

## ***Chapter 1: Project Description***

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### **1.1 INTRODUCTION**

The New York City Department of Environmental Protection (DEP) provides drinking water to nearly 10 million people, roughly half the population of New York State. 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 convey water by gravity from these upstate watersheds to Kensico Reservoir located in Westchester County, New York (see **Figure 1.1-1**).

The Kensico-Eastview Connection (KEC) Project, described in additional detail in Section 1.3, would provide for the construction and operation of a new, additional water conveyance tunnel between Kensico Reservoir and the Catskill/Delaware Ultraviolet Disinfection (CDUV) Facility.

Prior to the activation of the CDUV Facility, located within the City's property at Eastview in the Town of Mount Pleasant in Westchester County, both the Catskill and Delaware aqueducts were used to convey water from 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 (EPA) Long Term 2 Enhanced Surface Water Treatment Rule (LT2 Rule), the section of the Catskill Aqueduct that runs between Kensico Reservoir and Eastview was taken out of service because of hydraulic grade limitations that prohibited the gravitational conveyance of water to the new CDUV Facility.

As the KEC Project 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 KEC Project may result in one or more significant adverse environmental impacts, DEP, as Lead Agency, has prepared this ~~Draft~~ Final Environmental Impact Statement (EIS) for review and comment and for consideration by other involved and interested agencies.

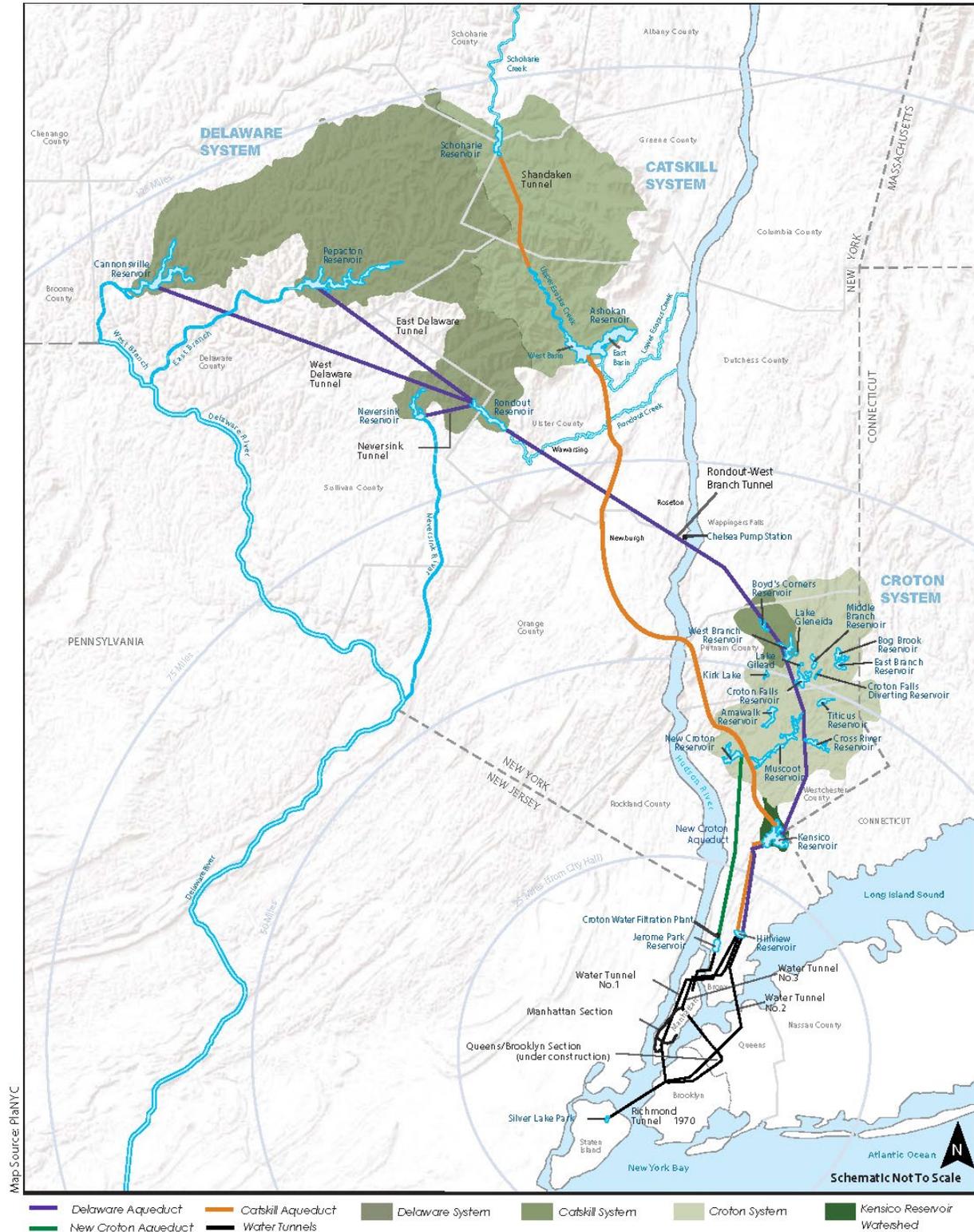


Figure 1.1-1. Water Supply System Map



The KEC Project would be located in the Town of Mount Pleasant as shown on **Figure 1.2-1**. The KEC Project would be comprised of several elements, as discussed in more detail below. In addition to the water conveyance tunnel, the KEC Project encompasses two distinct project sites, the Kensico Campus and the KEC Eastview Site (see **Figure 1.2-1**). The Kensico Campus encompasses an area immediately adjacent to and west of Kensico Reservoir and is bounded to the west by Columbus Avenue, the south by West Westlake Drive, and the Valhalla Middle and High Schools to the north. The KEC Eastview Site is located north of Grasslands Road (NY State Route 100C), east of Walker Road, and west of the Westchester County Corrections complex.

## **1.2 PROJECT LOCATION**

### **1.2.1 PROJECT SITE DESCRIPTION**

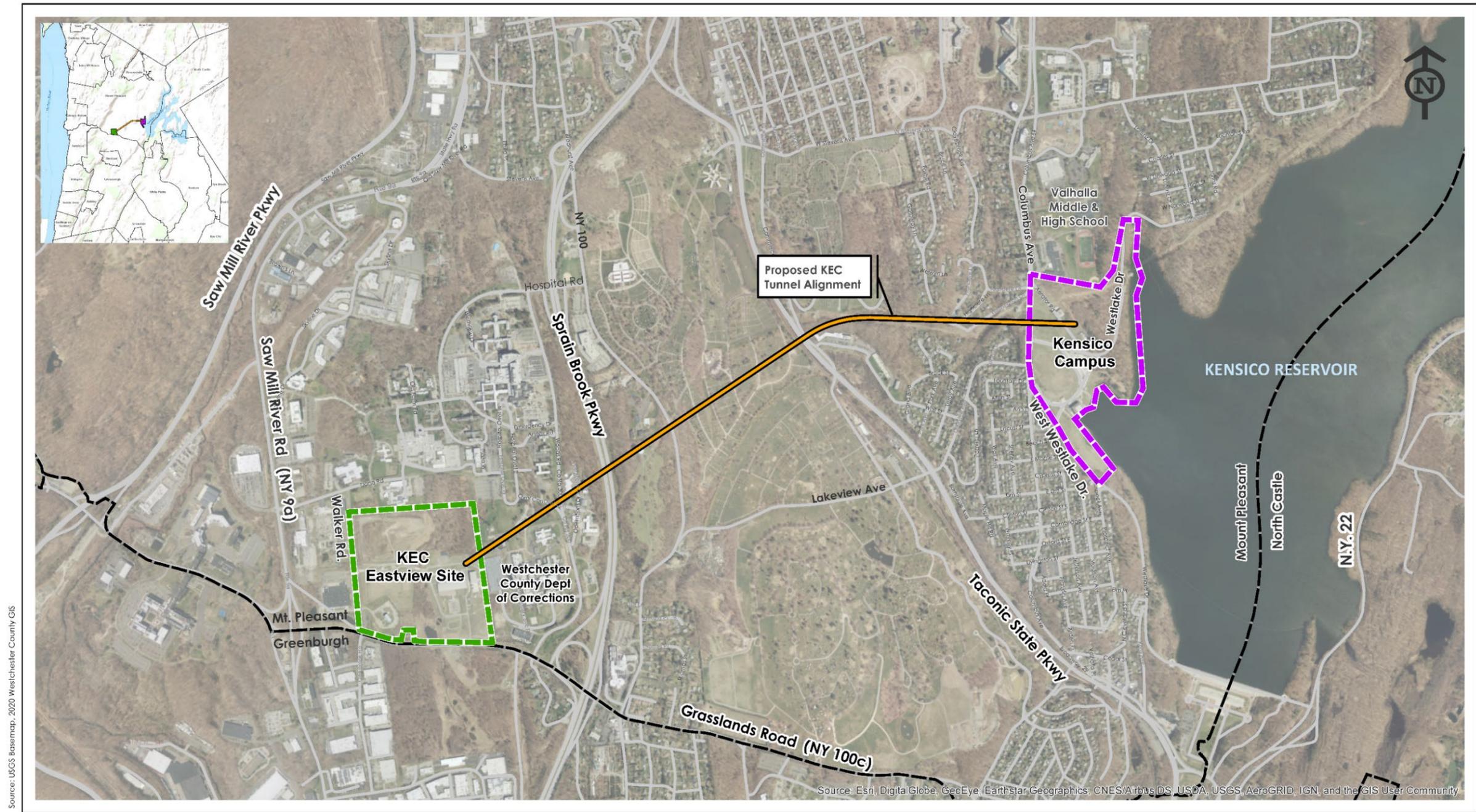
#### **1.2.1.1 Kensico Campus**

DEP has a number of existing facilities and operations that are located within the Kensico Campus (see **Figure 1.2-2**). The Kensico Campus includes Delaware Shaft 18 (DEL Shaft 18) that allows Kensico Reservoir waters to enter the Delaware Aqueduct for conveyance to the CDUV Facility, as well as the Catskill Upper Effluent Chamber (UEC) that historically allowed reservoir waters to enter the Catskill Aqueduct. As part of historical UEC operations, waters would flow from the UEC through the existing Dike Grade Tunnel to the Catskill Lower Effluent Chamber (LEC), and then the existing Catskill Screen Chamber before continuing to Hillview Reservoir through the Catskill Aqueduct. Chemical addition facilities that provide disinfection and fluoridation to the aqueducts are located at DEL Shaft 18 (located at the Kensico Campus) and the Catskill Screen Chamber (located on City-owned property west of Columbus Avenue). DEP also maintains several other operations and structures including, but not limited to, the former 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 KEC Project.

Kensico Reservoir is the major feature associated with, and immediately east and adjacent to, the Kensico Campus. The major function of Kensico Reservoir is to store sufficient water volume to meet the fluctuating daily demands of New York City water users.

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Source: USGS Baseemap, 2020 Westchester County GIS

**LEGEND**

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

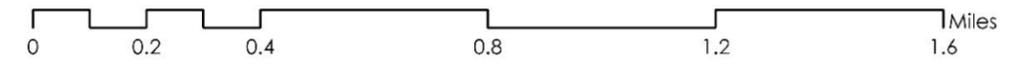
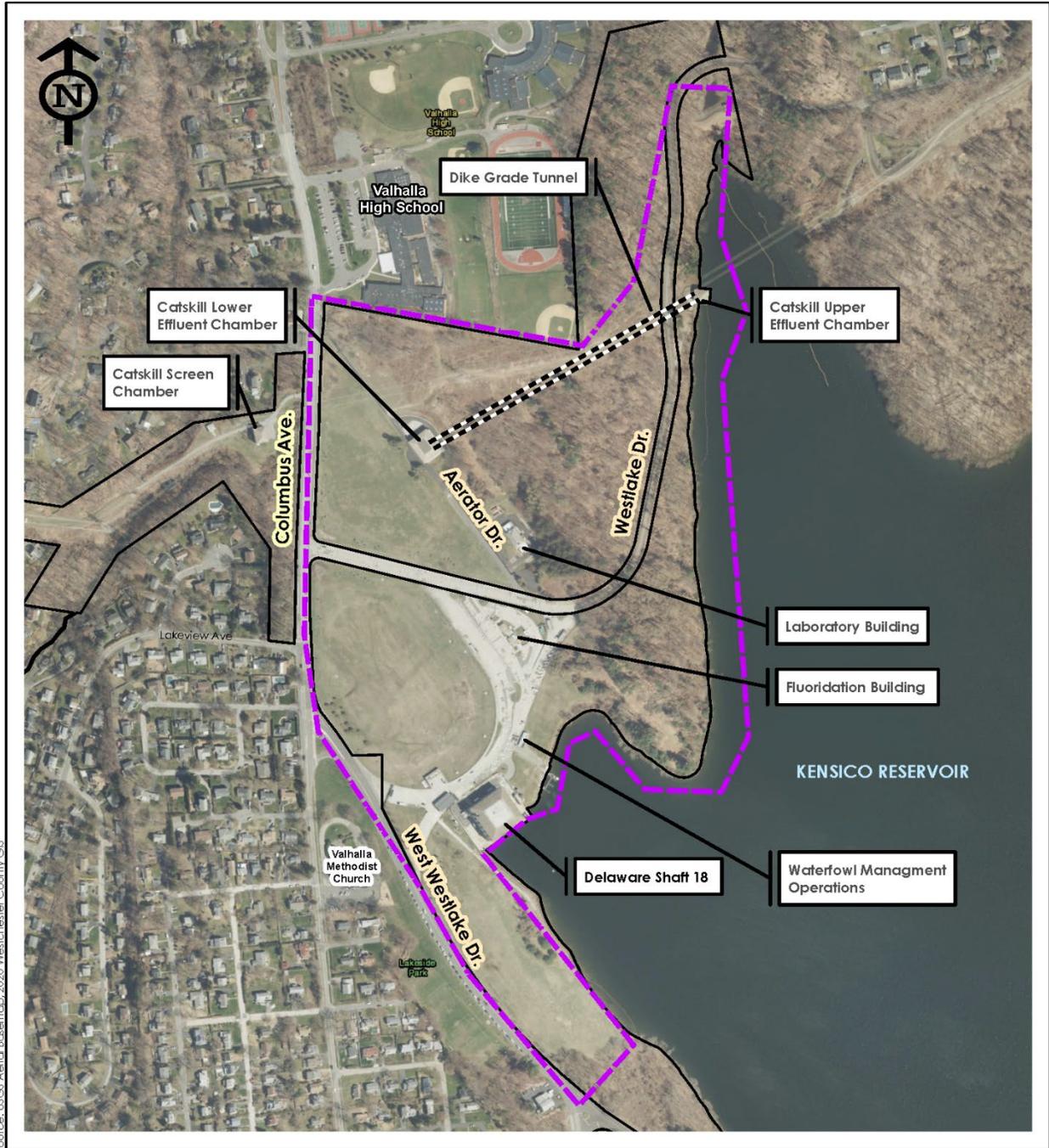


Figure 1.2-1. Project Overview

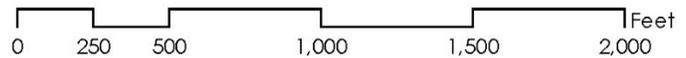


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**LEGEND**

- Kensico Campus
- DEP Parcels



**Figure 1.2-2. Kensico Campus – Existing Conditions**



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

The UEC, also located on the western shore of Kensico Reservoir, is the intake for the Catskill Aqueduct but has been out of service since 2012 when the CDUV Facility became operational. A section view of the UEC is provided on **Figure 1.2-3**. The UEC contains bar racks to pre-screen the incoming water of larger debris before it enters the Catskill Aqueduct. Water is then directed into a small forebay before entering the existing Dike Grade Tunnel, a segment of the Catskill Aqueduct, through the UEC effluent portal and tunnel. The forebay is also connected to the Kensico Bypass, which allows the Catskill Aqueduct to bypass Kensico Reservoir and deliver water directly to the UEC. The UEC contains four pairs of sluice gates, providing isolation from the reservoir when required. The UEC has a flow capacity of approximately 800 million gallons per day (mgd).

When in service, water is conveyed from the UEC to the forebay of the LEC via the Dike Grade Tunnel. The Dike Grade Tunnel is a segment of the Catskill Aqueduct that has the capacity to convey up to 800 mgd of flow. Water from the Dike Grade Tunnel then enters the LEC forebay and is directed to the Catskill Aqueduct via a 17-foot diameter tunnel, located within the substructure of the LEC.

Fluoride is provided from the Fluoridation Building located off Westlake Drive and chlorination was previously provided into the Catskill Aqueduct at the Catskill Screen Chamber.

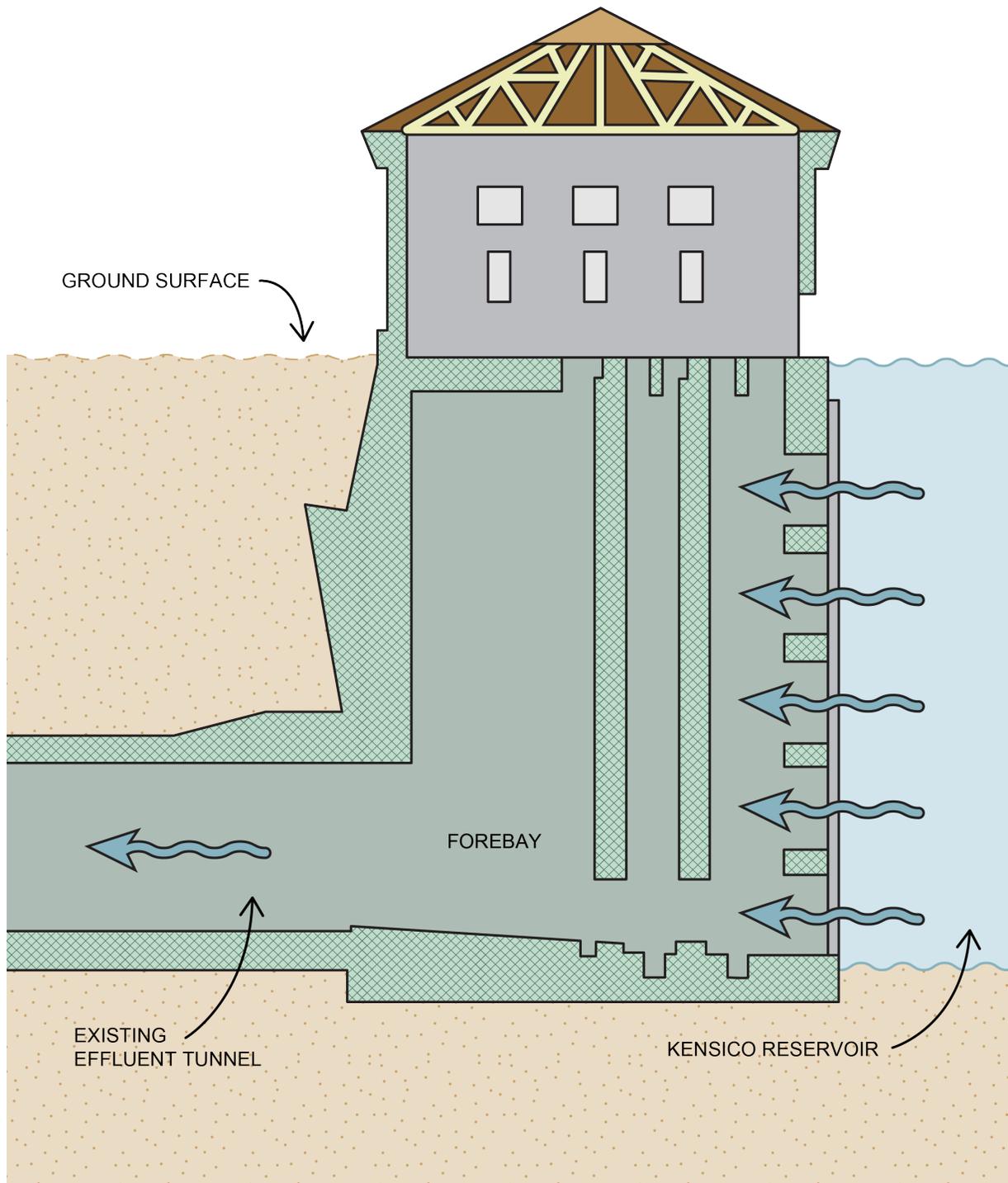


Figure 1.2-3. Catskill Upper Effluent Chamber



### **1.2.1.2 KEC Eastview Site**

The KEC Eastview Site is a parcel owned by the City of New York. The KEC Eastview Site is an 87-acre property situated in the Town of Mount Pleasant in Westchester County, New York, and is located north of Grasslands Road (see **Figure 1.2-4**). **Figure 1.2-4** shows the KEC Eastview Site and the infrastructure associated with the CDUV Facility that was placed into operation in September 2012.

The CDUV Facility was designed to provide enhanced disinfection of the Catskill and Delaware water supplies, although, it currently only receives water via the Delaware Aqueduct. Treated water discharges from the CDUV Facility into both the Catskill and Delaware aqueducts.

Additional facilities located at the KEC Eastview Site include DEL Shaft 19, administrative offices located in the north central section of the site, north of the CDUV Building, and the DEP Police 6<sup>th</sup> Precinct, located within the southwest portion of the KEC Eastview Site. The site has access from Walker Road to the west and emergency access from Grasslands Road to the south. Access from Walker Road is directed to a gated and manned entrance that provides controlled access to the site.

## **1.2.2 DESCRIPTION OF SURROUNDING USES AND FACILITIES**

Land uses and facilities within immediate proximity of the Kensico Campus and KEC Eastview Site vary significantly and are described in more detailed within Section 4.1, “Land Use, Zoning, and Public Policy.” A summary of general land use and selective facilities is provided below for each site.

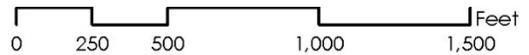
### **1.2.2.1 Kensico Campus**

The Kensico Campus encompasses a large, relatively underdeveloped area under the jurisdiction of DEP, utilized for water supply operations and located immediately adjacent to Kensico Reservoir to the east and southeast. As summarized in Section 1.2.1.1, primary operations and/or facilities within the limits of the Kensico Campus include the UEC, DEL Shaft 18, LEC, chemical addition facilities, and the former Kensico Laboratory building. Additional subsurface facilities include the Dike Grade Tunnel that connects the UEC to the LEC and portions of the Catskill and Delaware aqueducts. Westlake Drive, a town road, provides primary access to the Kensico Campus from Columbus Avenue and then runs parallel to the Kensico Reservoir shoreline before entering a residential area to the northeast of the campus. An additional road, Aerator Road, enters the northwest corner of the campus from Columbus Avenue and extends to the southeast before connecting with Westlake Drive.



**LEGEND**

- KEC Eastview Site
- DEP Parcels
- Municipal Boundary



**Figure 1.2-4. KEC Eastview Site – Existing Conditions**



The most dominant feature in proximity to the campus is Kensico Reservoir, located immediately to the east and which extends north and south of the eastern limits of the Kensico Campus. After the reservoir, residential uses represent the next most significant feature in proximity to the campus. Significant areas of largely single-family, detached housing are located immediately west of the campus and Columbus Avenue, to the northeast along Westlake Drive, and south of the Kensico Campus to the east of West Westlake Drive and east and west of Columbus Avenue. Facilities of note include the Valhalla United Methodist Church and Lakeside Park located south of the intersection of Columbus Avenue and West Westlake Drive and west of West Westlake Drive.

Within the northern portion of the campus is a Consolidated Edison (Con Edison) utility right-of-way that extends east-west. Immediately north of the campus is the Valhalla Middle and High Schools and Kensico School. Further north along both sides of Columbus Avenue, uses are associated with commercial office space and research and development, such as the PepsiCo campus north of the schools and Lozza Drive, and Town of Mount Pleasant municipal offices located between the north and south lanes of Columbus Avenue south of its intersection with West Stevens Avenue.

#### **1.2.2.2 KEC Eastview Site**

In contrast to the Kensico Campus, the KEC Eastview Site is located within an area of more commercial and institutional uses. Residential use is limited to the Hammond House located on the north side of Grasslands Road and adjacent to the KEC Eastview Site. The KEC Eastview Site is located north of Grasslands Road and east of Walker Road. In addition, DEP's Eastview Site continues on the south of Grasslands Road and is dedicated to current or future DEP uses and is currently largely undeveloped.

The KEC Eastview Site and surrounding areas are largely framed by the Saw Mill River Parkway and Sprain Brook Parkway to the west and east, respectively. South and southwest of the site and Grasslands Road along both sides of Clearbrook Road is an area of commercial office space with several stand-alone offices. Additional commercial uses are located west of the KEC Eastview Site and Walker Road. North, east, and west of the KEC Eastview Site is dominated by institutional and educational uses. The Westchester County Police Academy and Fire Training Center are located immediately west and northwest of the site, respectively. Westchester County Department of Laboratories and Research is located to the north along Dana Road and the Westchester County Corrections complex is located immediately east of the KEC Eastview Site. Educational uses include New York Medical College facilities northeast of the site along Dana Road and east of Hammond House Road.

### **1.2.2.3 KEC Tunnel Alignment**

Connecting the Kensico Campus and KEC Eastview Site would be a new deep rock tunnel. Land uses west of Columbus Avenue and the Taconic Parkway include the MTA Metro North railroad, the Mount Eden and Gate of Heaven cemeteries, and residential and commercial properties. Land uses west of the Sprain Brook Parkway, consist largely of institutional and office uses.

## **1.3 DETAILED DESCRIPTION OF PROPOSED ACTION**

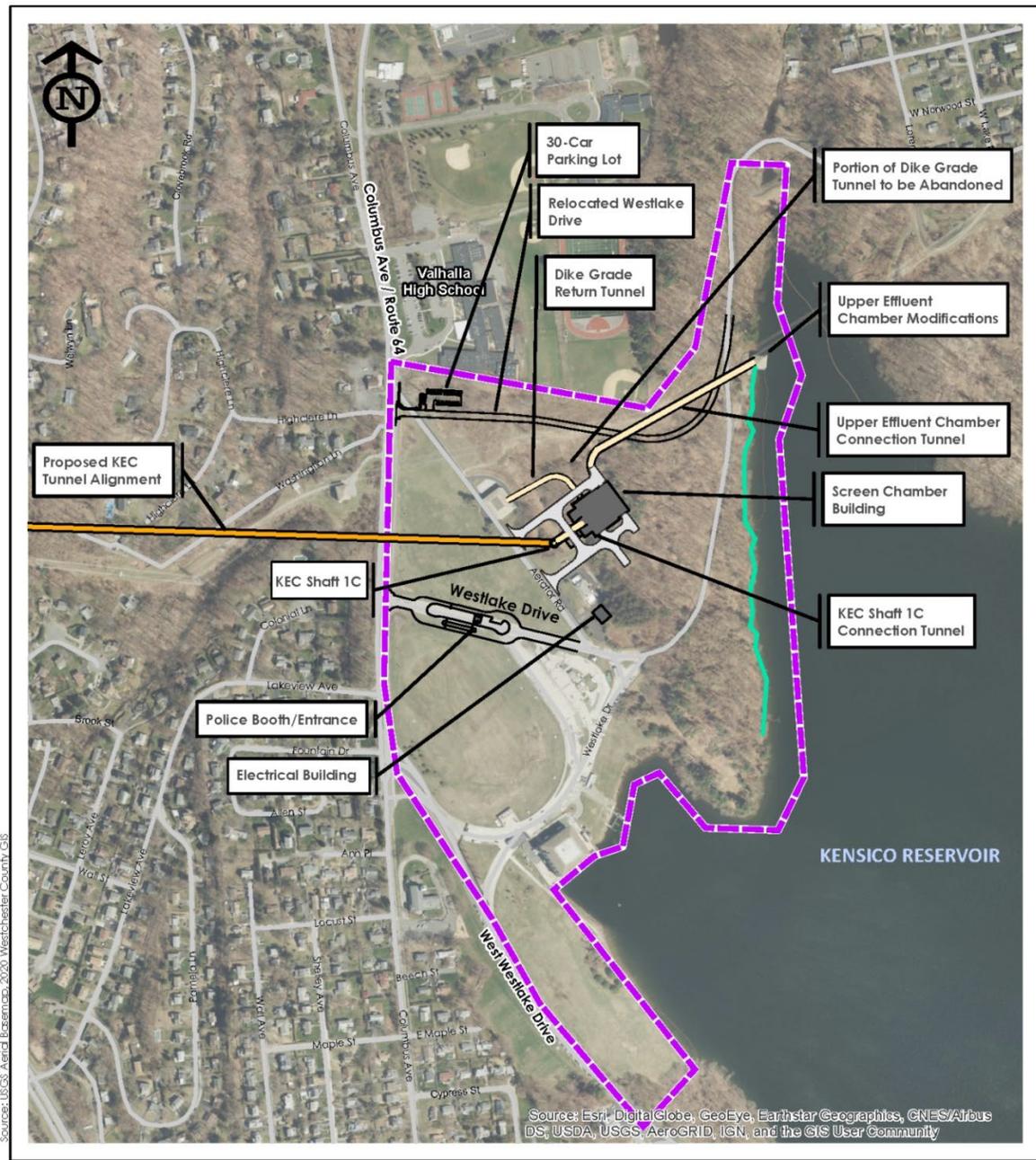
The KEC Project would involve the construction and operation of a new, additional water conveyance tunnel between Kensico Reservoir and the CDUV Facility (see **Figure 1.2-1**). It would enhance system resiliency and redundancy, preserve the potential for a Catskill Aqueduct bypass of Kensico Reservoir, allow DEP to meet future 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 as shown on **Figure 1.3-1**, **Figure 1.3-2** for the Kensico Campus, and **Figure 1.3-3** for the KEC Eastview Site. The KEC Project would consist of several elements, which comprise the Proposed Action, and are discussed in more detail below.

### **1.3.1 KEC UPTAKE AND DOWNTAKE SHAFTS**

Two new shafts, a downtake shaft (KEC Shaft 1C) at the start of the KEC Tunnel and an uptake Shaft (KEC Shaft 2C) at its end, 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 Proposed Action is completed. KEC Shaft 1C would be located at the Kensico Campus in the vicinity of the KEC Screen Chamber. KEC Shaft 2C would be located at the KEC Eastview Site at the Eastview Connection Chamber (ECC).

The two 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 Kensico Campus and KEC Eastview Site and the rock expected within the deeper portions of the shafts. Both shafts would be lined with cast-in-place concrete.



**LEGEND**

- Kensico Campus
- Shoreline Stabilization
- Connecting Tunnels
- Shaft 1C
- Proposed Buildings
- Tunnel Alignment
- Proposed Elements

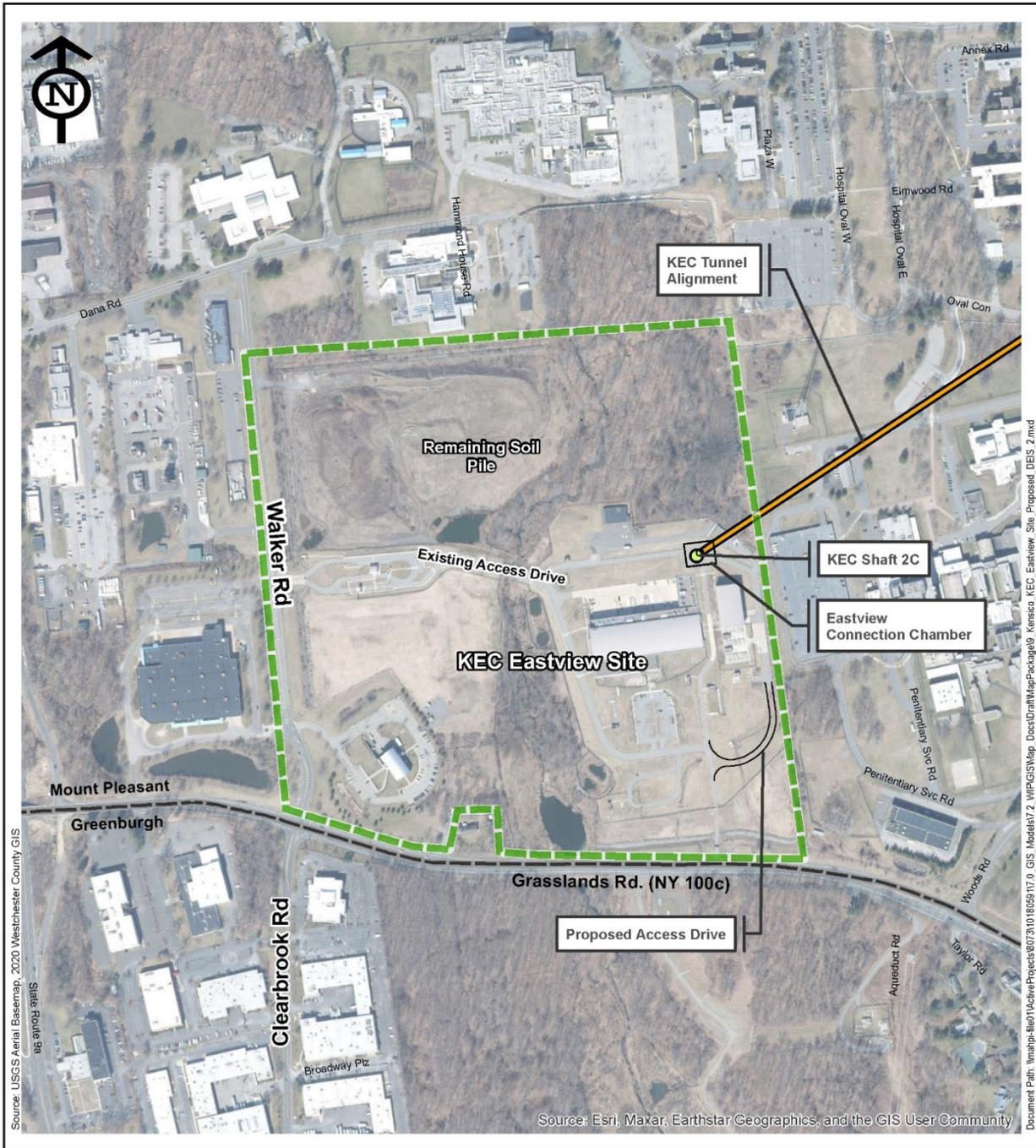
**Figure 1.3-1. Kensico Campus – Proposed Action**





Figure 1.3-2. Kensico Campus – Illustration of Existing and Future Facilities





**Legend**

- KEC Shaft 2C
- Proposed Eastview Connection Chamber
- Tunnel Alignment
- KEC Eastview Site
- Municipal Boundary

0 0.05 0.1 0.2 Miles

**Figure 1.3-3. KEC Eastview Site – Proposed Action**



KEC Shaft 1C would be located at the Kensico Campus immediately west of the new KEC Screen Chamber. KEC Shaft 1C would initially be in soft ground or overburden, before extending into rock. KEC Shaft 1C would be connected to the KEC Screen Chamber by a new KEC Shaft 1C Connection Tunnel. KEC Shaft 1C would have an overall depth of approximately 313 feet below finished grade (see **Figure 1.3-4**) and a finished inner diameter of approximately 27 feet. The finished shaft would have a cast-in-place concrete lining, which would be a minimum of 1.5 feet in thickness. KEC Shaft 1C would also serve as a potential retrieval shaft where the tunnel boring machine (TBM) would complete construction of the tunnel. A TBM is a machine used to excavate tunnels with a circular cross-section containing a cutter head that can bore through a variety of soil and rock strata. Rock and/or soil removed from the active face or front of the TBM would then be transported by conveyors from the active face for removal and management. Upon completion of KEC Shaft 1C and the KEC Tunnel, a pressure release vent structure would be integrated into the cover of the shaft.

KEC Shaft 2C would be located at the KEC Eastview Site and would lie directly below and connect to the ECC. This uptake shaft would allow flows from the tunnel to enter the ECC and then be directed to the CDUV Facility for disinfection. KEC Shaft 2C would be located immediately north of the northeast corner of the CDUV Facility. KEC Shaft 2C would have an overall depth of approximately 425 feet below finished grade (see **Figure 1.3-5**) and an inner diameter of approximately 32 feet. Similar to KEC Shaft 1C, the finished KEC Shaft 2C would have a cast-in-place concrete lining with a minimum thickness of 1.5 feet. KEC Shaft 2C would initially be constructed within existing overburden and then rock. KEC Shaft 2C would be the uptake shaft for the KEC Tunnel and would also serve as the working shaft where the majority of rock would be removed from the KEC Tunnel, as well as the removal of potential groundwater infiltration that would be pumped out of the shaft and tunnel during construction.

Both shafts would be “belled out” at their base (see **Figure 1.3-4** for KEC Shaft 1C and **Figure 1.3-5** for KEC Shaft 2C). This would involve drill and blasting to create a larger area at the base of each shaft. At KEC Shaft 2C, this would allow the individual pieces of the TBM to be lowered into KEC Shaft 2C and the assembly of the entire TBM unit underground, while at KEC Shaft 1C this would allow for potential disassembly and removal of the TBM upon the completion of tunneling. In addition, the belled-out areas would also provide a larger “staging” area where soil and rock to be removed from the KEC Tunnel can be staged for removal, additional equipment, or materials (e.g., tunnel lining), can be lowered or removed from the shafts, and for access by construction workers. KEC Shaft 2C would also have a tail and starter tunnel (see **Figure 1.3-5**). The tail tunnel would be located adjacent to the working shaft (KEC Shaft 2C) in order to provide more room for moving or setting up equipment, in particular the TBM and its soil/rock conveying systems. Finally, at KEC Shaft 2C, a starter tunnel, east of the shaft would be constructed. This starter tunnel would allow for the proper orientation and setup of the TBM prior to the initiation of the larger KEC Tunnel boring effort. The belled-out areas, tail tunnel, and starter tunnel would be constructed through drill and blast methods.

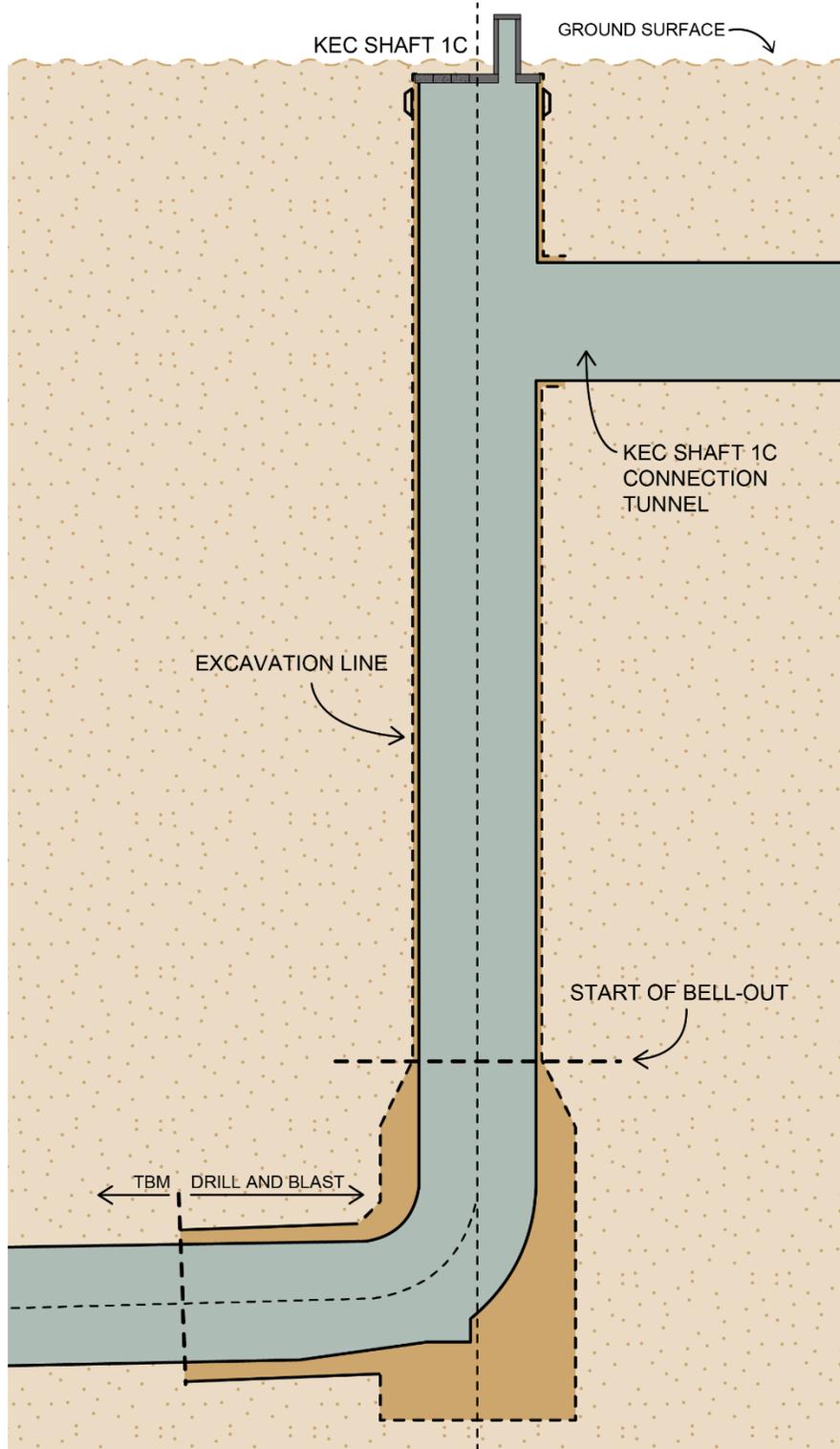


Figure 1.3-4. KEC Shaft 1C – Profile



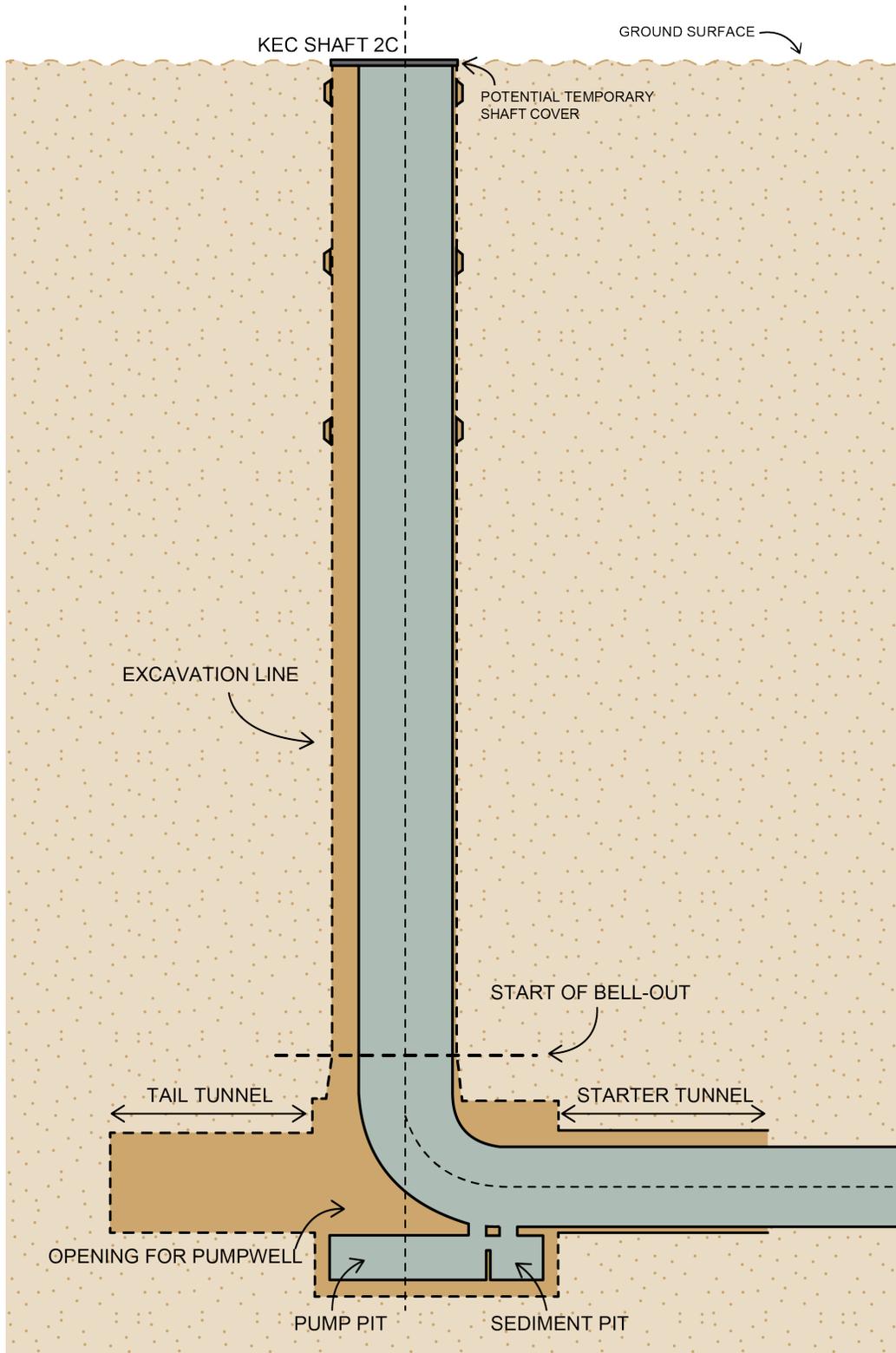


Figure 1.3-5. KEC Shaft 2C - Profile



### 1.3.2 DEEP ROCK TUNNEL

A new deep rock tunnel would be constructed between the proposed KEC Shaft 1C and the proposed KEC Shaft 2C (**Figure 1.2-1**). The proposed alignment would result in a length for the KEC Tunnel of approximately 2 miles. A TBM would be used to construct the KEC Tunnel with initiation from the KEC Eastview Site and would then proceed eastward to the Kensico Campus and interconnection with KEC Shaft 1C. The KEC Tunnel would have a finished inner diameter of approximately 27 feet. A cast-in-place concrete lining of at least 1.5 feet would be provided along the entire length of the KEC Tunnel.

A profile view of the tunnel referencing surface features along its length is shown on **Figure 1.3-6**. The KEC Tunnel, from the KEC Eastview Site to its crossing beneath the Taconic State Parkway, would maintain a slope of approximately 0.1 percent. At this point, the KEC Tunnel would proceed to rise in elevation as it proceeds east towards the Kensico Campus at a slope of approximately 3.0 percent. Maintenance of the 0.1 and 3.0 percent slopes within the KEC Tunnel along its entire length would facilitate gravity flow from the Kensico Campus to the KEC Eastview Site.

A significant portion of the KEC Tunnel alignment would be located beneath property not currently owned by DEP (see **Table 1.3-1** and **Figure 1.3-7**). DEP would need to secure subsurface utility easements and/or permits, as applicable, for the protection of the KEC Tunnel both during construction and operation. The easements for each applicable property along the tunnel alignment would protect a corridor 150 feet in width and require that the crown of the tunnel be at least 100 feet below the current ground surface. The proposed deep rock KEC Tunnel and corresponding utility easements would not result in any physical change to the current ground surface, subsurface structures, or land features, but would restrict certain subsurface development activities within the easement area.

**Table 1.3-1. Parcels Within Easement Corridor**

Section/Block/Lot (SBL)	Ownership
116.12-1-16	County of Westchester
116.12-1-18	County of Westchester
116.12-1-7	County of Westchester
117.6-1-31	Private Residence
117.6-1-32	Private Residence
117.6-1-41	Mt. Eden Cemetery Assn.
117.6-1-40	DP 16 LLC
117.7-1-30	Private Residence
117.7-1-31	Private Residence
117.7-1-37	Private Residence
117.7-1-38	Private Residence
117.7-1-50	Private Residence
117.10-1-1	Gate of Heaven Cemetery

**Table 1.3-1. Parcels Within Easement Corridor**

<b>Section/Block/Lot (SBL)</b>	<b>Ownership</b>
117.10-1-57	NYS MTA
117.9-1-4	Gate of Heaven Cemetery
117.9-1-6	Hawthorne Foundation Inc.
117.9-1-8	County of Westchester
117.13-1-2	County of Westchester
<b>Public Right-of-way</b>	<b>Maintained By:</b>
Sprain Brook Parkway	NYSDOT
Taconic State Parkway	NYSDOT
Columbus Avenue	County of Westchester
Bradhurst Avenue	NYSDOT
Commerce Street	County of Westchester

### 1.3.3 UPPER EFFLUENT CHAMBER IMPROVEMENTS

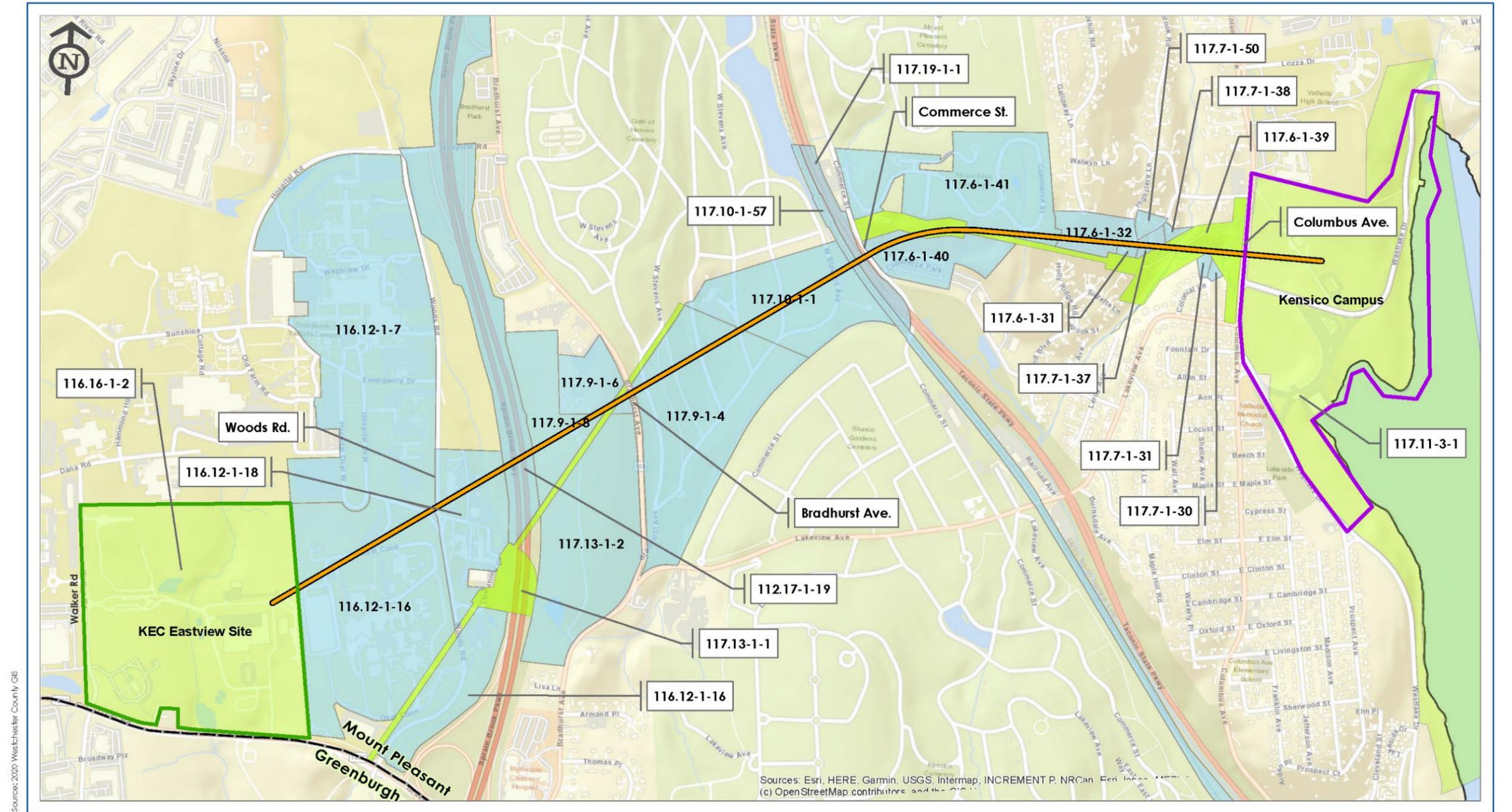
The UEC, which serves as an intake structure to the Catskill Aqueduct from Kensico Reservoir, was constructed between 1910 and 1918. The existing UEC is capable of withdrawing up to 800 mgd of water from Kensico Reservoir. The UEC is not currently in use due to an insufficient hydraulic grade to convey water to the CDUV Facility.

Modifications to the UEC to increase the capacity of the structure would be required as part of the KEC Project (see **Figure 1.3-8**). These modifications would primarily accommodate the new intake design flow of 2,645 mgd. In order to accommodate the proposed design flow for the KEC Project, improvements and modifications to the UEC structure are required including structural strengthening of the internal sluiceways and the creation of an additional effluent portal, as well as mechanical improvements such as new gates and actuators. Other work around the UEC structure would include constructing a new shaft (UEC Shaft), just west of the UEC, to connect both the existing and new effluent portals to the new UEC Connection Tunnel leading to the KEC Screen Chamber. Removal of accumulated sediment and materials from Kensico Reservoir within the inlet channel leading to the face of the UEC would be completed prior to operation of the improved UEC to limit resuspension of sediments during future operation.

In general, no substantive change to the exterior of the existing UEC would be required beyond maintenance, repair, or replacement needs. The footprint of the existing structure would remain largely the same (see **Figure 1.3-9**). Exterior and interior improvements, independent of changes required to allow increased flow and the upgrade of equipment to support this, would include, but not be limited to, the upgrade or replacement of bar racks, masonry repointing, crack repair, operating floor repair or replacement, eaves work, and upgrading of the electrical system. Installation of a new roof consistent with the historic context and architectural style of the existing UEC roof would also be required to address deterioration and existing leaks. In addition, the access road from Westlake Drive would be improved and an expanded turnaround area would be created.

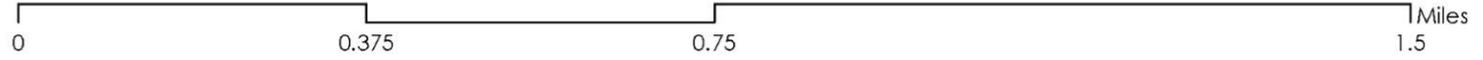
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**LEGEND**

- KEK Eastview Site
- Kensico Campus
- City of New York Parcels
- Other Fee Owners
- Proposed Tunnel Alignment



**Figure 1.3-7. KEC Tunnel Alignment – Parcels Within Easement Corridor**



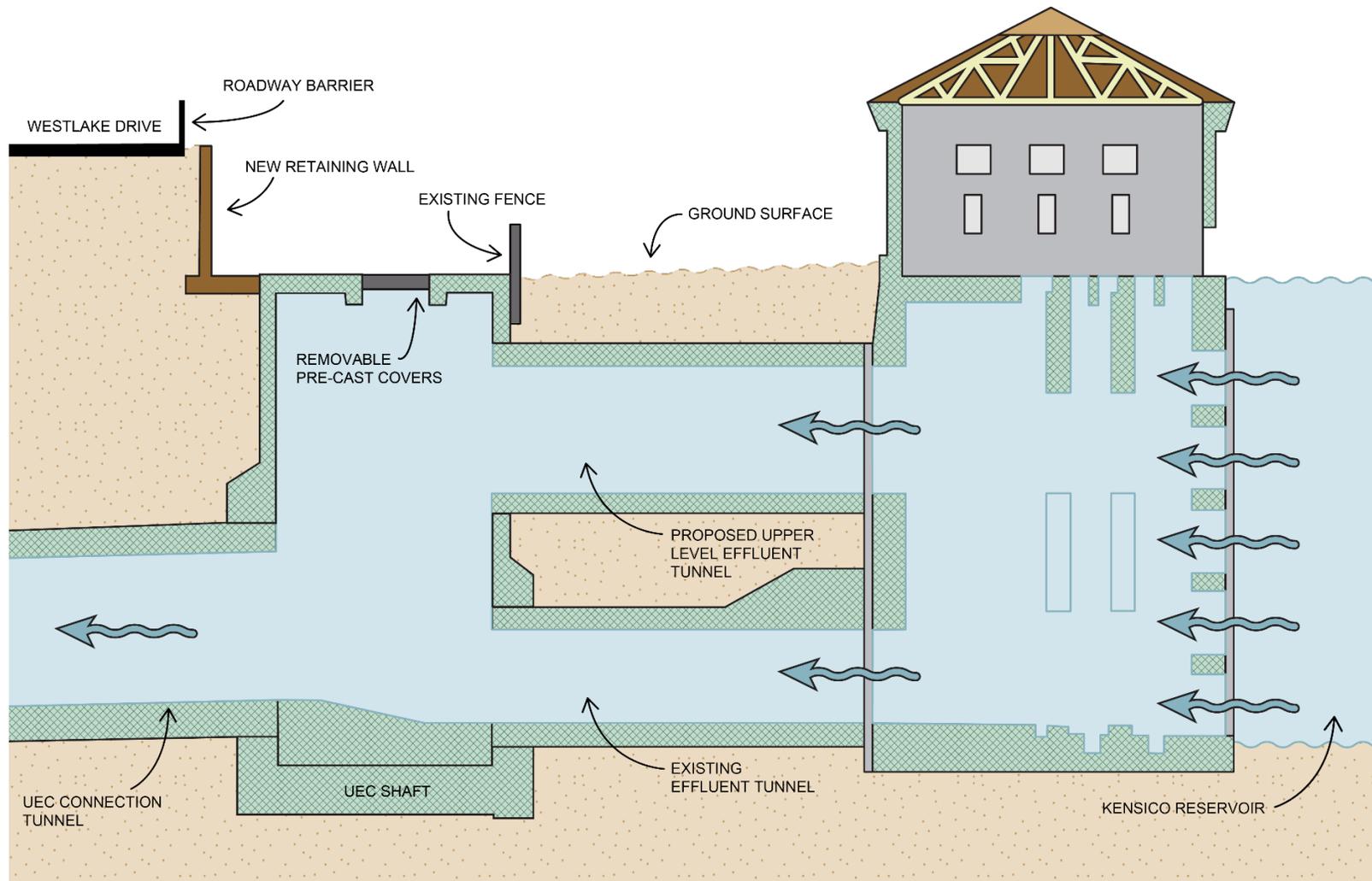


Figure 1.3-8. Upper Effluent Chamber – Proposed Modifications



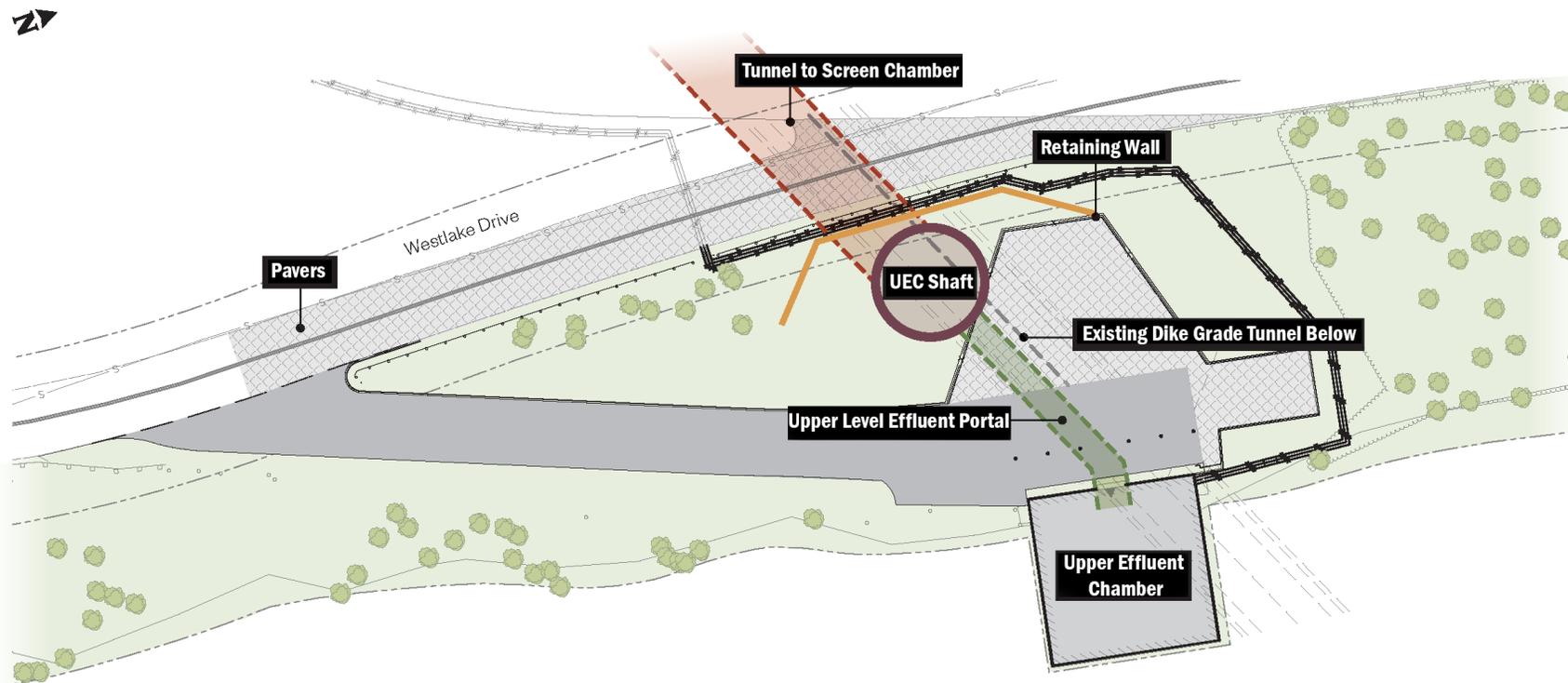


Figure 1.3-9. Upper Effluent Chamber – Site Plan



### 1.3.4 KEC SCREEN CHAMBER

A new KEC Screen Chamber would be constructed to accommodate the increased UEC intake capacity as part of the KEC Project and would be located within the central portion of the Kensico Campus (see **Figure 1.3-1**). The primary purpose of the KEC Screen Chamber would be for the removal of debris from the raw water inflows to the facility. In addition to the 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 installed. Heating and ventilation would be provided, along with restroom facilities.

The KEC Screen Chamber would include three separate connections and would also potentially provide for additional future connections along the south side of the KEC Screen Chamber building. Connections to the KEC Screen Chamber would be provided from the UEC to the KEC Screen Chamber (UEC Connection Tunnel); from the KEC Screen Chamber to the existing Dike Grade Tunnel to allow connection to the LEC and the Catskill Aqueduct (Dike Grade Return Tunnel); and a new Downtake Shaft Connection Tunnel from the KEC Screen Chamber to the KEC Tunnel (see Section 1.2.1.1).

The overall KEC Screen Chamber structure would be approximately 214 feet wide and 170 feet long. The KEC Screen Chamber structure would primarily consist of four interconnected elements – the KEC Screen Chamber building, the East Annex, the West Annex, and Scrubber Equipment enclosures that would be located adjacent to the West Annex (see **Figure 1.3-10**) and along the north side of the structures. KEC Shaft 1C would be to the immediate west of the KEC Screen Chamber.

The KEC Screen Chamber building would represent the tallest portion of the KEC Screen Chamber structure, as well as the overall Kensico Campus, at approximately 70 feet (**Figure 1.3-11**). The KEC Screen Chamber building would be approximately 123 feet wide and 168.5 feet long. Active screening operations for incoming flows would occur within this structure prior to their release to the KEC Tunnel or, in the event of an emergency, the Catskill Aqueduct. Roof top solar panels would be installed on the KEC Screen Chamber building portion of the KEC Screen Chamber structure.

The East Annex would be approximately 53 feet wide, 157 feet long and have a height of 44 feet above grade. The East Annex would contain support operations related to screening activities. The East Annex would primarily provide a screen service area.

The West Annex would be approximately 38 feet wide, 127 feet long, and have a height of 30 feet above grade. The West Annex would contain a number of operations related to screening operations. This would include a raw water strainer room; injector and fluoride rooms for the

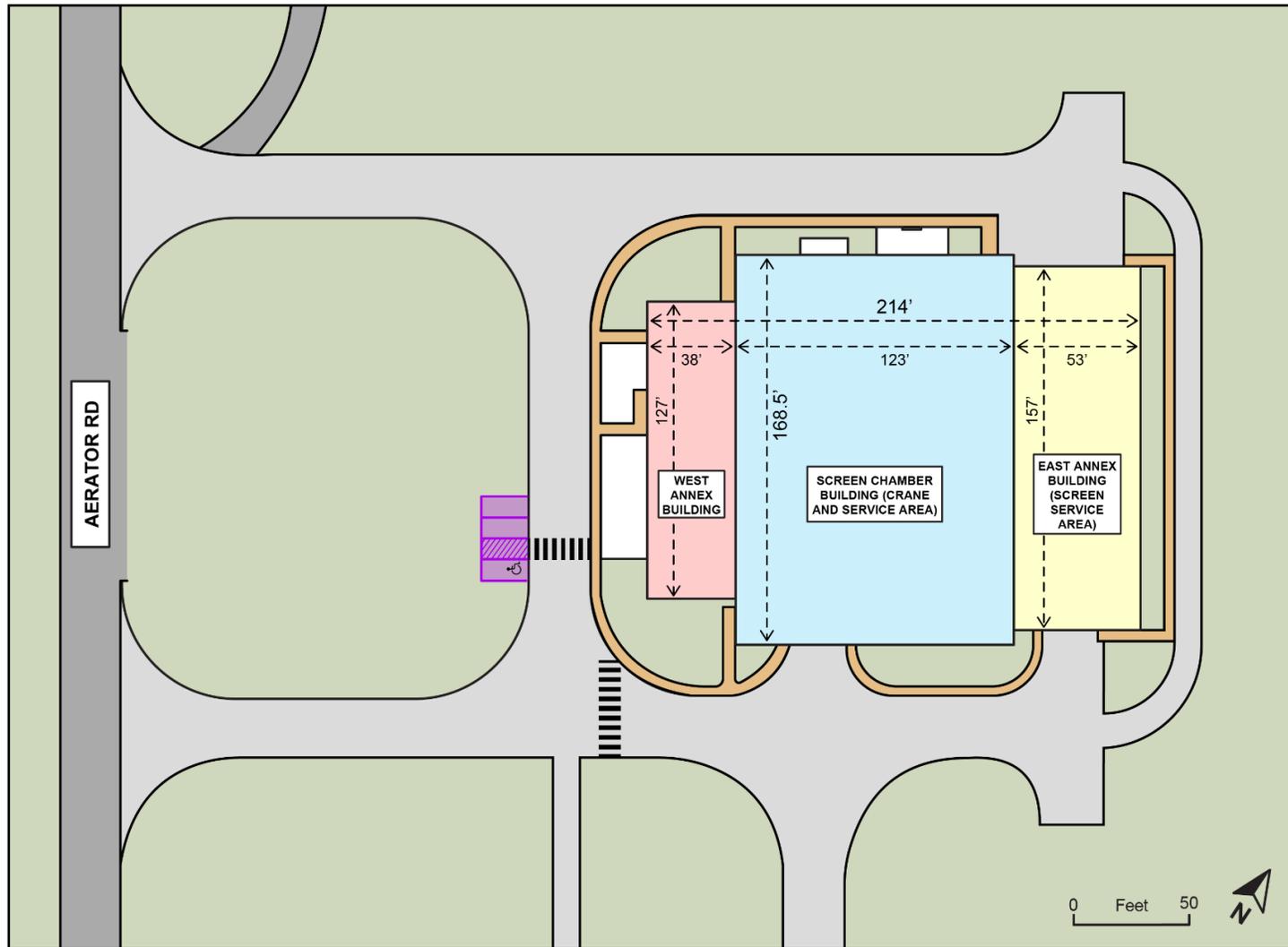


Figure 1.3-10. KEC Screen Chamber Site Plan and Building Layout



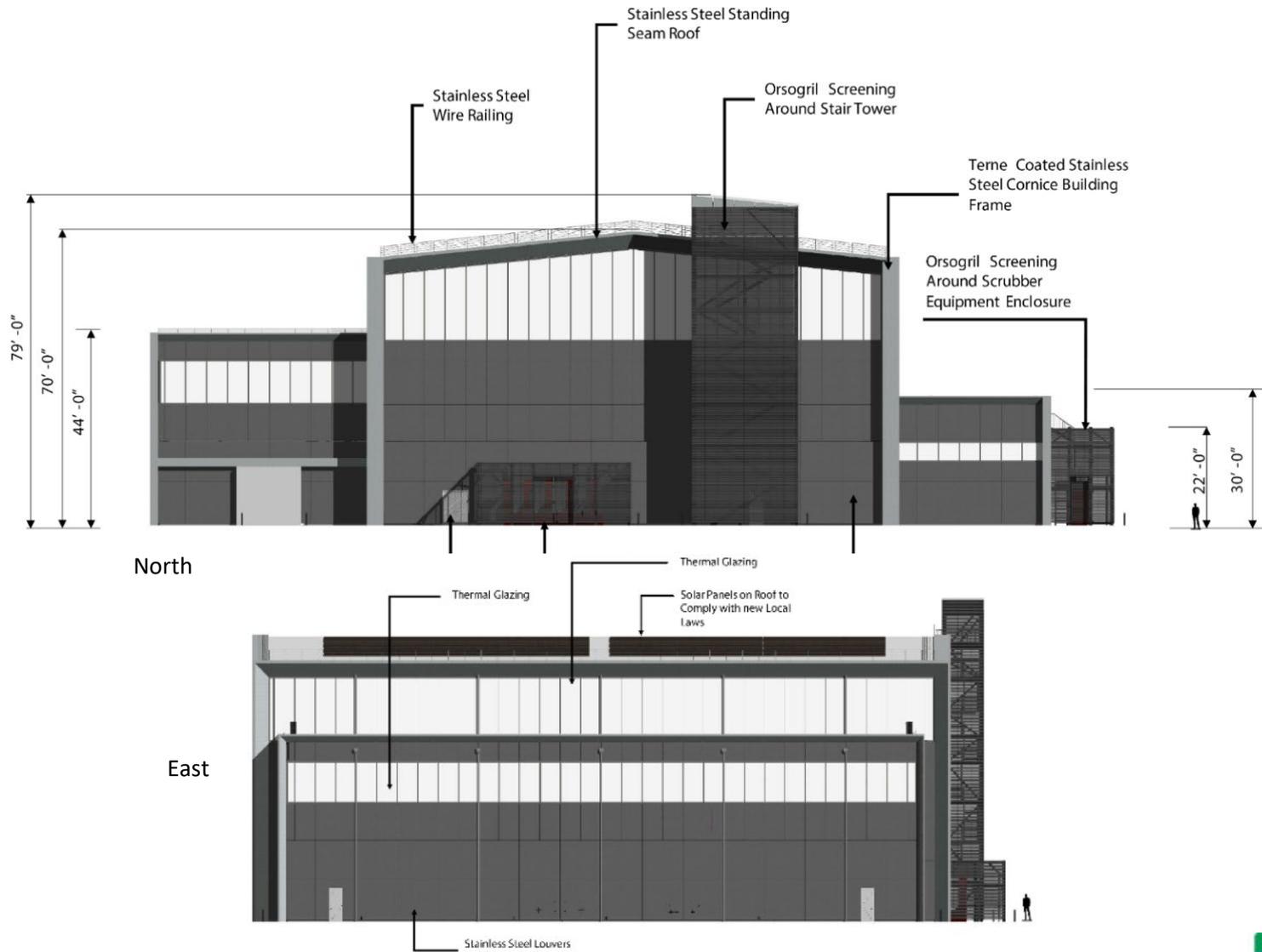


Figure 1.3-11. KEC Screen Chamber – North and East Elevations



addition of chlorine and fluoride to outgoing flows from the KEC Screen Chamber; electrical, instrumentation and equipment storage rooms; and a water quality monitoring room.

Finally, a Scrubber Equipment enclosure would be connected to the West Annex. It would be approximately 16 feet wide, 94 feet long, and 24 feet high. Additional equipment enclosures would also be located along the north side of the KEC Screen Chamber building.

Raw water would flow into the KEC Screen Chamber from the UEC Connection Tunnel and enter the entrance forebay. Flows would then be routed through a series of dual flow traveling screens (i.e., flow can enter from either side of the screen). Debris would be captured on the screens and removed to minimize the risk of large objects possibly damaging downstream CDUV Facility equipment. Each dual flow traveling screen would have a flow capacity of approximately 661.25 mgd and a mesh size opening of 3/8 inch. No screen redundancy would be provided at the maximum flow rate of 2,645 mgd. Debris would be removed on an ongoing basis as large volumes of raw water pass through the submerged traveling screens when they are moving up out of the water flow and when they are passing down through the flow as well. Debris would be screened from the raw water and then washed from the screens by high-pressure, overlapping water sprays across the entire back of the screens. The debris (sticks, logs, leaves, etc.) would then be washed into a trough. A trough water system would then facilitate the movement of this debris to two debris baskets; one for each of two screens. Debris would be periodically removed for further consolidation within the KEC Screen Chamber and eventual off-site disposal.

Outflows from the KEC Screen Chamber would then travel to the discharge afterbay area of the KEC Screen Chamber for release. Screened flows would be routed to the newly constructed KEC Shaft 1C Connection Tunnel that would direct flows into the KEC Shaft 1C and KEC Tunnel and then to the CDUV Facility. Alternatively, the KEC Screen Chamber would also be connected to the Dike Grade Return Tunnel that would connect the KEC Screen Chamber to the LEC and the Catskill Aqueduct. This use of the Dike Grade Return Tunnel would allow DEP the flexibility to screen incoming flows from the UEC and then reroute them to the Catskill Aqueduct, in the event of an emergency.

### **1.3.5 CONNECTION TUNNELS AND DIKE GRADE TUNNEL MODIFICATIONS**

The KEC Project includes the modification and/or construction of several additional tunnels at the Kensico Campus. The three connection tunnels at the KEC Screen Chamber would be: (1) the UEC Connection Tunnel; (2) the Dike Grade Return Tunnel; and (3) the KEC Shaft 1C Connection Tunnel (**Figure 1.3-12**).

The UEC Connection Tunnel would be an enlargement of a portion of the existing Dike Grade Tunnel from the UEC to the new KEC Screen Chamber. A new upper level outlet tunnel from

the UEC would be constructed. This new outlet tunnel would be approximately 14.5 feet by 18 feet and would extend between 55 and 60 feet from the UEC and would be located above the existing lower UEC outlet to the Dike Grade Tunnel (see **Figure 1.3-8**). Both the existing lower outlet and new upper outlet would then enter a new common shaft (UEC Shaft) approximately 35 feet in diameter and approximately 75 to 85 feet deep before discharging to a new UEC Connection Tunnel that would be approximately 811 feet in length. The new UEC Connection Tunnel, consisting of an enlargement of a portion of the Dike Grade Tunnel would have an inner diameter of approximately 27 feet with some exceptions at points of connection with the KEC Screen Chamber and would have a cast-in-place concrete lining of at least 1.5 feet. With the improvement of the UEC to allow intake flows up to 2,645 mgd, the portion of the existing Dike Grade Tunnel between the UEC would be enlarged to accommodate these flows and would terminate at the new KEC Screen Chamber. The new UEC Connection Tunnel would be constructed through the construction of the UEC Shaft and then would be advanced through drill and blast methods. The UEC Connection Tunnel depth below grade would be variable due to existing surface grades.

The Dike Grade Return Tunnel would be a new connection from the KEC Screen Chamber back to the existing Dike Grade Tunnel and would be 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 be approximately 200 feet in length with an inner diameter of 17 feet with the exception of a small portion of tunnel at its connection with the KEC Screen Chamber.

The entire Dike Grade Return Tunnel would be lined with a minimum of 1.5 feet of cast-in-place concrete and it would have a capacity similar to the Catskill Aqueduct and the intake capacity of the unimproved UEC (600 to 800 mgd).

As the UEC Connection Tunnel would enter the new KEC Screen Chamber and an improved portion of the Dike Grade Return Tunnel would extend from the KEC Screen Chamber to the existing Dike Grade Tunnel to the LEC, the portion of the existing Dike Grade Tunnel between these new or modified tunnels would be plugged with concrete and abandoned. A concrete plug would be installed within the two ends of the abandoned section of the Dike Grade Tunnel between the UEC Connection Tunnel and the Dike Grade Return Tunnel (see **Figure 1.3-12**).

This would allow for the routing of future flows to the new KEC Screen Chamber and for connection to the Catskill Aqueduct.

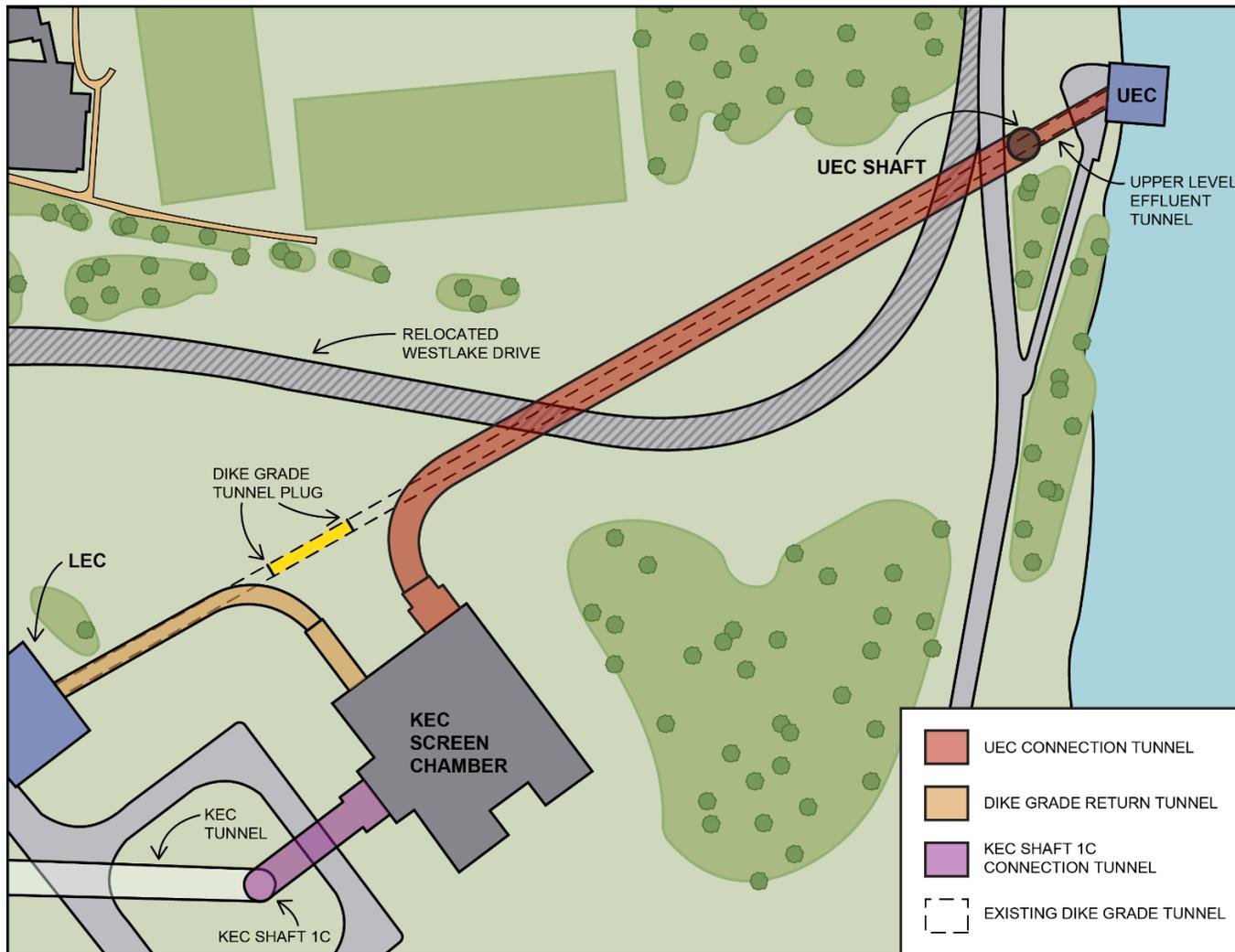


Figure 1.3-12. Connection Tunnels – Plan View



Finally, a new KEC Shaft 1C Connection Tunnel would be constructed between the new KEC Screen Chamber and KEC Shaft 1C. The KEC Shaft 1C Connection Tunnel would convey water from the KEC Screen Chamber to KEC Shaft 1C and ultimately the new KEC Tunnel. The length of the KEC Shaft 1C Connection Tunnel would be approximately 142 feet and it would have an inner diameter of approximately 27 feet with the exception of a small portion where it connects with the KEC Screen Chamber. The KEC Shaft 1C Connection Tunnel would also have a minimum 1.5-foot-thick cast-in place concrete lining. The KEC Shaft 1C Connection Tunnel would be located between 75 and 80 feet below grade.

### **1.3.6 MODIFICATION OF CHEMICAL ADDITION FACILITIES**

Current and historic disinfection is provided through the use of chlorine gas. In addition, fluoridation also occurs at the Kensico Campus. Existing disinfection and fluoridation are associated with DEL Shaft 18 and also historically occurred at the Catskill Screen Chamber when it was in operation. Primary disinfection and fluoridation of water delivered through the KEC Tunnel would be required. The existing chlorination and fluoridation systems (chemical feed facilities) at DEL Shaft 18 and the Fluoride Building, respectively, 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 Campus and the KEC Eastview Site are considered suitable for use as part of the KEC Project.

Minor modifications 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 Catskill 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 are not anticipated as part of the Proposed Action. In addition, no new storage facilities or capacity would be required. Redundant transmission lines for both the chlorine and fluoride systems between DEL Shaft 18 and KEC Shaft 1C would also be required. Flow metering would be provided to control chemical dosage.

Transmission piping from DEL Shaft 18 would provide chlorination to the KEC Screen Chamber chlorine injector room located within the West Annex of the KEC Screen Chamber structure. Chlorine gas, or potentially chlorine dioxide in the future, would then be piped through supply lines embedded within the concrete lining of the KEC Shaft 1C Connection Tunnel and KEC Shaft 1C. Chlorine addition would occur through multiple chlorine solution nozzles that would be located within the KEC Shaft 1C. Similarly, fluoride addition would be provided from the existing Fluoride Building and would be conveyed to a fluoride room that would be located within the KEC Screen Chamber. Fluoride supply lines would also be encased within the lining

of the KEC Shaft 1C Connection Tunnel and KEC Shaft 1C and fluoride would be added to water at the transition between the KEC Screen Chamber and the KEC Shaft 1C Connection Tunnel.

### **1.3.7 WESTLAKE DRIVE AND ADDITIONAL KENSICO CAMPUS SITE IMPROVEMENTS**

Westlake Drive currently bisects the Kensico Campus and provides unrestricted access through the Kensico Campus 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. The existing roadway would then be repurposed as a secured access point to the Kensico Campus as discussed below.

As part of the Proposed Action, Westlake Drive would be relocated to create a new connection between Westlake Drive and Columbus Avenue and would be located near the current intersection of Aerator Road and Columbus Avenue (see **Figure 1.3-1** and **Figure 1.3-2**). The City would grant the Town of Mount Pleasant a new/amended easement for Westlake Drive in this new location. In addition, to offset existing parking spaces on the existing Westlake Drive that would become unavailable as part of the Proposed Action, a new parking lot with approximately 30 spaces would be constructed along the north side of the relocated Westlake Drive, near the intersection of Aerator Road and Columbus Avenue, with pedestrian access to Columbus Avenue (see **Figure 1.3-13**). The City would grant an easement to the Valhalla Free Union School District to use, operate, and maintain this parking lot so long as a public school is on the adjoining property.

The relocated Westlake Drive would then extend to the east, largely parallel to an existing transmission line right-of-way. In proximity to the UEC, the relocated Westlake Drive would turn to the north where it would reconnect with the existing Westlake Drive to allow for connectivity to 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 without 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 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.

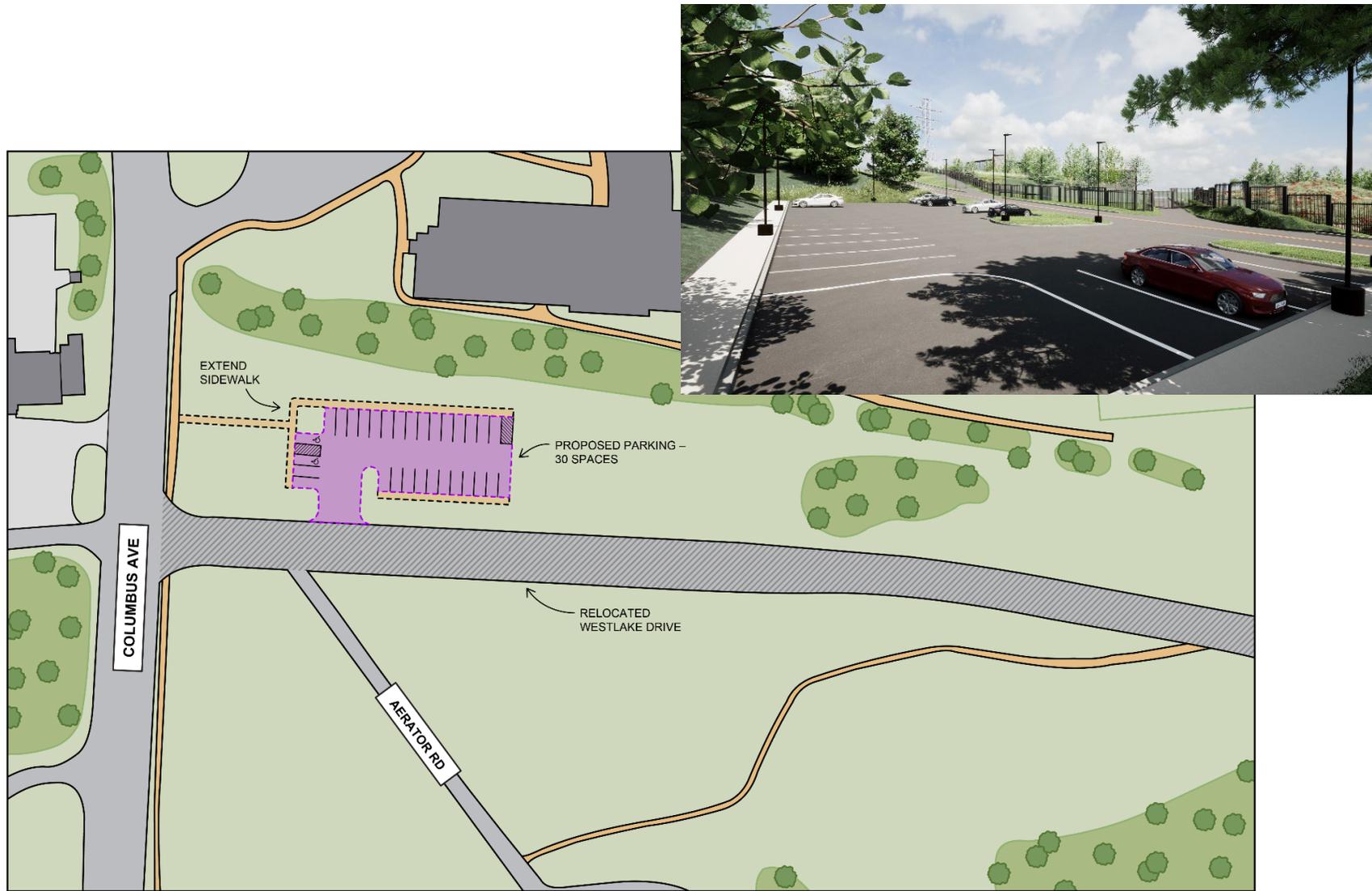


Figure 1.3-13. Proposed Parking Lot on Relocated Westlake Drive – Plan and Rendering



As part of the Proposed Action, DEP would install a fence around the entire perimeter of the Kensico Campus, consisting of new fencing and the replacement of existing fencing. As part of overall security improvements for the KEC Project, a new DEP police booth and office would be established along the closed section of Westlake Drive. This location would provide a centralized location for on-site DEP Police and would also consist of a secured access checkpoint for all entry into and out of the Kensico Campus. Rooftop solar photovoltaic panels would be provided for the police booth.

A new electrical building would also be developed. This would serve as a local power feed during construction of the KEC Project but would also allow for the consolidation of existing and future electrical needs for overall operations at the Kensico Campus once construction is complete. The building would be approximately 42 feet wide, 106 feet long, and would be approximately 26 feet high. Roof top solar panels would be installed on the electrical building.

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 ~~33~~ 36 acres of open land and would also result in the clearing of approximately 14 wooded acres at the Kensico Campus. Additional site improvements during construction would include construction staging, installation of temporary construction office trailers, soil stockpiling and management, dewatering, erosion and sediment control, stormwater management, and utility and water supply improvements (see Section 3.1, “Construction Description” for additional detail). As part of the overall construction of the Proposed Action, DEP would incorporate appropriate landscaping across the campus including the addition of new trees.

### **1.3.8 SHORELINE STABILIZATION**

During Superstorm Sandy in October 2012, the western and cove shorelines and adjacent upland areas of Kensico Reservoir suffered severe erosion from wave action. This resulted in higher levels of sedimentation and suspended solids in reservoir waters, which caused storm-related turbidity issues in areas near the existing Kensico Reservoir intakes, the UEC, and DEL Shaft 18. In order to reduce the potential for a recurrence of these issues, the proposed KEC Project would include stabilization of Kensico Reservoir’s western shoreline running south of the UEC. This would allow DEP to complete stabilization of the entire western shore of Kensico Reservoir extending from DEL Shaft 18 in the south (currently being completed as part of a separate DEP project – CRO-543) to the UEC in the north (see **Figure 1.3-14**). In addition, improved control measures for addressing periodic elevated sediment discharges from Malcolm Brook, located immediately northeast of the UEC, would also be put in place.

The KEC Project would also reactivate the UEC intake to draw water from Kensico Reservoir into the new KEC Tunnel, including an increase from its original capacity of up to 800 mgd to a

new proposed design capacity of 2,645 mgd. The increased level of water withdrawal, combined with the current potentially unstable conditions of the shoreline and nearby upland areas, are equally important issues that would be addressed by the proposed shoreline stabilization and improvements for the management of runoff from Malcolm Brook under the Proposed Action.

Shoreline stabilization as part of the KEC Project would involve improvements of approximately 1,600 linear feet from the UEC southward (see **Figure 1.3-14**). Improvements would involve work above and below the waterline. Shoreline stabilization would involve a combination of regrading, excavation, riprap placement, concrete curb walls, and/or gabion walls. Work below the waterline would occur behind a temporary sheet pile wall and several turbidity curtains.

Excavation and/or regrading would then be advanced as required. Riprap would be placed by land-based long arm excavators or similar equipment. Riprap would be placed upon a layer of stainless-steel mesh and geotextile fabric.

For upland work, regrading and excavation would also occur, as required, with the hand placement of riprap upon a layer of geotextile fabric and a bedding layer of gravel. Within areas of steep slopes/shorelines, concrete curbs or gabion walls would be put in place. Concrete curbs would be used immediately south of the UEC and at least two areas south of this would require the placement of gabion walls for shoreline stabilization and then the placement of riprap adjacent to this (see **Figure 1.3-15** for representative section views).

In addition to shoreline stabilization efforts, the Proposed Action would involve the replacement of existing structural control measures within the reservoir and west of the UEC intake to address ongoing runoff issues associated with Malcolm Brook. Malcolm Brook is located immediately northeast of the UEC, and its intake channel and recurring storm events have historically presented challenges related to sediment runoff that can then affect water quality in proximity to the UEC in the form of suspended solids and turbidity. These present a challenge to DEP's need to provide high quality water from Kensico Reservoir and in particular the UEC. DEP has previously implemented structural control measures within Malcolm Brook and has historically maintained two turbidity curtains, approximately 950 feet long, within the cove to direct runoff flows away from the UEC and to the more open areas of the reservoir.

As part of the Proposed Action, a single turbidity curtain would replace the two existing curtains. This would increase the area between the curtain and the eastern shoreline which would decrease flow velocities from Malcolm Brook entering the reservoir, thereby allowing suspended sediments to settle out faster. The new curtain would have an improved construction to limit leaks from individual panel segments. The curtain would be extended to an estimated length of up to 1,300 feet and would be protective of water quality at the UEC and DEL Shaft 18. The curtain would be held in place by a series of concrete anchors spaced along the length of the new curtain.

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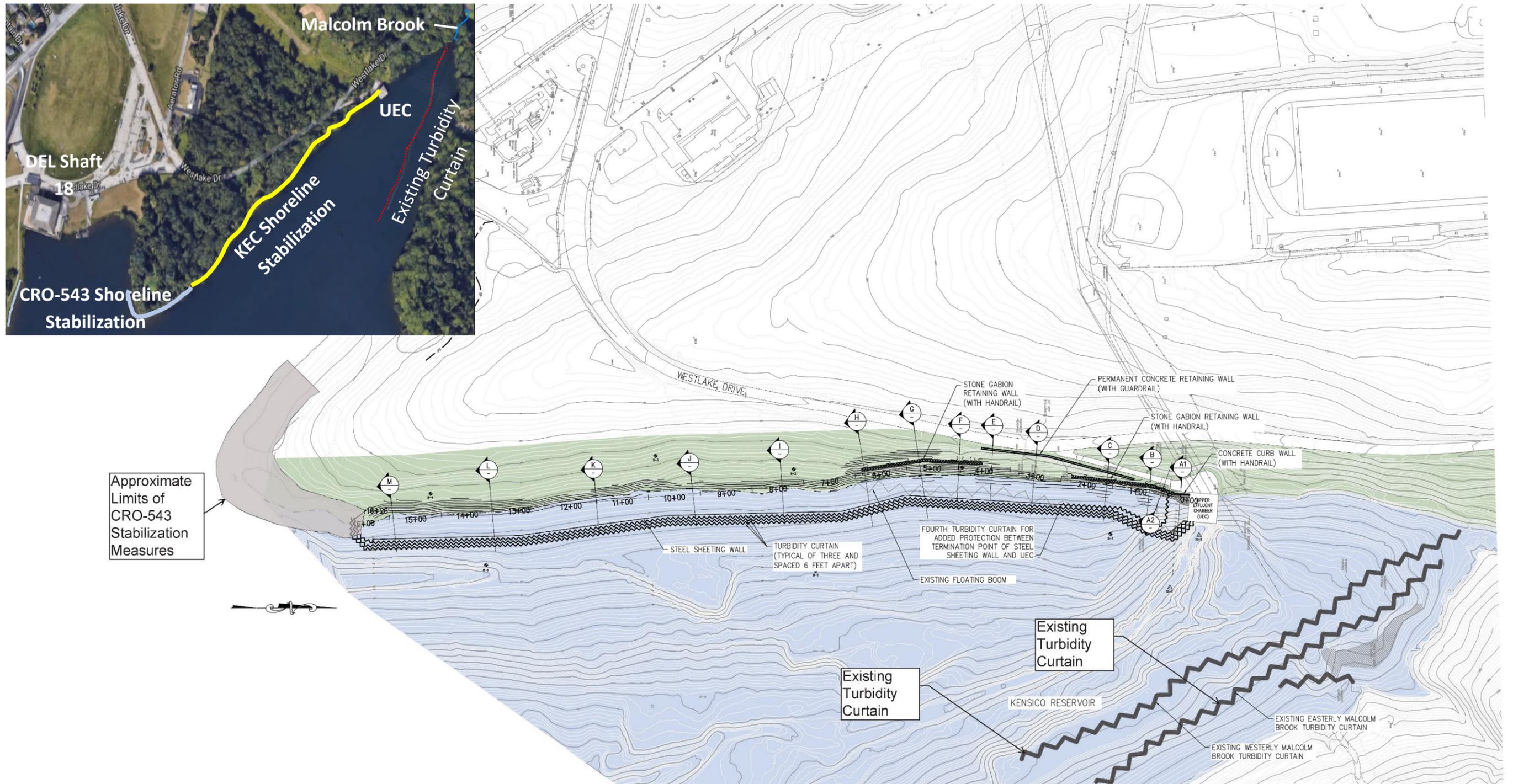
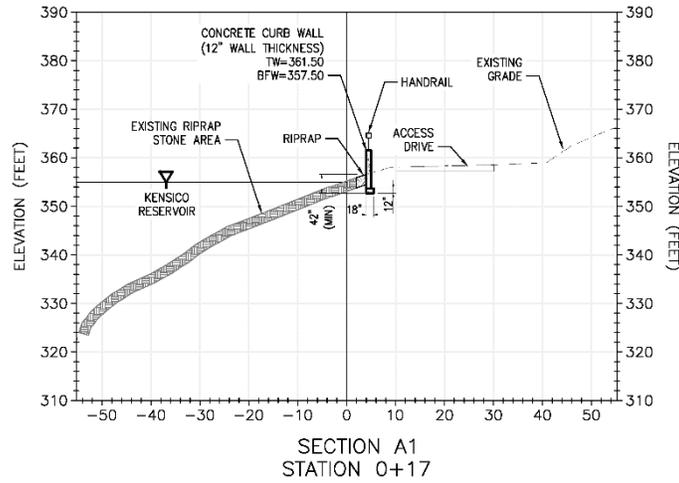


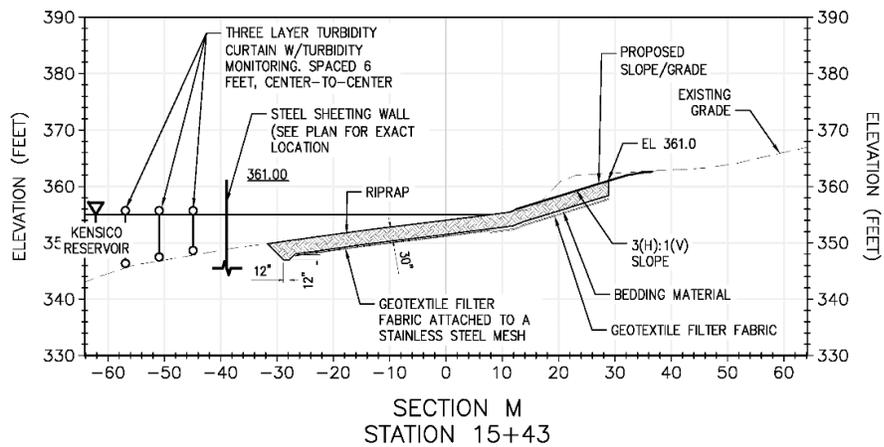
Figure 1.3-14. Proposed Shoreline Stabilization – Plan View



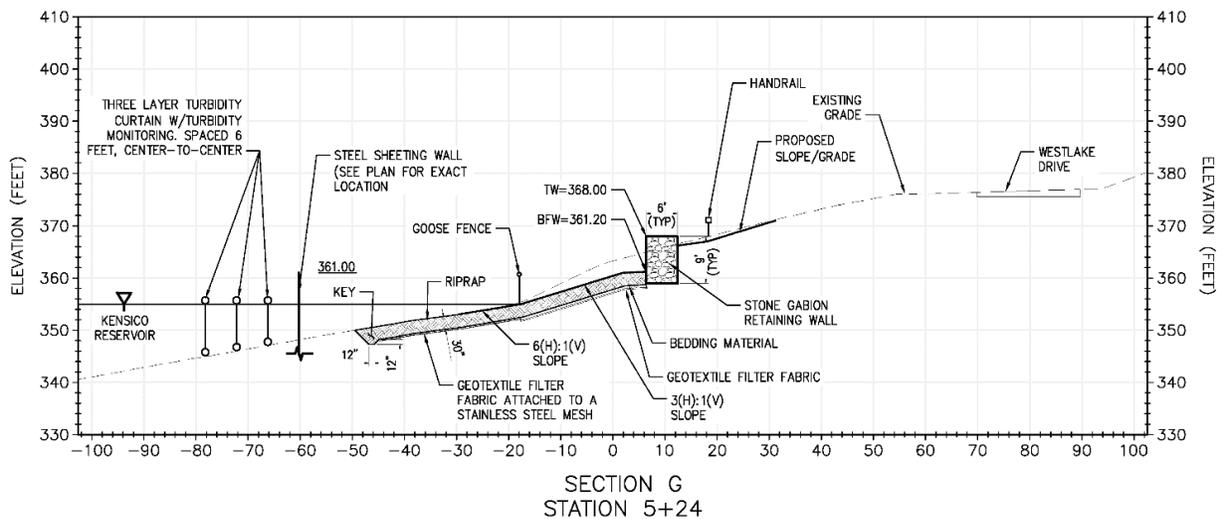
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**Riprap Stabilization with Concrete Curb**



**Riprap Stabilization**



**Figure 1.3-15. Shoreline Stabilization – Representative Section Views**



### 1.3.9 EASTVIEW CONNECTION CHAMBER

The proposed terminus of the KEC Tunnel would be at KEC Shaft 2C and the Eastview Connection Chamber (ECC), located at the KEC Eastview Site in the Town of Mount Pleasant. Existing facilities located in proximity to KEC Shaft 2C and the ECC are the CDUV Facility, North Forebay, and DEL Shaft 19 (**Figure 1.2-4**).

The proposed ECC would connect the KEC Shaft 2C and the CDUV Facility. The ECC would be generally centered above KEC Shaft 2C, located approximately 90 feet northwest of the North Forebay.

The ECC would connect to the CDUV Facility by extending four existing 12-foot pipe stubs to the south wall of the connection chamber (see **Figure 1.3-16**). The top slab of the proposed ECC would be designed for vehicular loading to allow for vehicle and equipment access. Other features housed within the ECC would include, but not be limited to, a ventilation system, water quality analyzers and controls, and an electrical room.

The ECC would extend approximately 98 feet below finished grade to allow for connection to the KEC Shaft 2C and to facilitate alignment of the water conveyance connections between the ECC and the North Forebay. The above-ground structure would be approximately 88 feet wide by 114 feet long and would have a height of approximately 44 45 feet (see **Figure 1.3-17**). Roof top solar panels would be installed on the ECC. Within the ECC, four outlets from the main chamber would be provided to route flows to the CDUV Facility. These structures would allow for isolation of individual connections and flow management as necessary (see **Figure 1.3-18**).

### 1.3.10 ADDITIONAL KEC EASTVIEW SITE IMPROVEMENTS

Additional activities at the KEC Eastview Site associated with the Proposed Action would include off-site removal of the remaining soil pile that exists from the CDUV Facility construction in the northwest section of the KEC Eastview Site (see **Figure 1.3-3**) and removal and replacement of the existing temporary office trailer complex located north of the CDUV Facility. The new construction office complex would be located west of the CDUV Facility and Mine Brook and south of the existing interior access road and security booth. Access to the new office complex would be from Walker Road. The new complex would consist of approximately nine 12-foot by 60-foot trailers and an adjacent parking area. The existing office trailer complex would be removed upon completion of construction of the Proposed Action.

Improvements to access roads would also be implemented including in proximity to the new ECC and within the southeast corner of the KEC Eastview Site (see **Figure 1.3-3**). Additional activities due to the Proposed Action would include tree clearing and regrading within portions of the KEC Eastview Site and development of construction staging areas. Excavated material from the KEC Shaft 2C, ECC, and tunnel would also be managed in the northwest corner of the site prior to off-site removal.

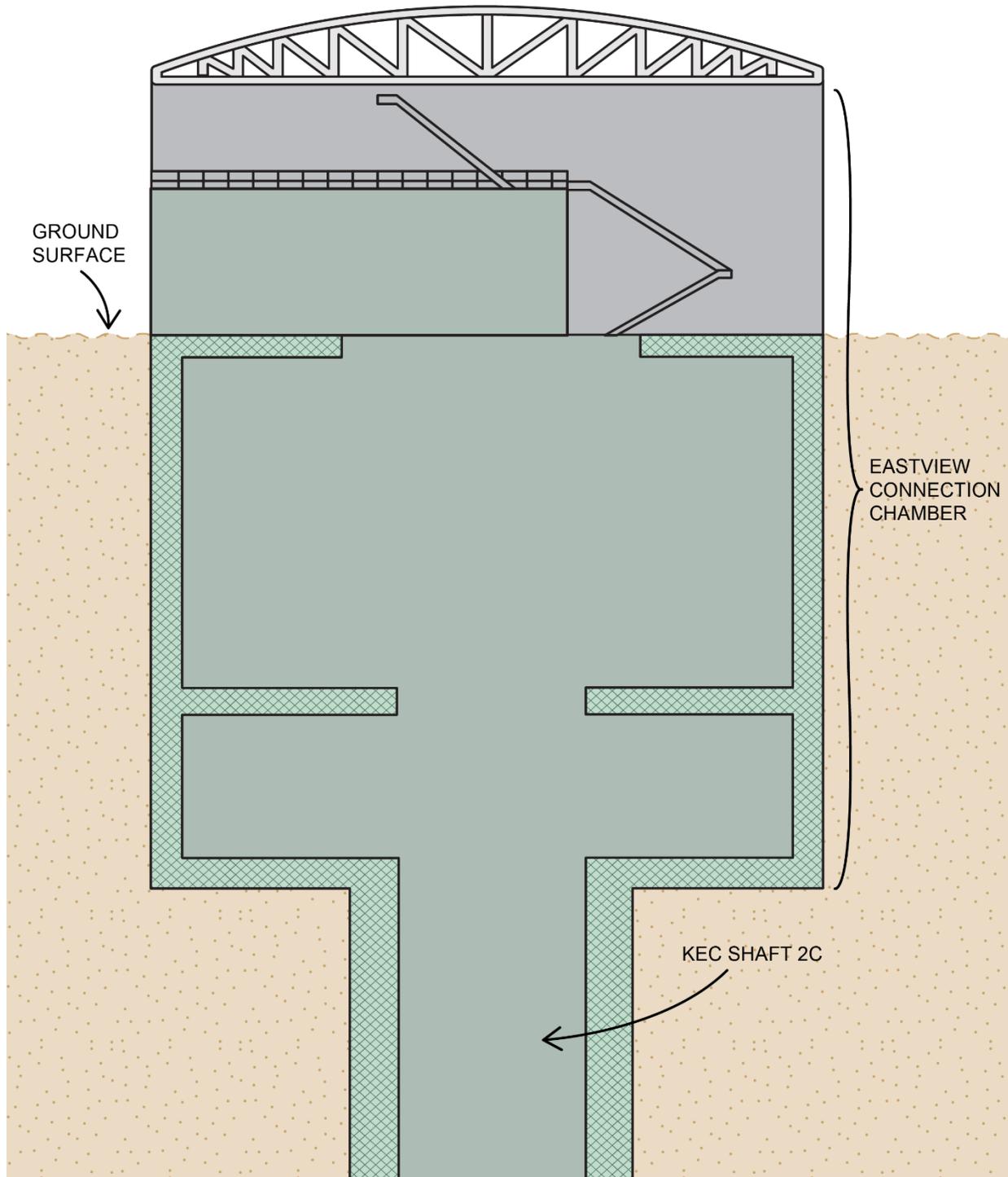


Figure 1.3-16. Eastview Connection Chamber – Profile



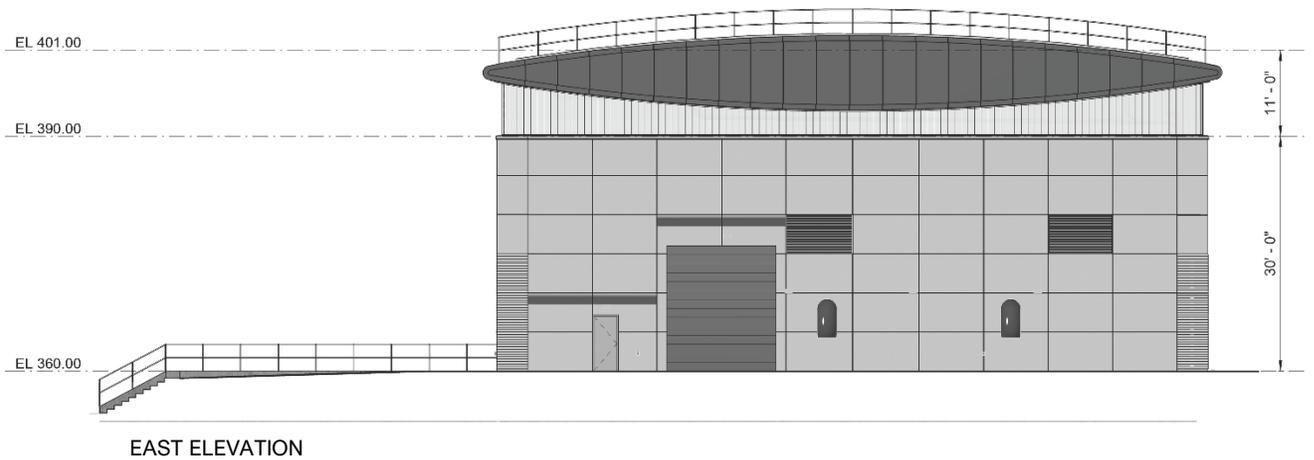
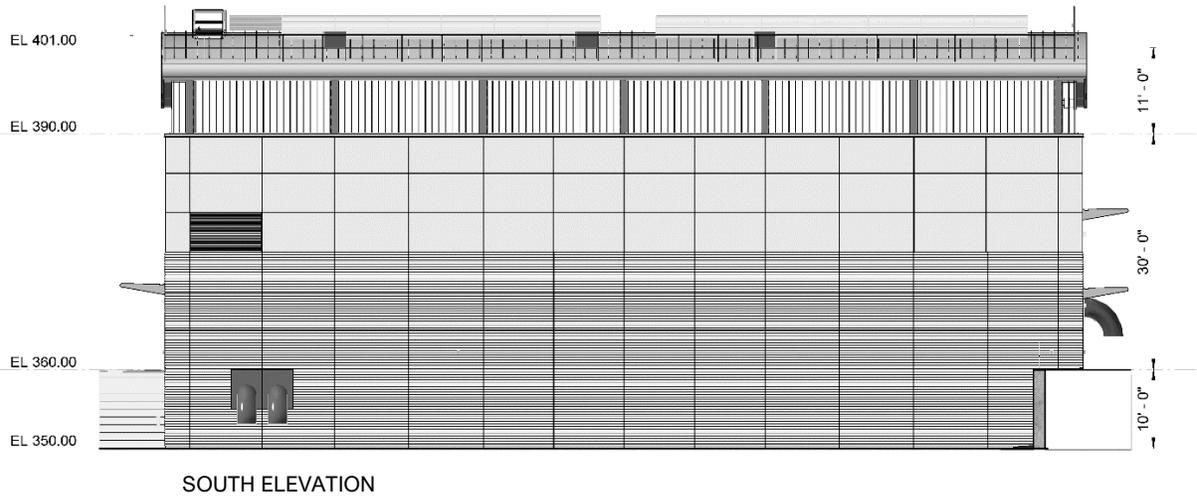


Figure 1.3-17. Eastview Connection Chamber – South and East Elevations



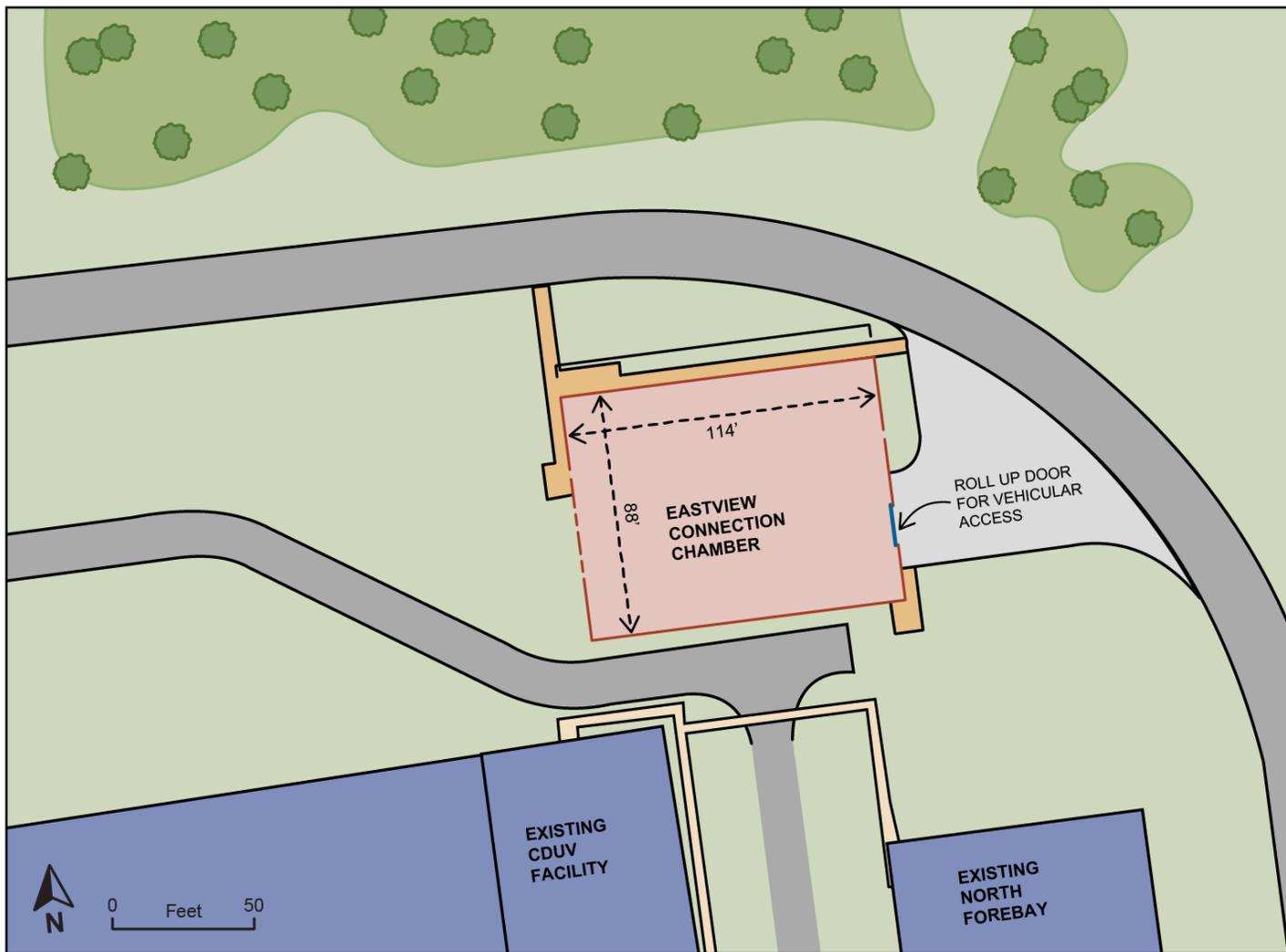


Figure 1.3-18. Eastview Connection Chamber – Site Plan and Building Layout



Additional site activities would include dewatering, erosion and sediment control, stormwater management, and utility improvements.

## **1.4 PURPOSE AND NEED**

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 Kensico Reservoir to the CDUV Facility. A new tunnel (the KEC Tunnel) was identified as the preferred alternative to achieve this.

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 Hillview Reservoir during Hillview Cover construction in accordance with the Hillview Consent Decree and Judgment's mandates. Extended periods of single-basin operation of the Hillview Reservoir are anticipated during construction of the Hillview Cover. 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.

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

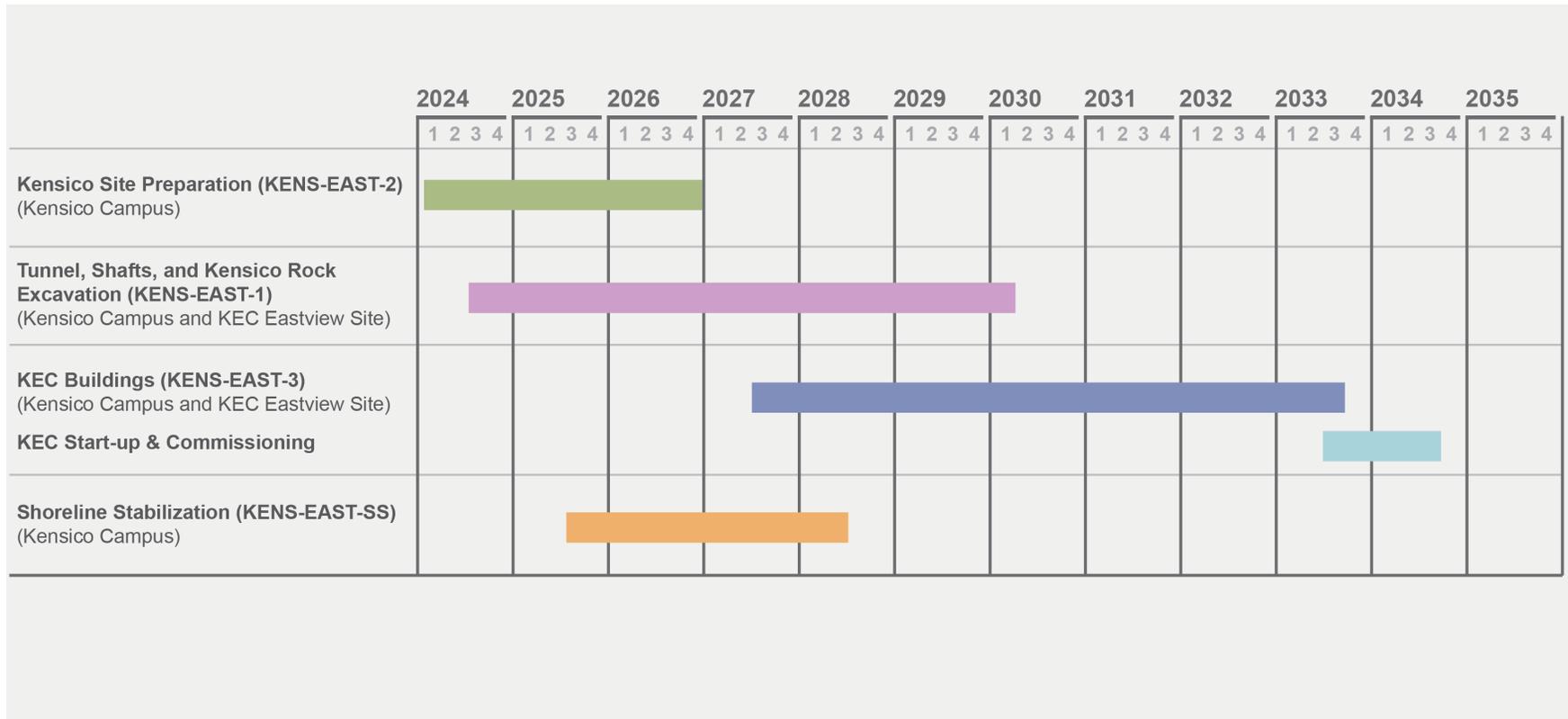
- Enhanced operational resiliency and redundancy for the water supply system;
- Provide target capacity to the CDUV Facility;
- Preserve the potential for the Catskill Aqueduct to bypass Kensico Reservoir;
- Facilitate emergency and planned outages; and
- Provide compatibility with future infrastructure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

## 1.5 PROJECT SCHEDULE

Construction of the Proposed Action would be initiated ~~in~~ around January 2024 and would span over an approximately ten-year period (see **Figure 1.5-1**). The anticipated schedule for the Proposed Action would encompass the following major elements:

- Site preparation at the Kensico Campus and the KEC Eastview Site, as well as relocation of Westlake Drive at the Kensico Campus are anticipated to begin ~~in~~ on or about January 2024.
- Construction of the proposed electrical building at the Kensico Campus and KEC Shaft 2C rock excavation at the KEC Eastview Site are anticipated to begin in 2025.
- Shoreline stabilization at the Kensico Campus is anticipated to begin in 2025.
- Construction of KEC Shaft 1C and the KEC Screen Chamber rock excavation at the Kensico Campus is anticipated to begin in 2026.
- Construction of the KEC Tunnel, modifications of the UEC, and construction of the KEC Screen Chamber at the Kensico Campus, is anticipated to be initiated in 2027.
- Lining of the KEC Tunnel, KEC Shaft 1C, and KEC Shaft 2C at the Kensico Campus and KEC Eastview Site, is anticipated to be completed by 2030.
- Construction of the police booth at the Kensico Campus would occur in 2030 and 2031.
- The ECC construction is anticipated to begin in 2030.

Major construction is anticipated to be completed in 2034, followed by start-up which would last approximately 13 months. Construction of the Proposed Action is anticipated to be fully completed in 2035 or earlier.



**Figure 1.5-1. KEC Project - Projected Conceptual Construction Schedule**



## 1.6 DISCRETIONARY APPROVALS AND COORDINATION

The Proposed Action would potentially require discretionary and other federal, State, and local permits and approvals. **Table 1.6-1** provides a summary of major discretionary anticipated permits and approvals. **Table 1.6-2** provides a summary of major non-discretionary anticipated permits and approvals. In addition, coordination with private property owners along the alignment of the KEC Tunnel would be required and ~~may~~ would involve the acquisition of property easements to support implementation of the Proposed Action.

**Table 1.6-1. Potential Major Discretionary Permits and Approvals**

Agency	Permit/Approval	Applicability
<b>Federal</b>		
U.S. Army Corps of Engineers	Individual or Nationwide Permit	In-water work in Kensico Reservoir Tunnel or other crossings under or over surface water
U.S. Environmental Protection Agency	State Revolving Fund	State Revolving Fund administered by New York State Environmental Facilities Corporation
U.S. Fish and Wildlife Service	Federal Fish and Wildlife Permit	Construction activities within proximity to potential Bald Eagle nest
<b>State</b>		
New York State Department of Environmental Conservation	Beneficial Use Determination	Reuse of soil/rock removed from shaft, tunnel, and/or chamber construction
	Endangered and Threatened Species: Incidental Take Permit	Construction activities within proximity to potential Bald Eagle nest
	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 (Davis) Brook or their regulated buffers

**Table 1.6-1. Potential Major Discretionary Permits and Approvals**

Agency	Permit/Approval	Applicability
New York State Department of Environmental Conservation	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 gpd 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
New York State Department of Transportation (NYSDOT)	Highway Work Permit	Activities on roadways/ property under NYSDOT jurisdiction
<b>Local</b>		
New York City Public Design Commission	Design Approval	Design approvals for structures on City property
New York City Department of Environmental Protection	Watershed Regulations <sup>1</sup>	Ground disturbance within New York City East of Hudson Watershed
Westchester County Approvals	Road Access/Opening	Activities affecting roadways/property under Westchester County jurisdiction
	Approval of Plans for Sewers; Approval of Plans for Public Water Supply Improvement	Activities affecting public water supply source in Westchester County

<sup>1</sup> Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and its Sources.

**Table 1.6-1. Potential Major Discretionary Permits and Approvals**

<b>Agency</b>	<b>Permit/Approval</b>	<b>Applicability</b>
Town Approvals (Mount Pleasant/ North Castle)	Site Plan Approval	Activities that require approval by the Planning and Advisory Boards
	Municipal Separate Storm Sewer System (MS4) Approval	Discharges to a Municipal Separate Storm Water System
	Tree Removal	Planting, maintenance, or removal of trees
	Wetlands and Watercourses	Disturbance within regulated wetlands, watercourses, or their buffers
	Zoning Ordinance	Approvals for variances from the zoning ordinance

**Table 1.6-2. Potential Major Non-Discretionary Permits and Approvals**

<b>Agency</b>	<b>Permit/Approval</b>	<b>Applicability</b>
Town Approvals (Mount Pleasant/ North Castle)	Building	Construction, improvement, or demolition of a building or structure
	Blasting	Blasting operations for material removal
	Street Opening/Curb Cut	Cut, excavation or opening in or under any street, sidewalk or public place
	Electrical	Electrical wiring for the installation of any device, appliance or apparatus for the utilization of light, heat, power, or alarm system
	Excavation/Steep Slope	Excavation of soils and/or within slopes equal to or greater than 15%
	Plumbing	Installation, alteration, relocation, or permanent removal of any piping for water supply or wastewater
Utility Providers	Consultations	Connections to local utilities
NYSDOT	Oversized/Overweight/Special Hauling	Vehicle or cargo being transported on NYS highways or bridges exceeds size or weight thresholds

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