qualitative assessment would be performed to evaluate estimated waste quantities that would be generated by the construction of the Proposed Action. The Proposed Action is not expected to generate more than 50 tons per week of waste over the entire proposed construction period but may encounter periods when this may occur. An analysis and discussion of anticipated waste generation from the Proposed Action would be provided. This would include a discussion of sources of waste and estimates of waste generation, but would also discuss measures that would potentially be put in place as part of the Proposed Action to reduce waste generation, such as waste minimization and management techniques, recycling, and beneficial reuse of waste materials where possible.

9.4.17 Chapter 3.17: Energy

The DEIS would include a qualitative discussion of the Proposed Action's potential to result in changes in energy generation, demands, or distribution within the surrounding study area during construction of the Proposed Action. The analysis would include a description of the anticipated energy needs associated with any construction equipment, such as the TBM, and potential impacts on existing energy sources.

9.4.18 Chapter 3.18: Public Health

According to the guidelines included in the *CEQR Technical Manual*, a public health assessment may be warranted if an unmitigated significant adverse impact is identified in other CEQR analysis areas, such as air quality, drinking water quantity and quality, hazardous materials, or noise. Although such an impact is not expected for the Proposed Action, if one is identified, a public health assessment would be prepared and presented in the DEIS.

9.4.19 Chapter 3.20: Growth Inducement

SEQRA specifies that the assessment of impacts also focus on the growth-inducing aspects of a proposed project. These generally refer to "secondary" impacts of a proposed project that trigger

further development. Projects that introduce or greatly expand infrastructure capacity (e.g., sewers, central water supply) might also induce growth. As such, this section would identify and discuss any growth-inducing aspects of the Proposed Action.

9.4.20 Chapter 3.21: Environmental Justice

The NYSDEC issued Commissioner Policy 29 (CP 29) – *Environmental Justice and Permitting* (EJ Policy) on March 19, 2003. The EJ Policy sets forth guidelines for evaluation of disproportionate adverse environmental impacts on minority or low-income populations. The NYSDEC Office of Environmental Justice maps were reviewed to identify any Potential Environmental Justice (PEJ) areas (minority and low-income communities). As there are no PEJ areas within or in close proximity to the Kensico Campus, an EJ assessment is not warranted at that site. The KEC Eastview Site and potential Construction Drop Pipe Site, however, are located within a PEJ area; therefore, the DEIS would include an assessment of the potential for the Proposed Action to disproportionately affect minority or low-income populations. Following NYSDEC guidance, the environmental justice analysis would consist of the following steps:

- Define a study area to include all census block groups substantially within 1/2 mile of each site, or the area where any potential significant adverse impacts resulting from the Proposed Action could occur;
- Determine whether low-income or minority communities (PEJ areas) are present in the study area. Following NYSDEC’s methodology to identify significant minority and low-income populations within the study area, the most recent and available U.S. Census Bureau’s Census demographic data would be acquired such as total population, race, and ethnicity, and poverty status and would be compiled at the census block group level for each census block group in the environmental justice study area. In addition, data would be compiled for the Town of Mount Pleasant and Westchester County as a whole to allow for a comparison of study area characteristics to a larger reference area;
- If low-income or minority communities are present, in accordance with the EJ Policy, potential environmental justice minority or low-income areas (environmental study area) would be identified that include: (1) minority, having a minority population equal to or greater than 51.1 percent in an urban area and 33.8 percent in a rural area of the total population; or (2) low-income, having a low-income population equal to or greater than 23.59 percent of the total population; and
- Identify any potential significant adverse environmental impacts that could occur within these study areas as a result of the Proposed Action.

9.4.21 Chapter 3.22: Operation

As discussed in **Section 9.3**, relatively limited operational impacts are anticipated as a result of the Proposed Action. This chapter of the DEIS would assess the potential impacts for those impact categories that warrant an analysis as a result of the operation of the Proposed Action.

9.4.21.1 Traffic and Transportation

This section of the DEIS will evaluate the potential to create significant adverse traffic impacts once the Proposed Action is completed and is operational. Limited vehicle traffic is expected once the project is completed. This amount of traffic is not expected to be sufficient to require detailed traffic counts or level of service analyses. The actual volume of vehicle trips expected would be determined based on typical daily or weekly employee projections for the Kensico Campus and KEC Eastview Site, potential vehicle trips between the two locations, and estimated visitor and maintenance trips to both.

It is expected that the total volume of vehicle trips generated during weekday peak hours would not equal or exceed 50 vehicles per hour (vph). According to the *CEQR Technical Manual*, this is the threshold (Level 1 Screening) below which proposed projects would not have the potential to create significant adverse traffic impacts. Should this threshold be exceeded, a Level 2 Screening would be completed, which evaluates whether any individual intersection in the study area would incur a volume increase of 50 vph or more in a peak hour. If no intersections exceed this threshold, operation of the project would not have the potential to create significant adverse traffic impacts and no further analyses are needed.

This section of the DEIS would present the total volume of vehicle trips expected to be generated during peak hours and the Level 1 and Level 2 screening discussed above. It would also report the amount of parking to be provided at the Kensico Campus and KEC Eastview Site and the adequacy of this. This section would also identify any available public transit, bicycle, and pedestrian facilities nearby that may serve the Kensico Campus and KEC Eastview Site.

9.4.21.2 Air Quality

After the completion of construction, the routine operations at each facility would generate negligible emissions from mobile sources, such as cars and trucks, and stationary sources, such as pumps and emergency generators; therefore, both operational mobile and stationary source impact analyses are not warranted. A qualitative discussion of anticipated operational air emissions due to the Proposed Action would be provided in the DEIS.

9.4.21.3 Greenhouse Gas Emissions and Climate Change

While the Proposed Action would introduce new or rehabilitated buildings or structures, it is not anticipated that these would result in significant additional electricity use or fuel consumption and would not generate substantive transportation needs. Therefore, there would be no substantial GHG emissions associated with the operation of the Proposed Action. A qualitative

discussion of potential GHG emissions due to the Proposed Action would be provided in the DEIS.

As discussed in the *CEQR Technical Manual*, climate change is projected to have wide-ranging effects on the environment, including rising sea levels, increases in temperature, and changes in precipitation levels and intensity. Although this is occurring on a global scale, the environmental effects of climate change are also likely to be felt at the local level. Water resources like the Kensico Reservoir are subject to climate change, including flooding and impacts to water quality. A qualitative discussion of the potential effects of climate change on the Proposed Action would be included in the DEIS. The *CEQR Technical Manual* recommends that such a discussion should focus on early integration of climate change considerations into the Proposed Action and may include proposals to increase climate resilience and adaptive management strategies to allow for uncertainties in environmental conditions resulting from climate change.

9.4.21.4 Noise

After the completion of construction, the routine operations at each facility would generate negligible noise levels in the neighborhood from mobile sources, such as cars and material handling trucks, and stationary sources, such as pumps, emergency generators and other operations would be located indoors with new facilities meeting applicable noise code requirements. Both operational mobile and stationary source impact analyses are not warranted. A qualitative discussion of potential operational noise emissions due to the Proposed Action would be provided in the DEIS.

9.4.21.5 Energy

An analysis of energy focuses on a proposed project's consumption of energy and, where relevant, potential effects on the transmission of energy that may result from the project. Typical energy sources used in a project's operation (e.g., HVAC, lighting, etc.) includes electricity, fossil fuels (oil, coal, gas, etc.), nuclear power, and hydroelectric power.

The DEIS would include an assessment of the Proposed Action's potential to result in significant changes in energy generation, demands or distribution within the surrounding study area due to operation.

9.4.21.6 Neighborhood Character

In a neighborhood character assessment under CEQR, one considers how elements of the environment combine to create the context and feeling of a neighborhood and how a project may affect that context and feeling. Thus, to determine a project's potential effects on neighborhood character, the elements that contribute to a neighborhood's context and feeling are considered together.

The DEIS would include an assessment of the Proposed Action's potential to affect changes to neighborhood character from activities that could generate significant adverse effects in any of

the technical areas that are considered when analyzing neighborhood character. These technical areas include: land use, zoning, and public policy; socioeconomic conditions; open space and recreation; historic and cultural resources; urban design and visual resources; transportation; and noise.

9.5 Chapter 4: Cumulative Effects

The cumulative effects of the Proposed Action, considered in conjunction with other projects being constructed and/or operated within the same vicinity and time frame, will be assessed in this section of the DEIS. This analysis would include a discussion of recently completed, ongoing, and future DEP initiatives and projects, as well as projects by others, at or in proximity to the Kensico Campus, potential Construction Drop Pipe, and KEC Eastview Site.

The cumulative effects would be dependent on the overlapping construction schedules and peak construction intensity of each project, as well as future operation. Varying construction schedules, peak construction intensity, and dispersion due to the distance between the Proposed Action and other projects would be discussed to evaluate potential cumulative effects.

9.6 Chapter 5: Alternatives

The purpose of an alternatives analysis is to identify and examine reasonable and practicable options to a proposed project that may avoid or reduce project-related significant adverse impacts and still achieve the stated goals and objectives of the project. As required by SEQRA/CEQR, the assessment of a No Action Alternative is required for all EISs. A range of alternatives may not be defined until the extent of impacts has been identified as part of the DEIS. Alternatives for the Proposed Action that would be considered within this chapter beyond the No Action Alternative would include design, construction alternatives, and impact reduction alternatives. A description and evaluation of each alternative would be provided at a level of detail sufficient to allow for a comparative assessment of each alternative.

9.6.1 No Action

The Alternatives Analysis will include an assessment of the No Action Alternative. Pursuant to the Hillview Consent Decree and Judgment, the DEIS analysis would assume that the proposed tunnel and associated modifications and supporting structures would be built and that system redundancy provided by a second connection between the Kensico Reservoir and the CDUV Facility would be constructed. Therefore, the No Action Alternative is the same as the Proposed Action.

9.6.2 Design Alternatives

This section of the DEIS will discuss planning and design alternatives that were considered in lieu of the Proposed Action. This may include but is not limited to the pressurization of the Catskill Aqueduct.

9.6.3 Construction Alternatives

This section would discuss construction alternatives that were evaluated for the tunnel connection between the Kensico Reservoir and the CDUV Facility and the additional facilities that are part of the Proposed Action. This may include but is not limited to alternatives for tunnel driving and lining direction, and the use of a Construction Drop Pipe.

9.6.4 Impact Reduction Alternatives

These alternatives would be evaluated to reduce or eliminate the specific potential impacts of the proposed program identified in the EIS. Additional alternatives may be identified for inclusion in the EIS as project planning proceeds and as significant adverse impacts from the proposed program are identified.

9.7 Chapter 6: Mitigation

In accordance with the *CEQR Technical Manual*, where potential significant adverse impacts are identified, mitigation measures would be developed and evaluated to minimize or eliminate the potential impacts to the greatest extent practicable. These mitigation measures, if required, would be discussed in this chapter. Where impacts cannot be practicably mitigated, they would be described under Unavoidable Adverse Impacts.

9.8 Chapter 7: Unavoidable Adverse Impacts

This chapter would summarize unavoidable significant adverse impacts, if any, that could not be avoided or practicably mitigated resulting from the Proposed Action. Unavoidable significant adverse impacts are those that would occur if a proposed project or action is implemented regardless of the mitigation employed or if mitigation is infeasible.

9.9 Chapter 8: Irreversible and Irretrievable Commitment of Resources

This chapter would discuss those resources, such as energy and construction materials, that would be irretrievably committed if the project is built.