



Water for the Future: Upstate Water Supply Resiliency

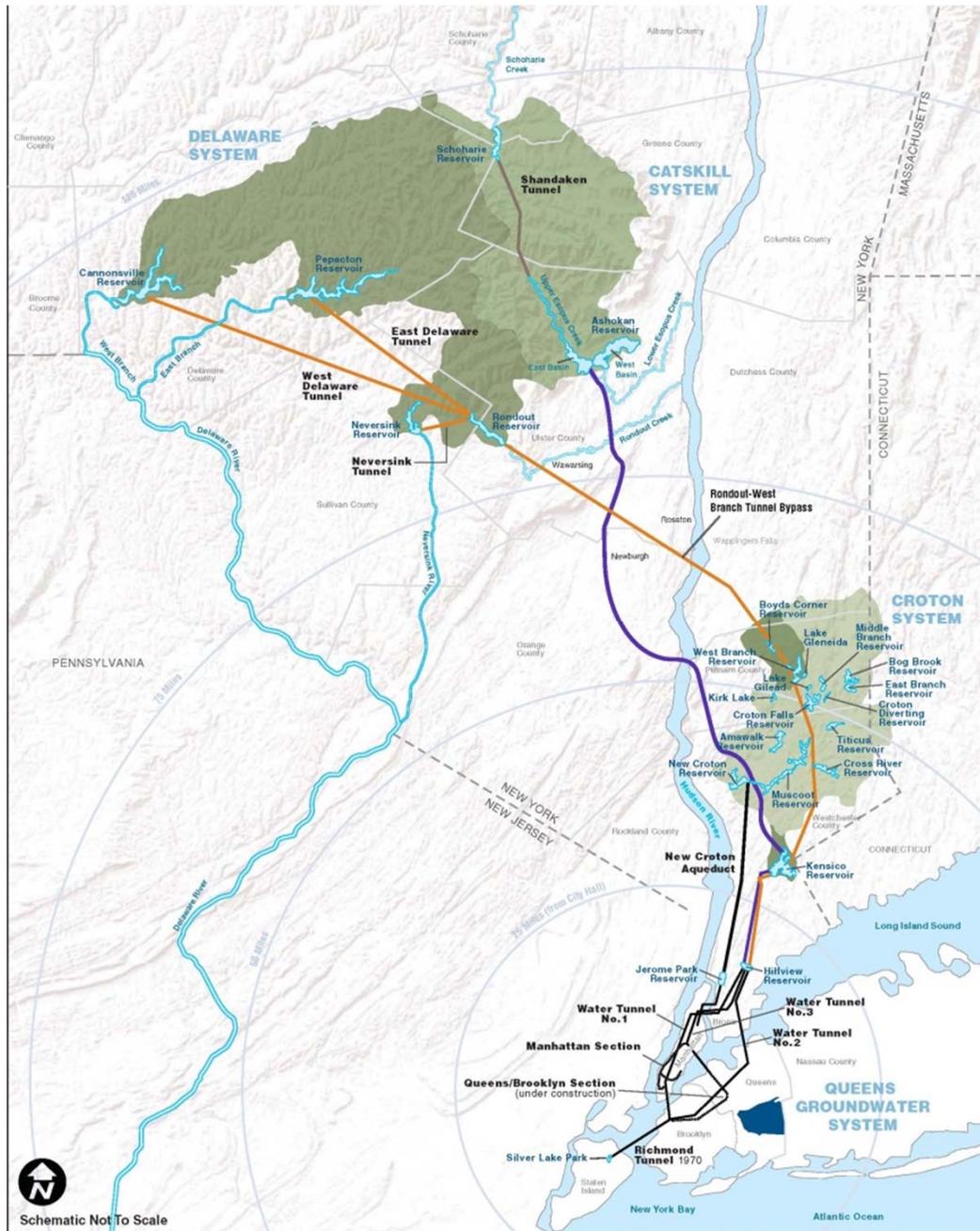
*Introduction to the Draft Scope of Work for an
Environmental Impact Statement*

- Introductions
- Program Overview
- Environmental Impact Statement – Scoping
- Planned Schedule for the EIS
- Oral Comments
- Close of Scoping Meeting

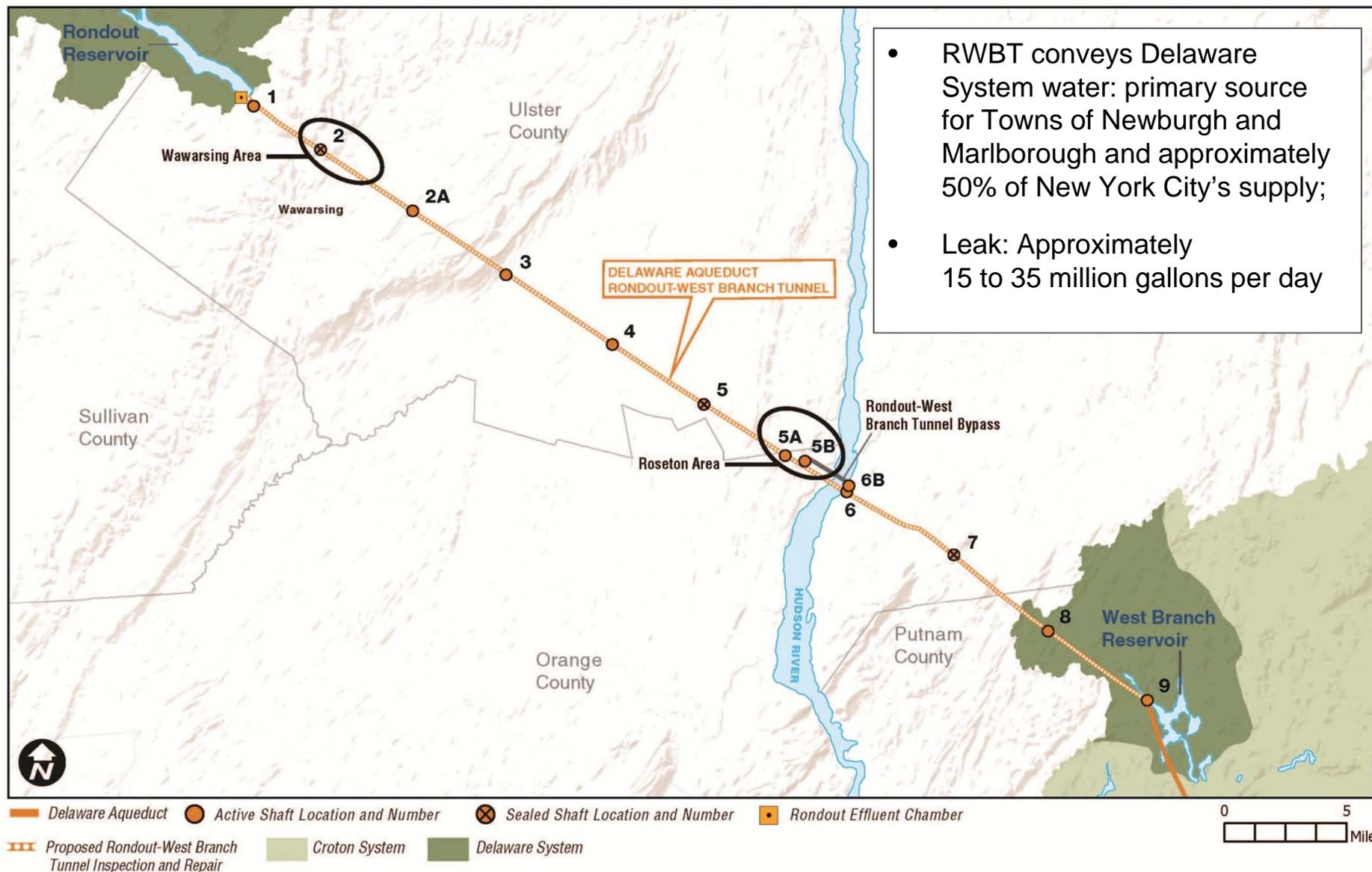
Program Overview

- NYC Water Supply System
- Rondout-West Branch Tunnel: Primary Areas of Focus
- Water for the Future Program and Timeline
- Shaft and Bypass Tunnel Construction
- Upstate Water Supply Resiliency
 - Catskill Aqueduct Repair and Rehabilitation
 - WFF Shutdown System Operations
 - RWBT Inspection and Repair
- In-City Water Supply Resiliency

Water Supply System



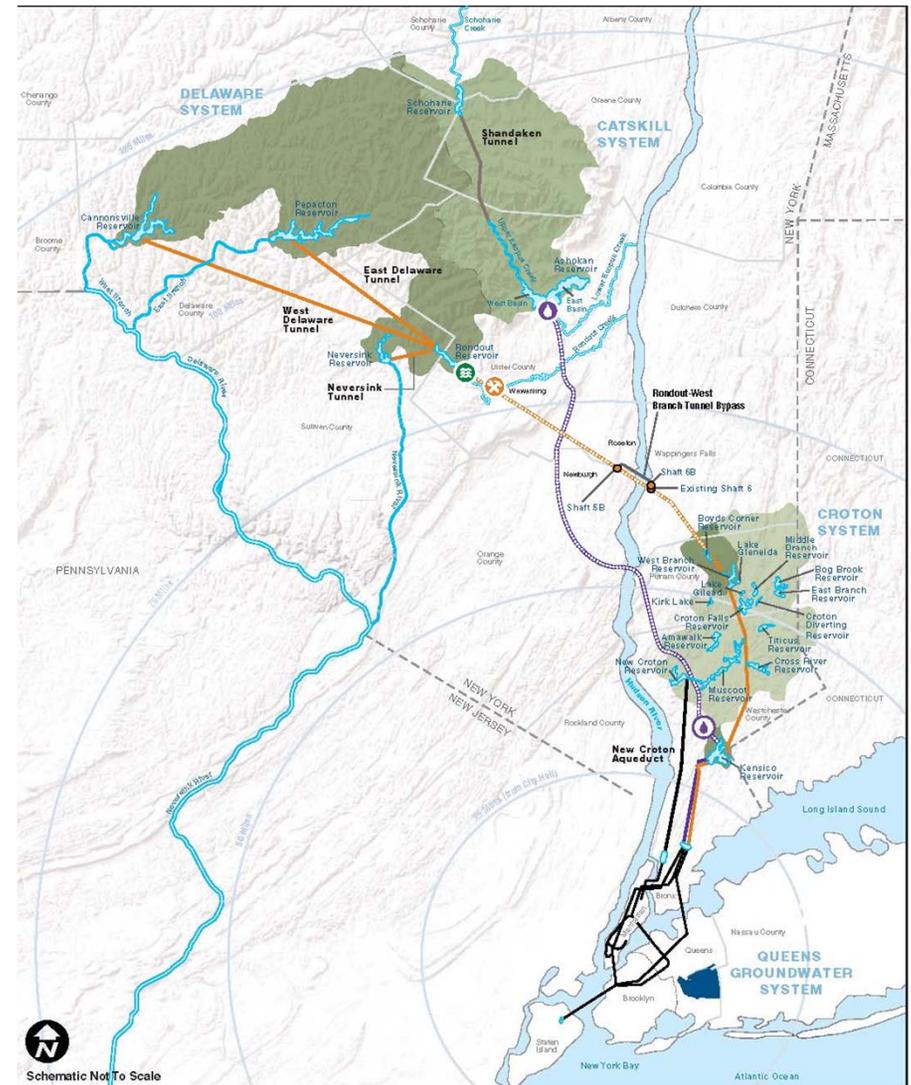
RWBT Primary Areas of Focus



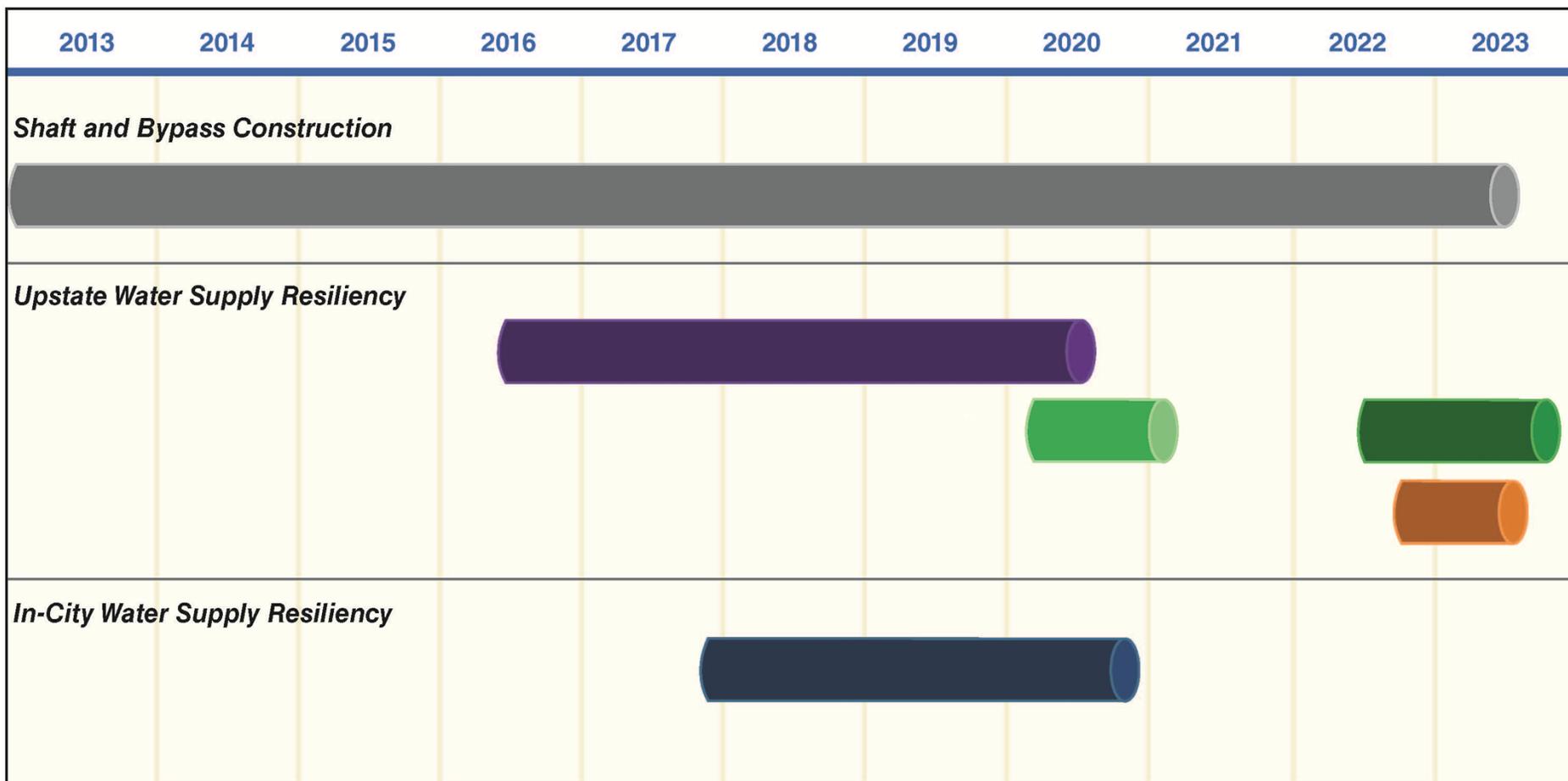
Proposed Program

DEP plans to address the leaks in the RWBT by undertaking the Water for the Future Program, which consists of three projects:

- Shaft and Bypass Tunnel Construction
- Upstate Water Supply Resiliency Project
 - Catskill Aqueduct Repair and Rehabilitation
 - Water for the Future Shutdown System Operations
 - RWBT Inspection and Repair (including Decommissioning)
- In-City Water Supply Resiliency Project
 - Queens Groundwater Rehabilitation

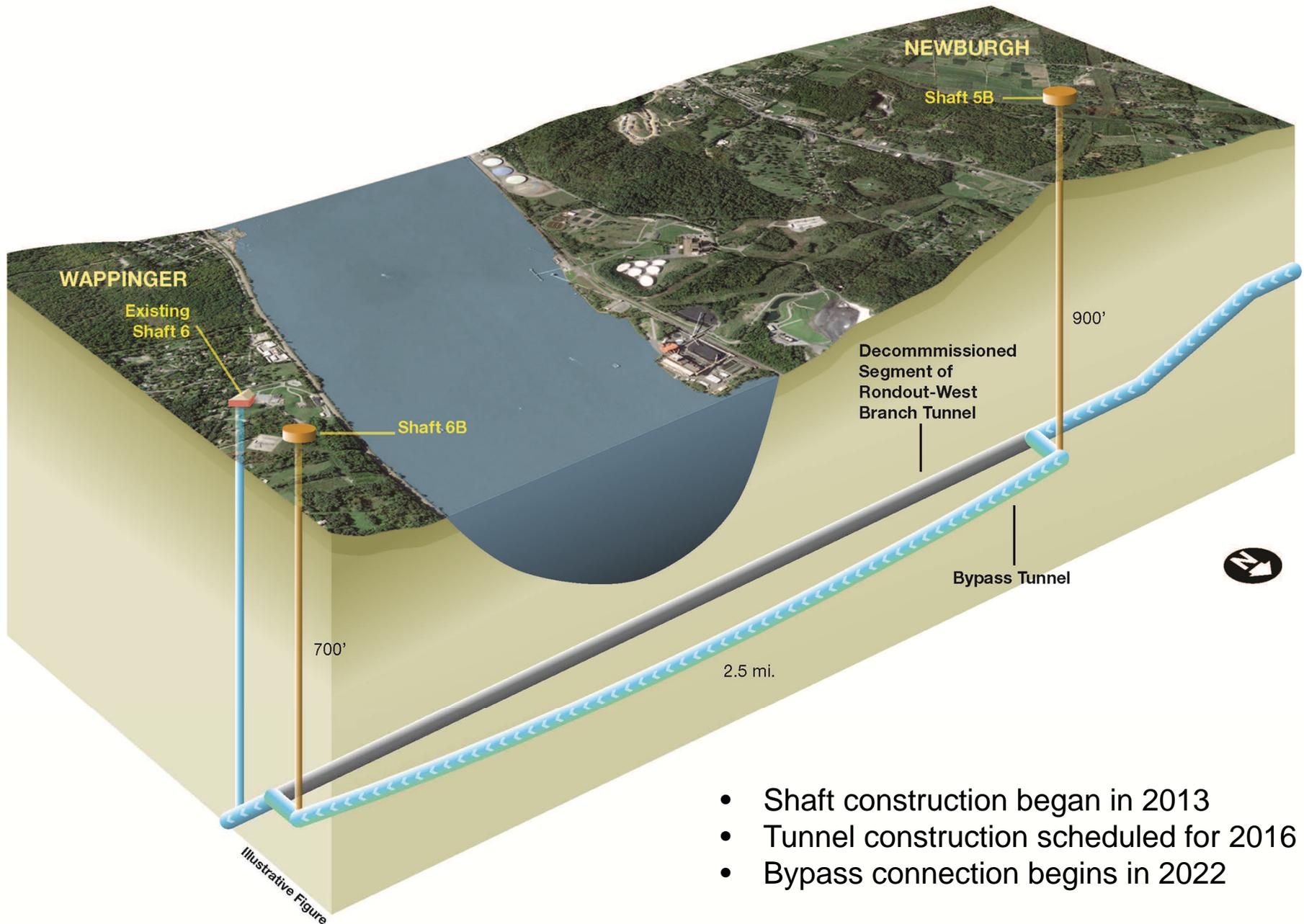


Water for the Future Timeline



-  Catskill Aqueduct Repair and Rehabilitation
-  Rondout-West Branch Tunnel Inspection and Repair
-  WFF Shutdown System Operations
-  Queens Groundwater Rehabilitation
-  Rondout Reservoir Siphons Construction
-  Shaft and Bypass Tunnel Construction

Shaft and Bypass Tunnel Construction

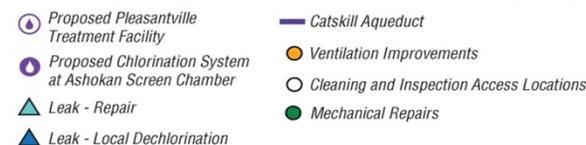
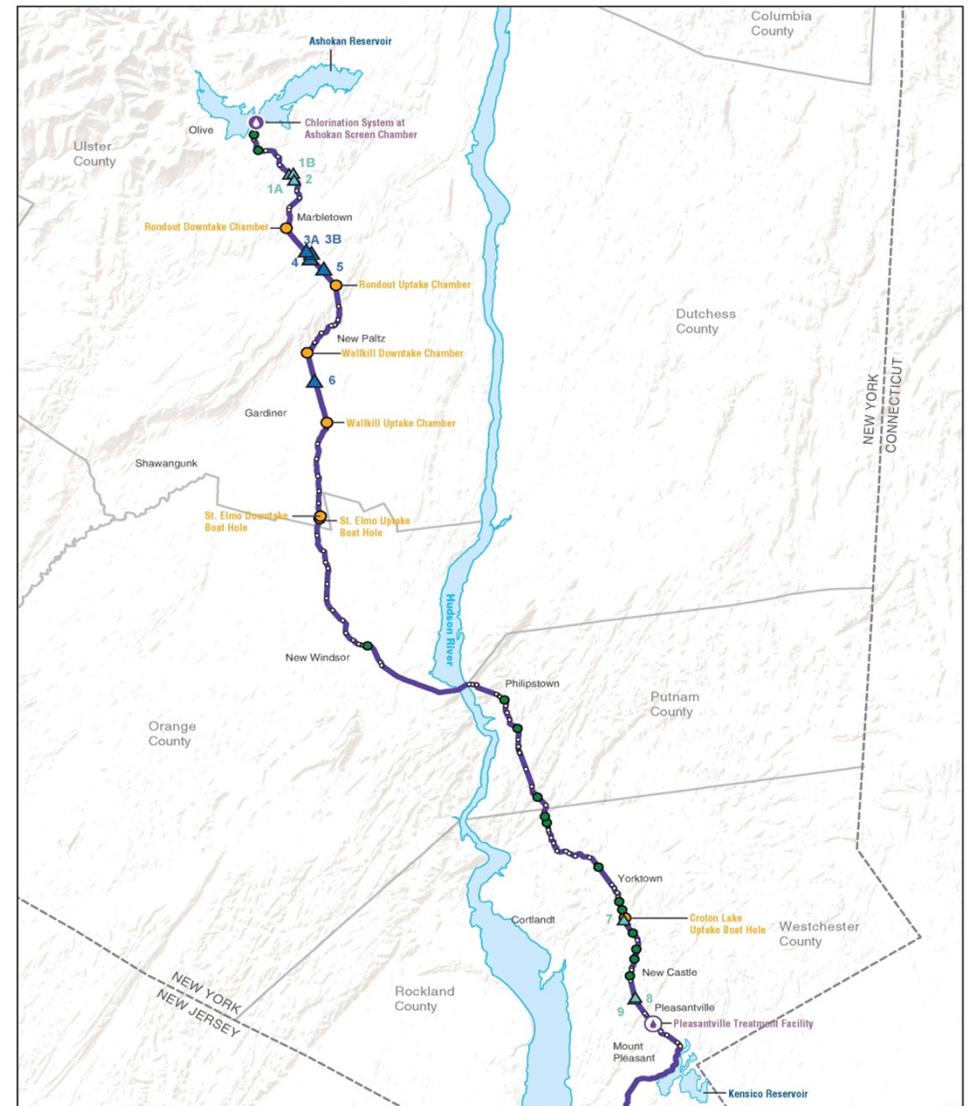


- Shaft construction began in 2013
- Tunnel construction scheduled for 2016
- Bypass connection begins in 2022

Catskill Aqueduct Repair & Rehabilitation

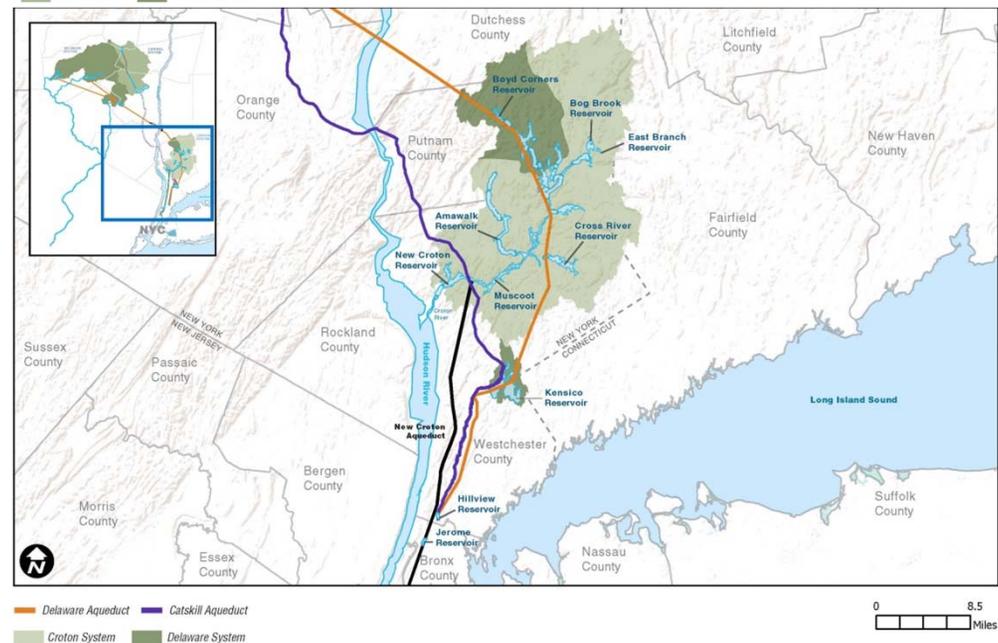
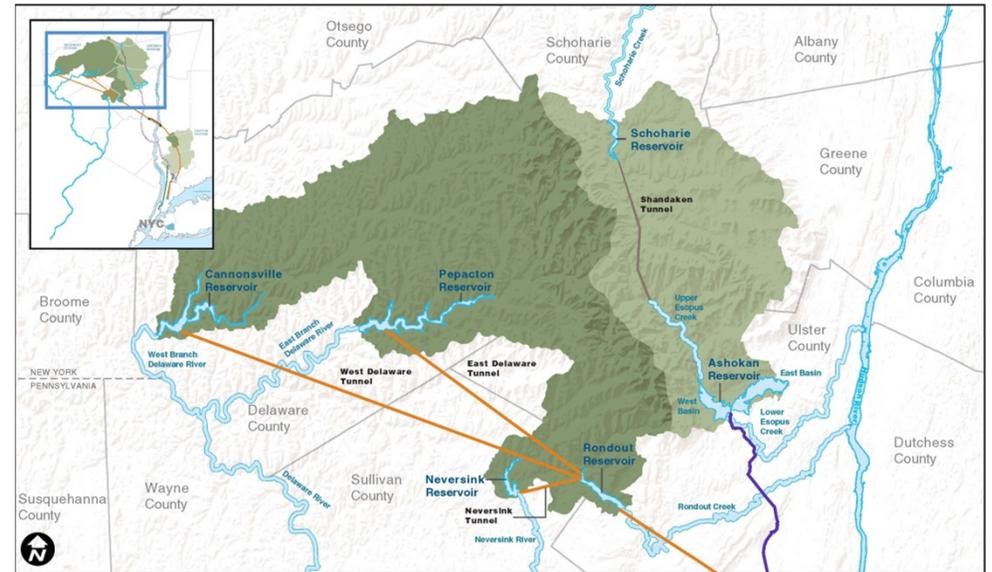
To restore the capacity of the Catskill Aqueduct, the following schedule and improvements are proposed:

- **Construction from 2016-2020**
- **removing biofilm** and possibly lining the interior;
- **adding chemicals** to control the formation or reduce extent of the biofilm;
- constructing seven **new ventilation structures** at key points;
- **repairing or replacement of mechanical components**, including siphon drain and sluice gate valves, along the aqueduct; and
- **repairing several leaks** along the aqueduct. Any leaks not eliminated through repair would require **local dechlorination**.



WFF Shutdown System Operations

- Construction of three siphons in Rondout Reservoir from **2020-2021**
- Preferential diversion of water from Delaware System prior to temporary shutdown; decreased diversions from Catskill and Croton Systems in **Spring and Summer 2022**
- Operation of siphons and preferential diversion from Catskill and Croton Systems during temporary shutdown for **8 months in late 2022 and early 2023**
- Pepacton, Cannonsville, and Neversink Reservoirs will continue to be operated in accordance with the FFMP

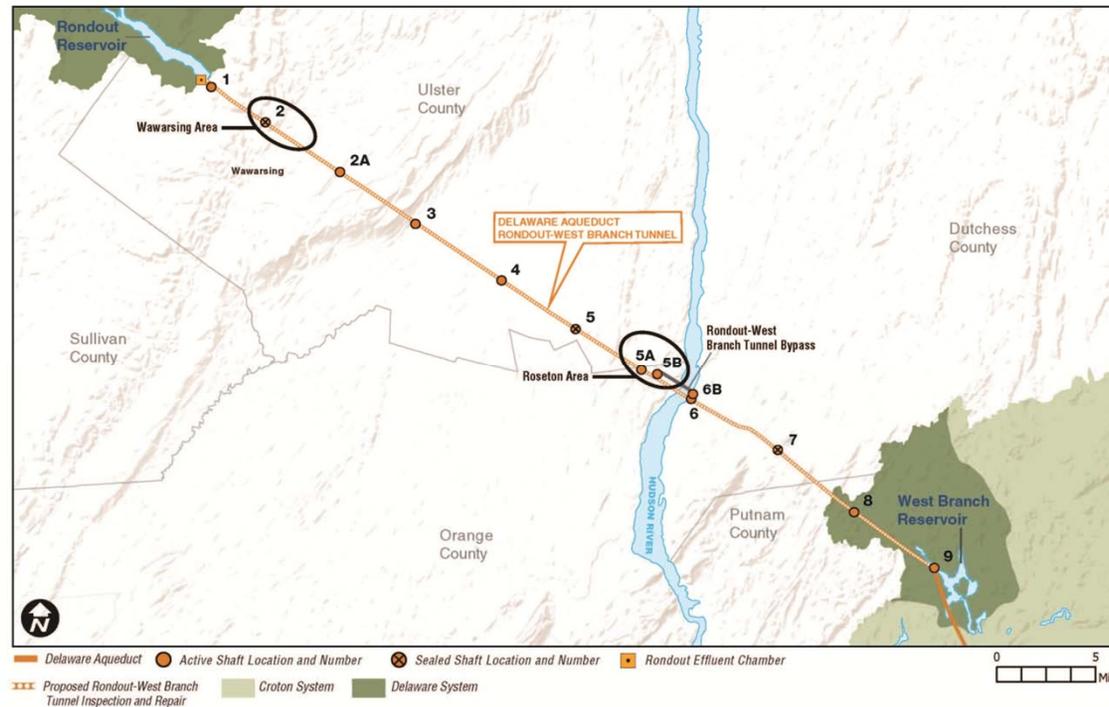


WFF Shutdown System Operations: Siphons



Merriman Dam at Rondout Reservoir

RWBT Inspection and Repair

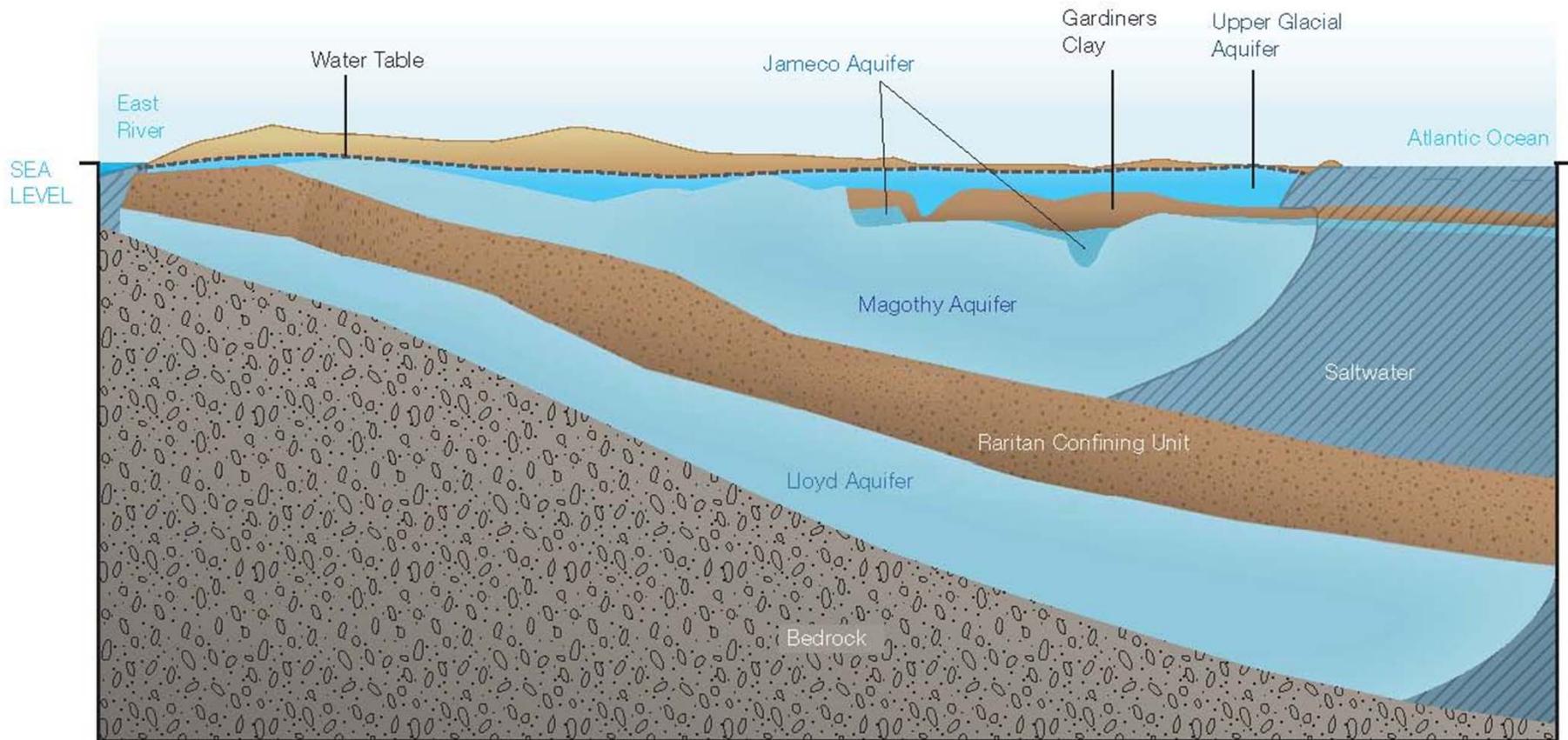


- Flow of water through RWBT would be stopped and RWBT would be unwatered
- Connection of the bypass tunnel to existing RWBT (deep underground at west and east connection sites); decommissioning bypassed segment
 - Repair Wawarsing leaks
 - Inspect RWBT with access through shafts
 - Assessment of cessations of leaks in Wawarsing and Roseton areas

Construction timeframe: **8 months in late 2022 and early 2023**

In-City Water Supply Resiliency

- Rehabilitation of wells in southeastern Queens
- Provide 33 mgd supply during temporary shutdown
- Construction timeframe: 2017-2020
- Forthcoming environmental review; draft scope of work anticipated March 2015



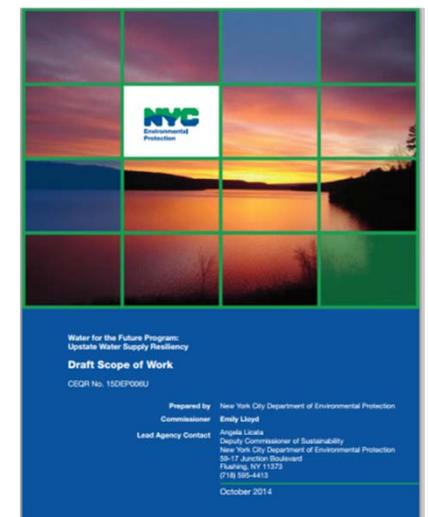
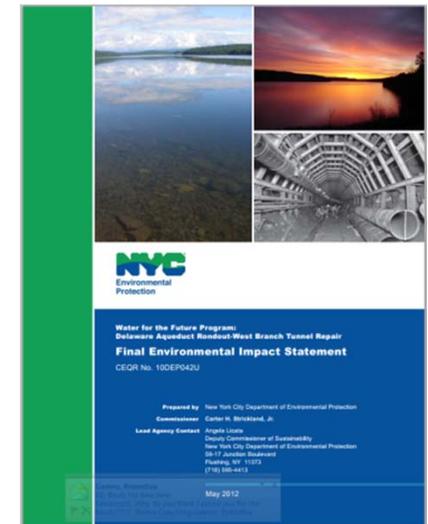
Illustrative figure, not to scale.

Environmental Impact Statement – Scoping

- DEP has taken a three-part approach to the Program's environmental review. All have been or will be prepared pursuant to:
 - New York City's Environmental Quality Review (CEQR) as set forth in 62 RCNY Chapter 5 and New York City Executive Order 91 of 1977 and its amendments
 - Article 8 of the Environmental Conservation Law establishing the State Environmental Quality Review Act (SEQRA) and its regulations as set forth in 6 NYCRR Part 617

Environmental Impact Statement: Framework

- Shaft and Bypass Tunnel FEIS was issued on May 18, 2012
 - Evaluated the potential environmental effects related to the Bypass Tunnel shaft and tunnel construction
- Upstate Water Supply Resiliency EIS
 - Will evaluate the potential environmental effects related to:
 - Catskill Aqueduct Repair and Rehabilitation;
 - WFF Shutdown System Operations; and
 - RWBT Inspection and Repair, including the repair of leaks in Wawarsing and Roseton
- In-City Water Supply Resiliency EIS
 - Will evaluate the potential environmental effects related to:
 - Queens Groundwater Rehabilitation



Catskill Aqueduct Repair and Rehabilitation



Impact Categories Assessed	Impact Categories Screened
Land Use, Zoning, and Public Policy	Shadows
Socioeconomic Conditions	Solid Waste and Sanitation Services
Community Facilities and Services	Greenhouse Gas Emissions and Climate Change
Open Space and Recreation	
Critical Environmental Areas	
Historic and Cultural Resources	
Visual Resources	
Natural Resources	
Hazardous Materials	
Water and Sewer Infrastructure	
Energy	
Transportation	
Air Quality	
Noise	
Neighborhood Character	
Public Health	

WFF Shutdown System Operations

Impact Categories Assessed	Impact Categories Screened
Land Use, Zoning, and Public Policy	Shadows
Socioeconomic Conditions	Solid Waste and Sanitation Services
Community Facilities and Services	Energy
Open Space and Recreation	Greenhouse Gas Emissions and Climate Change
Critical Environmental Areas	
Historic and Cultural Resources	
Visual Resources	
Natural Resources	
Hazardous Materials	
Water and Sewer Infrastructure	
Transportation	
Air Quality	
Noise	
Neighborhood Character	
Public Health	

RWBT Inspection and Repair

Impact Categories Assessed	Impact Categories Screened
Land Use, Zoning, and Public Policy	Shadows
Socioeconomic Conditions	Solid Waste and Sanitation Services
Community Facilities and Services	Greenhouse Gas Emissions and Climate Change
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Critical Environmental Areas	
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Natural Resources	
Hazardous Materials	
Water and Sewer Infrastructure	
Energy	
Transportation	
Air Quality	
Noise	
Neighborhood Character	
Public Health	

RWBT Inspection and Repair: Decommissioning



Impact Categories Assessed	Impact Categories Screened
Land Use, Zoning, and Public Policy	Critical Environmental Areas
Socioeconomic Conditions	Shadows
Community Facilities and Services	Solid Waste and Sanitation Services
Open Space and Recreation	Energy
Historic and Cultural Resources	Transportation
Visual Resources	Air Quality
Natural Resources	Greenhouse Gas Emissions and Climate Change
Hazardous Materials	Noise
Water and Sewer Infrastructure	
Neighborhood Character	
Public Health	

- No-Action Alternative
- Interconnection to Water Supplies in New Jersey
- Leak Stabilization

Planned Schedule for the EIS

Planned EIS Schedule



Draft Scope of Work	October 10, 2014
Public Scoping Meetings	November 13, 2014 (Newburgh) November 14, 2014 (Loch Sheldrake) November 19, 2014 (Ellenville) November 20, 2014 (Yorktown Heights)
Written Comment Period Closes	December 5, 2014
Draft Environmental Impact Statement	Summer 2015
Final Environmental Impact Statement	Winter 2015

Oral Comments

- Draft Scope of Work available at the local repository or online at www.nyc.gov/dep
- Draft Scope of Work issued on October 10, 2014
- Written comments will be accepted until December 5, 2014
- Send comments to:

By mail:

Jennifer Farmwald, Senior Project Manager
Office of Water Supply Infrastructure and Watershed Assessment
Bureau of Environmental Planning and Analysis
New York City Department of Environmental Protection
59-17 Junction Boulevard, 11th Floor
Flushing, NY 11373

By email:

WFFComments@dep.nyc.gov

Close of Hearing