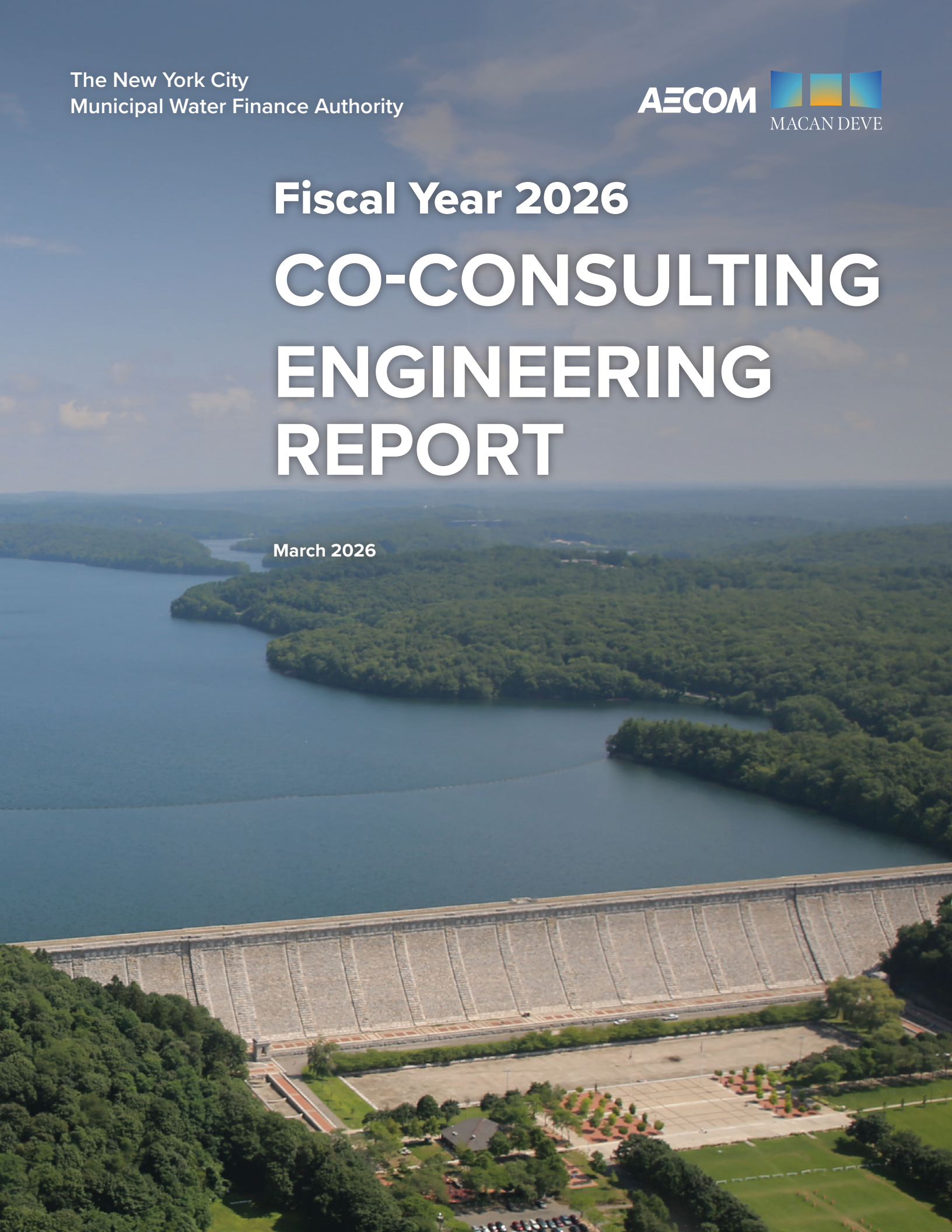
The New York City
Municipal Water Finance Authority

AECOM MACAN DEVE

## Fiscal Year 2026

# CO-CONSULTING ENGINEERING REPORT

March 2026



Front Cover:
Kensico Reservoir
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MACAN DEVE

March 31, 2026

Philip Wasserman
Executive Director
New York City Municipal Water Finance Authority
255 Greenwich Street
New York, NY 10007

Re: New York City Municipal Water Finance Authority
**Fiscal Year 2026 Co-Consulting Engineering Report**

Dear Mr. Wasserman:

AECOM USA, Inc. (AECOM) and Macan Deve Engineers, DPC. (MDE) herewith submit the Fiscal Year (FY) 2026 Co-Consulting Engineering Report on the operation of the Water and Sewer System of the City of New York (hereinafter referred to as The System). This Report addresses the condition and operation of The System as it presently stands, as well as the adequacy of capital and operating programs for FYs 2026 and 2027.

It is the joint opinion of AECOM and MDE that The System condition is adequate, our highest rating, and that it continues to be managed by the New York City Department of Environmental Protection (NYCDEP) in a professional and prudent manner. The current capital budget allocations for FY 2026 and FY 2027 are adequate for the immediate needs of The System. NYCDEP continues to review projects and budget re-allocations among fiscal years may be included in the Executive Budget due for release in May 2026. The opinions provided herein reflect the joint opinion of AECOM and MDE.

The information presented herein is based on the Preliminary Budget released on February 17, 2026. It is important to note that budgetary planning will continue past the date of this Report and revisions may be made. It is our opinion, however, that meaningful observations and conclusions can be drawn at this time, although the final budget allocations may change during the budget finalization process.

We are not required to update this Report for events and circumstances occurring after the date of this Report.

Very truly yours,

Eileen Proffitt, P.E.
NY Metro Water, AECOM
Co-Consulting Engineer for
Municipal Water Finance Authority

William Pfrang, P.E., BCEE
MDE
Co-Consulting Engineer for
Municipal Water Finance Authority

Document #5626

# THE NEW YORK CITY MUNICIPAL WATER FINANCE AUTHORITY

# FISCAL YEAR 2026 CO-CONSULTING ENGINEERING REPORT

**PREPARED BY:**

## AECOM and MDE

**March 2026**

Document #5626

# TABLE OF CONTENTS

## LIST OF FIGURES

# LIST OF TABLES

## 1.0 EXECUTIVE SUMMARY

This Report addresses the condition of The System and the adequacy of the capital program and operating budgets for Fiscal Years 2026 and 2027 as presented in the New York City Department of Environmental Protection (NYCDEP) Preliminary Budget released on February 17, 2026.

The NYCDEP is charged with the responsibility of the overall operation and maintenance of the vast water, wastewater, and stormwater infrastructure serving New York City (NYC). The NYCDEP protects public health and the environment for all New Yorkers by supplying high quality drinking water, collecting, treating, and discharging wastewater and stormwater, and reducing air, noise and hazardous materials pollution in NYC. The scope of this report focuses on the water, wastewater, and stormwater system infrastructure and programs. NYCDEP remains vigilant in providing operation and maintenance of water and wastewater infrastructure comprising significant capital assets and providing near term and long-term planning for future needs. NYCDEP has implemented new programs and continues the planning and implementation of additional infrastructure to meet more stringent regulatory requirements (Biological Nitrogen Removal (BNR) for Wastewater Resource Recovery Facilities (WRRFs), Combined Sewer Overflow (CSO) treatment facilities, and water treatment facilities). While providing these infrastructure improvements, NYCDEP is also tasked to maintain its water and wastewater infrastructure to comply with strict regulations and avoid critical failure of processes and assets. Due to ongoing heightened climate change, it is essential for NYCDEP to continue its efforts to maintain resilient and sustainable water, wastewater, and stormwater systems. NYCDEP must manage risks and prioritize competing needs of The System to achieve its objectives. In addition to these competing needs, NYCDEP continues to face many challenges due to staffing vacancies and must manage risk associated with delivery of a large capital program, and operating and managing a large and complex system. Considering the magnitude of the overall infrastructure, the operational service required, and the ongoing challenges due to staffing shortages, it is our opinion that:

- The System continues to be managed in a professional and prudent manner with an appropriate regard for the level of service afforded to the users within the available funding.

- The physical condition of The System receives an “adequate rating”, our highest rating. Due to the size and complexity of The System, NYCDEP will continue to require future capital investments for the following: continuous replacement and/or repair of aging infrastructure in a systematic and cost-effective manner; implementation of infrastructure to meet regulatory mandates; additional projects/programs to continue to address climate change impacts to The System.

- NYCDEP capital and expense budget projections for Fiscal Year (FY) 2026 satisfy the immediate needs for The System. This includes regulatory mandated[1] projects, which comprise approximately 39.4% of the capital budget for FY 2026.

- NYCDEP capital budget projections for FY 2027 are expected to satisfy the immediate needs for The System. This includes the regulatory mandated projects which comprise approximately 37.3% of the capital budget for FY 2027. Expense budget projections for FY 2027 are currently being

[1] Mandates and mandated projects throughout this report refer to projects required due to negotiated Consent Orders or agreements or other regulatory requirements between NYCDEP and regulatory agencies.

evaluated based upon the projected new needs of The System and may require adjustment when the new needs evaluation is complete.

- NYCDEP capital planning is an ongoing iterative process addressing priorities and needs of The System. NYCDEP capital planning is considered responsive to the long-term requirements of The System.

- Currently, NYCDEP has 797 staffing vacancies, which represents a 12.5% vacancy rate. NYCDEP continues to face significant staffing challenges due to high attrition rates. NYCDEP continues to actively recruit and fill critical vacancies. In addition to the current vacancies, NYCDEP will also require additional staff as new facilities, particularly coastal resiliency and CSO infrastructure, come on-line.

## 2.0 PURPOSE AND SCOPE OF THE REPORT

The purpose of this report is to provide engineering information pertinent to the condition of The System serving NYC and the adequacy of the proposed Capital Improvement Program (CIP) funds. In 1984, the NYC Municipal Water Finance Authority (The Authority) was formed following studies and analyses used in developing the information included in the Municipal Water Finance Authority Official Statements under the captions: "CAPITAL IMPROVEMENT AND FINANCING PROGRAM — Preliminary Ten-Year Capital Strategy, Current Capital Plan and the Capital Improvement Program", "THE SYSTEM — The Water System", and "THE SYSTEM — The Sewer System". AECOM (formerly Metcalf & Eddy) provided engineering services related to the NYC Water and Wastewater Operations Evaluation Study (Study) in 1983 and has continued to provide services to The Authority since its origin in 1984. Since July 2021, Macan Deve Engineers, DPC (MDE) has been working with AECOM as Co-Consulting Engineers to The Authority. MDE is a certified Women-Owned Business Enterprise (WBE) engineering and architectural firm. AECOM and MDE have jointly performed ongoing evaluations of the condition of The System, which has included independently reviewing the capital and operating programs pertaining to water and wastewater, reviewing select pertinent studies associated with the long-term development of The System, and conducting Due Diligence interviews with key individuals responsible for managing the activities of the NYCDEP.

This report addresses the issues listed below:

- present physical condition of The System,
- FY 2026[2] capital budget and FY 2027 projected capital budget for The System,
- FY 2026 expense budget and FY 2027 projected expense budget related to operation and maintenance of The System,
- overview of the Preliminary Four-Year Current Capital Plan for FYs 2026 to 2030[3] and,
- management of The System.

[2] The NYCDEP Fiscal Year begins on July 1 and ends on June 30. FY 2026 began on July 1, 2025 and ends on June 30, 2026.
[3] The Four-Year Current Capital Plan includes five years, the current year, FY 2026 and the four-year projection for FY 2027 to FY 2030.

## 3.0 METHODOLOGY FOR ANALYSIS

The analyses conducted by AECOM and MDE were accomplished utilizing the following methods:

- Due Diligence interviews with representatives of the NYCDEP and communications with representatives of The Authority,
- Review of documents related to the ongoing budgetary process,
- Review of the status of ongoing major programs and review of select reports and presentations provided by NYCDEP,
- Information gathered from visiting NYCDEP facilities,
- Consideration of national and local trends in the water and wastewater industry (federal, state and local regulations, resource recovery, aging infrastructure, resiliency, climate change impacts, energy programs).

The budgetary process for the current capital and expense budgets was not completed by the time of this report's publication. It is anticipated that the Executive Plan will be released in May 2026. Observations and conclusions presented herein are therefore based on budget data as it stood on the date of this report. It is our opinion that these observations and conclusions are meaningful with respect to The System. It should be noted, however, that these observations and conclusions are subject to change based on the final outcome of the budgetary process.

# 4.0 MANAGEMENT AND OPERATION OF THE NYCDEP SYSTEM

## NYCDEP's Long-Range Vision

NYCDEP released its Long-Range Vision Report in July 2025 identifying the mission, vision, and values of DEP. The Long-Range Vision document identifies 37 goals and initiatives across the following areas:

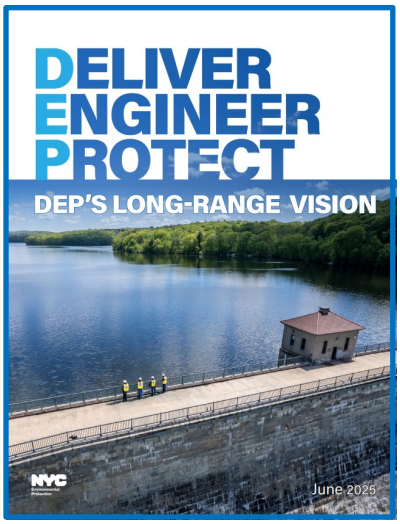



**Figure 4-1: DEP's Long-Range Vision**

- Reliable Water Supply
- Flooding
- Ambient Water Quality
- Modernize Wastewater Treatment
- Air, Noise, and Hazardous Materials Pollution
- Esteemed Presence
- Protecting Ratepayers and Collections
- Decarbonization
- Workforce
- Business Processes

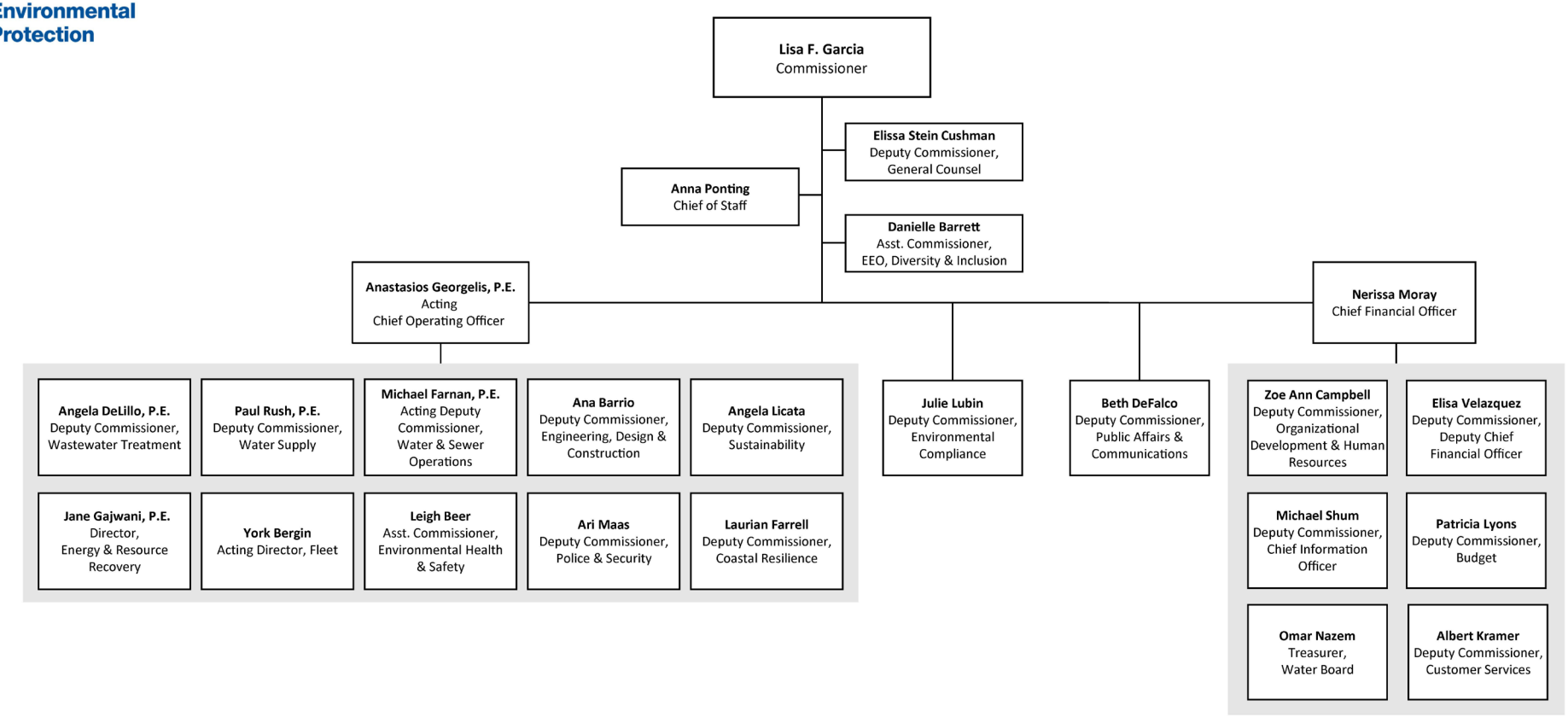
## Organization Structure

Mayor Zoran Mamdani was inaugurated as NYC mayor on January 1, 2026. On January 27, 2026, Mayor Mamdani announced Lisa Garcia as the new NYCDEP Commissioner. Commissioner Garcia previously served as the USEPA Administrator for Region 2, under the Biden administration in New York, New Jersey, Puerto Rico, the U.S. Virgin Islands, and eight Indian nations. Commissioner Garcia became NYCDEP Commissioner effective February 9, 2026.

NYCDEP has announced that the Bureau of Water Supply (BWS) Commissioner, Paul Rush, plans to retire in June 2026. Dave Warne, who is currently the Assistant Commissioner of Core Services within BWS, will become the Acting Deputy Commissioner.

The NYCDEP is currently organized into the following Offices and Bureaus as shown in (**Figure 4-1**)[4].

[4] Organizational chart provided by NYCDEP in February 2026.




**February 2026**

**Figure 4-2: NYCDEP Executive Level Organizational Chart**

The following offices and bureaus report directly to the Commissioner:

- The Chief Operating Officer (COO) is responsible for administering and coordinating the activities of NYCDEP's engineering and operational bureaus. The following offices and bureaus report directly to the COO: Wastewater Treatment; Water Supply; Water and Sewer Operations; Engineering, Design, and Construction; Sustainability; Energy and Resource Recovery; Environmental Health & Safety; Coastal Resiliency; Police and Security; and Fleet.

- The Chief Financial Officer (CFO) is responsible for the budget and finance functions. Additional functions include contracts and procurement, information technology, development of rate setting recommendations, and treasury functions. The CFO oversees the Budget Office; Information Technology, Customer Services; Organizational Development and Human Resources, Contracting and Payments, Facilities, Engineering Audits; as well as the water and sewer charges collections and treasury functions encompassed by the Water Board. NYCDEP has designated a Chief Savings Officer for the tax levy side of NYCDEP.

- The Chief of Staff; General Counsel/Legal Affairs; EEO, Diversity and Inclusion; Public Affairs and Communications; Environmental Compliance. The Bureau of Environmental Compliance (BEC) is made up of the Division of Air & Noise Policy, Permitting and Enforcement and the Asbestos Control Program.

The Bureaus and Offices that pertain to The System's operations and capital planning/implementation are described in more detail below:

- Operating Bureaus: There are three Operating Bureaus. They are the Bureau of Water Supply (BWS), the Bureau of Water and Sewer Operations (BWSO), and the Bureau of Wastewater Treatment (BWT). The Deputy Commissioner of each Operating Bureau reports to the COO. The key responsibilities of each operating bureau are described as follows:

    - BWS is responsible for the delivery of high-quality drinking water to New York City and its responsibilities include the management, operation and maintenance of the Croton Water Filtration Plant (WFP), Catskill/Delaware Ultraviolet (Cat/Del UV) Disinfection Facility, Hillview Reservoir, Jerome Park Reservoir, Chlorination and Fluoridation at Kensico Reservoir Shaft 18, Pleasantville Alum Plant and all associated dams, aqueducts, shafts, waterworks and support systems. BWS is organized with four Directorates under the BWS Deputy Commissioner –Strategic Operations and Research; Drinking Water Operations; Source Water Protection; and Core Services. BWS conducts extensive monitoring of water quality, both within the city's distribution system and throughout the upstate watersheds. BWS is also responsible for the overall management and implementation of the City's Watershed Protection Program and for complying with NYC's Filtration Avoidance Determination (FAD) program. Once the water leaves the Hillview Reservoir and Croton WFP, it enters the distribution system that is operated and maintained by BWSO.

    - BWSO is responsible for the operation and maintenance of New York City's drinking water distribution system, and the wastewater collection system. BWSO is organized with three Directorates under the BWSO Deputy Commissioner – (1) Operations; (2) Engineering and Planning; and (3) the newly formed Business Operations, Core Services & Digital Transformation. BWSO Operations is responsible for the following: (1) that residences and businesses have an adequate supply of potable water (joint responsibility along with BWS), (2) that there is sufficient water for fire protection, and (3) that the wastewater collection system is properly functioning. BWSO coordinates closely with the New York City Department of Design and Construction (NYCDDC), since NYCDDC is responsible for the construction of the water mains and sewers that BWSO operates and maintains.

BWSO also maintains close coordination with other city and non-city agencies, such as New York City Department of Transportation (NYCDOT), New York City Department of City Planning (NYCDCP), NYC Parks, Economic Development Corporation (EDC), Metropolitan Transportation Authority (MTA), and Con Edison. BWSO is heavily focused on stormwater management issues and has an ongoing program to alleviate chronic flooding in Southeast Queens.

- BWT is responsible for the operation and maintenance of the 14 in-city WRRFs, the City's 96 wastewater pump stations, interceptors, CSO regulators, biosolids dewatering facilities, fleet of marine vessels, laboratories, and control of discharges from combined sewer overflows. The following Directorates report directly to the BWT Deputy Commissioner: Operations; Engineering; Digital Transformation; and the newly formed Planning and Compliance Directorate. Seven Area Facility Managers (two WRRFs per Facility Manager) provide senior leadership in the operation of the 14 WRRFs. The Facility Managers report to the Director of Plant Operations. Working with the Plant Chiefs and Chief Operators of the individual plants, the Facility Managers provide overall operational consistency. Each Facility Manager has an assigned Reliability Centered Maintenance Engineer (RCME), who coordinates maintenance operations. BWT also has an Emergency Manager, who coordinates and manages emergencies within BWT. BWT continues to further drive decision-making through data driven analytics.

- The Bureau of Engineering, Design, and Construction (BEDC) is responsible for the delivery of the Capital Improvement Program. BEDC is organized into the following directorates: Water System Capital Program, Wastewater Capital Program, Special Projects (including the design build program and in-city water supply projects), and In-House Design (IHD). Within IHD, there are two groups - the Design Service Division and the Engineering Services Division. BEDC has a Sustainability Section that incorporates sustainability into BEDC projects by integrating Climate Resiliency Design Guidelines into Standard Operating Procedures, performing project reviews, and data tracking. BEDC is responsible for project delivery consisting of the design and construction of capital improvement projects, including major water transmission facilities, water treatment facilities, WRRFs, wastewater pumping stations, and stormwater/CSO facilities. BEDC implements many of these projects with contract services for planning, design, construction and construction management, along with the IHD group.

- The Bureau of Sustainability at NYCDEP is responsible for the development and implementation of environmental policy and strategy, including water quality. The Sustainability Group includes the Bureau of Environmental Planning and Analysis (BEPA), the Office of Green Infrastructure and Cloudburst, and Hazardous Materials and Superfund Planning & Analysis. Implementing, coordinating and tracking the many elements of the Green Infrastructure Plan occurs within BEPA. The Green Jobs/Green Infrastructure Maintenance are part of BEPA. BEPA is also responsible for conducting environmental reviews for NYCDEP, providing technical assistance for the preservation of natural resources, conducting long range planning (population/employment, consumption and demand/flow), conducting strategic planning to provide appropriate forecasting, trend analysis, regulatory review, scientific modeling, and research. BEPA continues the work of the climate change task force and helps NYCDEP plan for the new growth stimulated by rezoning throughout the city. The Hazardous Materials and Superfund Planning & Analysis group coordinates Superfund Programs.

- The Office of Energy & Resource Recovery (OERR) is responsible for the coordination of energy management for all operating bureaus and overall NYCDEP energy initiatives. OERR works closely with NYC Department of Citywide Administrative Services (DCAS). OERR guides and oversees NYCDEP's energy, biosolids and residuals, organics/food waste, resource recovery, and greenhouse gas (GHG) policy, planning, research and studies. OERR coordinates closely with the designated liaisons within each operating bureau. OERR advises on energy and GHG related expenses and capital funding, in addition to seeking outside funding sources for projects, such as

those available through DCAS. OERR manages the Energy and Carbon Neutrality (ECN) Plan. The NYCDEP appointed the Director of OERR as the Agency Chief Decarbonization Officer.

- The Bureau of Coastal Resilience (BCR) was formed in April 2023 with the release of PlaNYC and the Deputy Commissioner for BCR was announced in October 2023. The BCR will lead and coordinate the planning, implementation, operation, and maintenance of the coastal resilience infrastructure. The BCR performs strategic planning, engineering, and operations of the coastal resiliency projects to protect the NYC coastline. The BCR maintains close coordination with other NYCDEP Bureaus. BCR also partners with other city agencies such as the Mayor's Office of Climate and Equity Justice (MOCEJ), NYCDDC, NYC Parks, NYCDOT, Department of Sanitation of NY (DSNY), New York City Emergency Management (NYCEM), and other partners such as Economic Development Corporation (EDC) and United States Army Corp of Engineers (USACE) to coordinate citywide resiliency projects. The majority of the BCR will be city tax levy funded, with some utility funded positions.

# 5.0 OVERVIEW OF THE SYSTEM

NYCDEP is charged with the operation, maintenance and management of a vast complex system of water, wastewater and stormwater infrastructure.

## 5.1 Water Supply System

NYC water is supplied from three upstate watersheds (Delaware, Catskill and Croton), which extend 125 miles north of NYC, consisting of 18 collecting reservoirs (in the Delaware, Catskill, and Croton Systems), three controlled lakes (in the Croton System), and three additional balancing and distribution reservoirs (Kensico, Hillview and Jerome Park Reservoirs) as shown in **Figure 5-1**. The NYC water supply system has a total available storage capacity of 570 billion gallons. NYCDEP maintains operational flexibility to vary the water supply from all three water systems, as it deems necessary.

NYCDEP also owns wells in Queens; however, this groundwater supply system has not been providing water to the NYC distribution network since 2007. The Jamaica groundwater wells are no longer an active part of NYC's water supply. NYCDEP has determined to release many of the sites associated with the Jamaica groundwater system. NYCDEP has been decommissioning the groundwater well stations and started to transfer the properties associated with the groundwater primarily to DCAS. NYCDEP plans to relinquish a total of 36 of the 51 sites associated with the Jamaica groundwater wells.

### Croton System

The Croton water supply system, NYC's oldest water supply, was put into service in 1842 with the construction of the Old Croton Aqueduct delivering water to the city. It has continued to expand and now includes several reservoirs (New Croton, Croton Falls Main, Cross River, West Branch, Titicus, Amawalk, East Branch, Muscoot, Bog Brook, Middle Branch, Boyds Corner, Croton Falls Diverting), all which feed into the New Croton Aqueduct.

The Croton System delivers water by gravity from the New Croton Reservoir through the New Croton Aqueduct to the Jerome Park Reservoir in the Bronx. The water is then sent to the Croton WFP, which came online in May 2015. The Croton WFP has a maximum capacity of 290 million gallons per day (MGD) and is divided into Plant A and Plant B (each plant has 145 MGD capacity). The water treatment processes consist of chemical addition, dissolved air flotation (DAF), and filtration followed by ultraviolet (UV) disinfection. The Croton WFP is located beneath Van Cortlandt Park in the Bronx. It is the largest underground water filtration plant in the United States. The Croton WFP is also the largest stacked DAF filter plant in the United States. After treatment, the water is conveyed through concrete lined pressure water tunnels to the distribution service areas. Use of the Croton WFP varies based upon NYCDEP's operational needs. The Croton WFP provides NYCDEP with a valuable and flexible resource.

### The Catskill System

The Catskill system was put into service in 1915 and provided water to all five boroughs by 1917. The Catskill system is made up of the Schoharie Reservoir and the Ashokan Reservoir, which feed water to the city by gravity via the Catskill Aqueduct. The capacity of the Catskill Aqueduct is approximately 600-

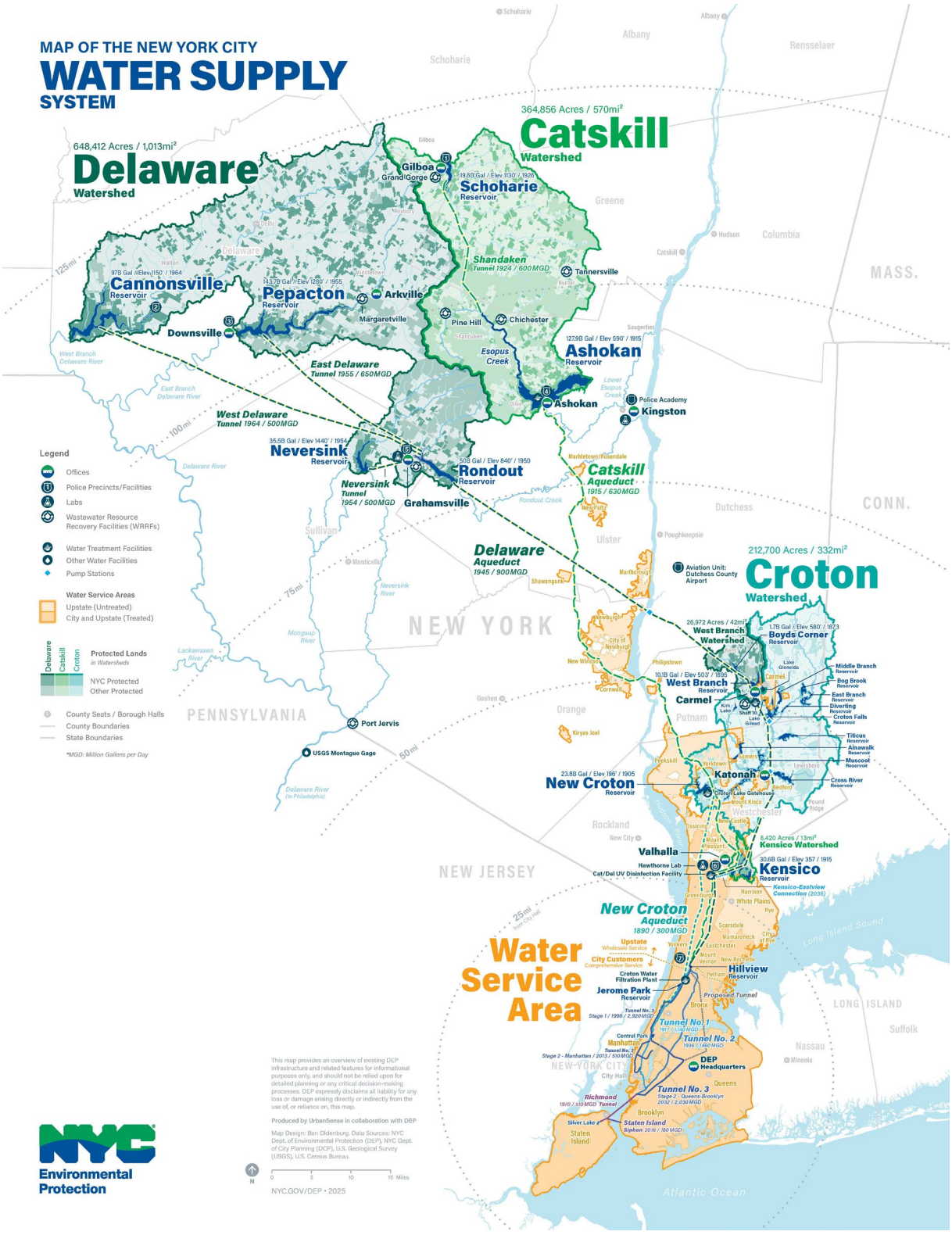



**Figure 5-1: New York City Water Supply System**

620 MGD. The balancing reservoir at Kensico, and the distribution reservoir at Hillview were implemented as part of the Catskill system. The System also includes City Tunnel No.1 which conveys water from Hillview Reservoir by gravity to the city and was put into operation in 1917. City Tunnel No. 1 is a deep rock tunnel which connects into the water supply distribution network via a series of riser shafts.

The Catskill Aqueduct is a near surface aqueduct for most of its length, with pressure tunnels only where the aqueduct alignment encounters low terrain, the most significant being the Hudson River valley where the pressure tunnel is about 1,100 feet below river level. The near surface portions of the aqueduct have recently been cleaned to improve capacity. Some of the pressure tunnels have been inspected and investigated for methods to reduce leakage and repairs, and plans are underway to inspect the remaining pressure tunnel portions of the aqueduct.

### The Delaware System

Construction of the Delaware system began in 1937. The Delaware watershed was put into service in phases and is comprised of four reservoirs - Cannonsville Reservoir completed in 1964, Pepacton Reservoir completed in 1955, Neversink Reservoir completed in 1954, and Rondout Reservoir completed in 1950. The Rondout Reservoir receives water by gravity from the other reservoirs in the Delaware System. Delaware water is conveyed by gravity to Kensico Reservoir by the Delaware Aqueduct, via Shafts 17 and 18. The Delaware Aqueduct continues to Hillview Reservoir via the Eastview site and was connected into the balancing storage at Hillview by two new gate chambers with connecting conduits to the existing chambers at the reservoir. At that time City Tunnel No. 2 was constructed, which is a deep rock tunnel connected to the city distribution network by a series of riser shafts. The Delaware Aqueduct is a deep concrete lined pressure tunnel which passes about 600 feet below the Hudson River. Over the years, leakage has developed at some sections of the pressure tunnel, most notably at the Hudson River crossing. Construction of a bypass tunnel at the Hudson River has been completed which will allow the leaking portion of the aqueduct to be taken out-of-service once the connections to the Delaware Aqueduct are completed. This major capital construction project is discussed later in the report in Section 7.5.

### Filtration Avoidance of Catskill and Delaware Water Supplies

Water from the upstate reservoirs is conveyed by gravity through an extensive system of tunnels and aqueducts. The 92-mile Catskill Aqueduct conveys water from the Ashokan Reservoir to the Kensico Reservoir, and the 85-mile Delaware Aqueduct conveys water from the Rondout Reservoir to the West Branch Reservoir and then to the Kensico Reservoir. Because of the high-quality water in the upstate reservoirs and well-protected water supply, the US Environmental Protection Agency (USEPA) granted NYC a waiver from the federal requirement to filter drinking water originating from surface water supplies. The USEPA then transferred authority of the Filtration Avoidance Determination (FAD) to New York State Department of Health (NYSDOH) in 2008. As a result of this waiver, the Delaware and Catskill watersheds do not require filtration and the watersheds are protected by the FAD, which specifies disinfection requirements and identifies watershed source protection requirements to maintain its high level of water quality. Water entering the distribution system is treated with chlorine (disinfectant),

fluoride, food-grade phosphoric acid (to create a protective film on pipes to reduce the release of metals such as lead from household plumbing) and sodium hydroxide (to raise the pH and reduce corrosivity). BWS disinfects Catskill and Delaware water systems at Kensico Reservoir Shaft 18 and additional chlorine disinfection occurs prior to entering the distribution system at Hillview Reservoir.

A condition of the FAD required NYCDEP to provide UV treatment to Catskill and Delaware water. Accordingly, a UV facility was completed in 2012 at the 153-acre Eastview site which is on the alignment of both the Delaware Aqueduct and the Catskill Aqueduct. The Cat/Del UV Facility, which treats water from the Kensico Reservoir, feeds water to NYC through the Hillview Reservoir. The Cat/Del UV Facility was designed to have a nominal capacity of 2.4 Billion Gallons per Day (BGD) and is the largest UV facility in the United States. Operational tests have indicated that the facility can pass about 2.6 BGD. At present the UV Facility at Eastview can only be supplied via the Delaware Aqueduct from Shaft 18 on the Kensico Reservoir. Hydraulic limitations prevent the full use of the Catskill Aqueduct. To provide system redundancy, NYCDEP has designed an additional tunnel from the Kensico Reservoir to the UV Facility at Eastview. This is referred to as the Kensico Eastview Connection (KEC) Tunnel, and is further discussed later in the report in Section 7.5.

### Connection to the Distribution System

Both the Kensico Reservoir and the Hillview Reservoir serve as balancing reservoirs for the water system, handling the daily and hourly fluctuations of water demand. Located downstream of the UV Facility at Eastview, the Hillview Reservoir is an uncovered reservoir and does not comply with Federal Regulation referred to as the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) that requires finished water reservoirs to be covered. Under a 2019 Consent Decree, NYCDEP has completed planning studies to evaluate alternative ways of achieving LT2 compliance. The Hillview Reservoir is further discussed in Section 7.5.

Water from the Hillview Reservoir is conveyed by gravity to the city through three tunnels as indicated on **Figure 5-2**. City Tunnel No. 1 was constructed as part of the Catskill system, and City Tunnel No. 2 as part of the Delaware system. City Tunnel No. 3, which is partially in operation and partially under construction, first came into operation in 1996. All three tunnels are deep concrete lined tunnels which connect into the surface distribution network by a series of riser shafts.

Most of the water from the Croton WFP is pumped into the city tunnels, with some water conveyed by gravity to the lower supply areas. The water distribution system from the three city tunnels consists of a network of approximately 7,000 miles of water mains, as well as valves, fire hydrants, distribution facilities, gatehouses, pump stations, water quality monitoring stations, laboratories and maintenance and repair yards.

The average daily NYC water delivered for FY 2025 was 1,001 MGD[5], which provides for approximately 8.3 million residents of NYC, and transients consisting primarily of tourists and daily commuters. It should be noted that the current average daily water delivery in NYC is about 35% less than the average delivery

[5] Water delivery data provided by NYCDEP BWS


**Figure 5-2: New York City Water Conveyance Infrastructure**

levels experienced in the 1990s, due to long-term conservation trends. If the conservation measures currently in place remain effective, there will be no immediate need for NYC to develop additional long-term water sources to meet normal demand. The Water System also provides potable water (105 MGD[6]) to upstate consumers in parts of Westchester, Putnam, Ulster, and Orange Counties (population approximately one million people).

## 5.2 Wastewater System

The NYCDEP wastewater treatment system is comprised of 14 in-city WRRFs that discharge into receiving bodies surrounding NYC, as indicated in **Figure 5-3**. The in-city WRRFs are operated by BWT. In addition, seven upstate WRRFs and one community septic system, which are necessary to protect the NYC upstate watersheds, are operated by BWS. The Mahopac WRRF is in the process of being transferred from NYCDEP BWS to the Town of Carmel. The in-city WRRFs have an average design capacity of 1.8 BGD and are currently treating an average flow of 1.3 BGD of wastewater consisting of municipal sewage and stormwater from combined sewers.

The NYC sewage collection system is divided into 14 sewersheds, which correspond to each of the 14 WRRFs. The sewage collection system comprises approximately 152 miles of intercepting sewers and 7,500 miles of sewer pipes of varying size and material, which are classified as sanitary, storm or combined sewers. Much like many other older cities, the NYC collection system consists primarily of combined sewers (approximately 60% of NYC land area is served by combined sewers). During dry weather, the combined sewers carry municipal wastewater to the WRRFs. During a wet weather event, rainwater from surface water runoff is also collected in the combined sewers. Most of the flow is sent to the WRRFs while excessive combined sewer flow discharges to the receiving water as combined sewer overflow (CSO) during major wet weather events. Approximately 426 permitted CSO outfalls are located along the shoreline of NYC, along with four CSO retention facilities (Paerdegat, Alley Creek, Spring Creek, Flushing Bay) that provide screening, settling and storage of the CSO before discharging. The combined sewage remaining in the CSO facilities after the wet weather event is then directed to the WRRFs for treatment.

The in-city WRRFs provide secondary treatment in accordance with their State Pollutant Discharge Elimination System (SPDES) permits. Eight of the WRRFs are also required to provide nitrogen removal to meet Total Maximum Daily Load (TMDL) regulatory requirements that have been set to protect the Upper East River and Jamaica Bay receiving waters. Four of the Upper East River WRRFs and four of the Jamaica Bay WRRFs are currently operating in varying levels of Step Feed Biological Nitrogen Removal (BNR) mode. Step Feed BNR is a biological nutrient removal process designed to eliminate excessive nitrogen in the effluent discharge. The primary effluent is introduced at multiple points along the aeration tanks to optimize the biological removal process. The aeration rate in the individual aeration tank zones is varied to enhance nitrogen removal.

[6] Water delivery data provided by NYCDEP BWS


**Figure 5-3: New York City Wastewater Resource Recovery Facilities and Drainage Areas**

NYCDEP provides anaerobic digesters for sludge stabilization at all 14 WRRFs. The liquid biosolids produced during both secondary and BNR wastewater treatment processing are transported by five NYCDEP-owned, inner-harbor sludge vessels to centralized biosolids dewatering facilities. Dewatering facilities are currently located at six WRRFs, however, BWT is planning to consolidate dewatering operations for some facilities. NYCDEP sends a portion of biosolids to a facility operated by the New Jersey Passaic Valley Sewage Commission (PVSC) for processing. Dried biosolids and other treatment by-products are collected by third-party contractors who take responsibility for final disposal.

Additional NYCDEP infrastructure that supports the wastewater system includes 96 wastewater pump stations, two in-stream aeration facilities, 497 flow regulators, approximately 150,000 stormwater catch basins, and six laboratories. Wastewater samples are analyzed at laboratories to provide process control and reporting to meet SPDES requirements.

The wastewater treatment facilities are referred to as WRRFs, highlighting a focus on the opportunities to recover valuable resources from municipal wastewater. Recovered resources include reclaimed water which can be used to meet non-potable water demand, wastewater biosolids suitable for agricultural reuse, and methane gas which can be used as a green energy source. The wastewater industry has adopted this change from wastewater treatment to resource recovery, focusing on the products and benefits that can be extracted from wastewater beyond simply removing pollutants from the effluent flow.

# 6.0 CLIMATE CHANGE

## 6.1 NYC Sustainability Plan - PlanNYC

NYCDEP continues to further implement sustainability in planning, design, and construction of new facilities and in everyday operations of current facilities. Many sustainability-focused local laws have been passed in NYC over the past several years that impact all aspects of NYCDEP operations. Aggressive goals have been set for energy and carbon neutrality that impact many city agencies. NYCDEP continues to evaluate current and future facility operations and long-term planning.


**Figure 6-1: PlaNYC Sustainability Report, April 2023**

NYCDEP was a major contributor in the preparation of *PlaNYC, Getting Sustainability Done* (Figure 6-1), which was released by NYC in April 2023. New York City's long-term strategic climate plan highlights efforts the City is taking to protect New Yorkers from climate impacts. *PlaNYC, Getting Sustainability Done* is the 5th in a series of climate action plans released by NYC, starting in 2007. The Plan involves a multi-agency citywide approach to implementation of sustainability measures. PlaNYC addresses sustainability, resilience, the circular economy, energy and climate change impacts in NYC. The main objectives of the Plan include: protecting NYC from climate threats, improving quality of life, and building the green economy. The waste and circular economy refers to the collection of organic materials and turning them into energy and reusable assets, on a citywide basis. NYC will release the next PlaNYC Sustainability Report in April 2027.

## 6.2 Greenhouse Gas Reduction and Energy Planning

In 2019, the New York City Council passed eight sustainability-focused local laws entitled the "Climate Mobilization Act". Local Law 97 requires a 40% reduction in city government GHG emissions by 2025 from the 2006 baseline, and a 50% reduction by 2030. Although the GHG and energy reduction targets are citywide, NYCDEP plays a major role since NYCDEP's energy-intensive operations makes them the second largest municipal emitter of GHG and the third largest municipal energy consumer. Local Law 94 requires installation of green roofs or solar photovoltaic electricity generating systems on certain buildings. NYCDEP projects are evaluating these local law requirements.

NYCDEP continues to pursue achieving the reduction goals with the following three strategies: (1) eliminating fugitive digester gas emissions and maximizing production and beneficial reuse of digester gas, (2) expanding renewable energy options, and (3) continuing to find beneficial reuse for NYCDEP biosolids to avoid landfill emissions. All (14) WRRFs have been evaluated for fugitive emissions and job order contracts (JOCs) are being used to address fugitive emissions based upon the results of the

findings. The ECN Plan is under final development summarizing the evaluation of carbon management and net energy neutrality of the NYCDEP operations. The results of the ECN Plan will form NYCDEP's strategic plan to achieve energy neutral operations.

NYCDEP's innovative renewable biogas-to-grid project at NYCDEP's Newtown Creek WRRF became operational in June 2023. Under the NYCDEP and National Grid partnership, NYCDEP sends anaerobic digester gas (ADG) to a digester gas conditioning system that is owned and operated by National Grid. The product is purified ADG which is considered as renewable natural gas that can then be added to National Grid's natural gas distribution network. This project improves local air quality, reduces citywide greenhouse gas emissions, reduces fossil fuel consumption, and supplements the citywide natural gas supply. The Newtown Creek WRRF has been accepting food waste from NYC public schools, NYC residents, the green markets, and commercial establishments for several years, in partnership with Waste Management, Inc. (WMI). The pre-processed food waste delivered by WMI is added to the digesters to increase the production of ADG. NYCDEP is currently co-digesting approximately 150-200 tons per day (tpd) of NYC food waste with biosolids generated from WRRF operations. Food waste co-digestion and biogas-to-grid projects are being planned at the Hunts Point WRRF as part of an upgrade to their anaerobic digesters.

NYCDEP achieved the 40% reduction in GHG emissions by 2023, two years earlier than the 2025 milestone. However, in 2025 Croton WFP was operating at full capacity due to the Delaware Aqueduct temporary shutdown, which lead to an increase in GHG emissions. NYCDEP anticipates achieving the 50% GHG emissions reduction by 2030 due to operation of the Champlain Hudson Power Expressway which will deliver a supply of clean electricity, and other energy projects coming on-line at the WRRFs.

With new systems and facilities coming online, OERR assists in the planning of reliable sources of power, both from conventional and renewable sources. NYCDEP is incorporating energy efficiency with State-of-Good-Repair (SOGR) projects and energy conservation measures (ECMs). NYCDEP continues to look for synergies to coordinate SOGR upgrades with GHG reduction opportunities. For example, the energy-intensive centrifuges at the Newtown Creek WRRF will be replaced with gravity belt thickeners.

OERR continues to coordinate with DCAS for additional sources of funding or co-funding with NYCDEP for energy projects. Other energy projects that NYCDEP has implemented are cogeneration facilities and solar panels at NYCDEP facilities. A combined heat and power cogeneration facility at the North River WRRF is currently undergoing commissioning. The cogeneration system can run on both digester gas from the plant and natural gas. The new cogeneration facility replaces old equipment that relies on traditional fuel oil; therefore, fuel oil will no longer be required at the North River WRRF. Solar panels (1.2-megawatt [MW] system) were installed at the Port Richmond WRRF in Staten Island in 2015. DCAS and NYPA have formed Power Purchase Agreements for solar installations at six NYCDEP facilities, including the Wards Island WRRF, Spring Creek CSO Facility, the Cat/Del UV Facility, Kingston office, and two upstate WRRFs (Pine Hill and Margaretville). Solar canopies will be installed over wastewater processing tanks. Once completed, the solar project at Wards Island WRRF will be the largest clean energy installation at a wastewater treatment plant in the world.

Design is ongoing for a 6-MW hydroelectric facility that will use water that is continuously released downstream of the Cannonsville Reservoir. The hydroelectric plant consists of two 3-MW generators inside a 4,400 square-foot powerhouse, adjacent to the West Delaware Release Chamber. The NYCDEP Current Capital Plan includes $8 million in funding to support the installation of the Cannonsville Hydroelectric Facility, with additional funding provided by DCAS. NYCDEP's main priorities continue to be dam safety, maintaining operational control over the dams and the ability to meet flow management agreements. A feasibility study has also been completed for hydroelectric potential at Shaft 4 and the Croton Lake Gatehouse.

NYCDEP OERR has collaborated with the New York State Climate Leadership and Community Protection Act Waste Advisory Panel, which allows NYCDEP to provide knowledge sharing and advocacy work on the state level. Since 2022, NYCDEP OERR has also been involved in peer networking to address and prepare for climate change with several utilities across the country as part of the U.S. Water Alliance Net Zero Plus Initiative.

## 6.3 Climate Change Adaptation

### Introduction

NYCDEP has been actively focused on the effects of climate change on The System, in particular the impact of rising sea levels and changes to the intensity and frequency of precipitation events throughout the upstate watershed and in-city. NYCDEP has been planning and evaluating climate change adaptation requirements. Adaptation refers to those actions that must be taken to allow NYCDEP facilities to meet their intended functions when considering projected sea level rise and more intense storm events.

The New York City Panel on Climate Change (NPCC) is an independent body that advises the city on climate risks and resiliency. In February 2015, the NPCC 2015 report titled *Building the Knowledge Base for Climate Resiliency* was released, which provides climate projections for temperature, precipitation and sea level rise through year 2100. The NPCC recommends setting up a climate change monitoring system, so that resiliency measures can be adapted as changes continue to evolve. The NPCC has identified that NYC has been experiencing climate change impacts and expects those impacts to become more acute in the future. Some climate change impacts include extreme weather, coastal flooding and droughts that could impact the operation of the water and wastewater system.

In May 2010, the NYC Panel on Climate Change released a report titled *Climate Change Adaptation in New York City: Building a Risk Management Response*, which among other important information, included climate trends and projections for NYC, which NYCDEP has used for analysis and planning. In September 2020, the Mayor's Office of Climate Resiliency (MOCR) released *Climate Resiliency Design Guidelines* version 4.0. The Guidelines were developed based on the NPCC's regional climate projections that inform New York City resiliency policy. MOCEJ released Climate Resiliency Design Guidelines Ver 4.1 in May 2022.

## Stormwater

NYCDEP's Green Infrastructure Program provides a comprehensive adaptive approach to stormwater management. The plan is based on implementing citywide green infrastructure improvements to reduce the volume of stormwater that reaches the engineered (grey infrastructure) stormwater collection system. NYCDEP continues to focus on climate change as it evaluates its stormwater management needs.

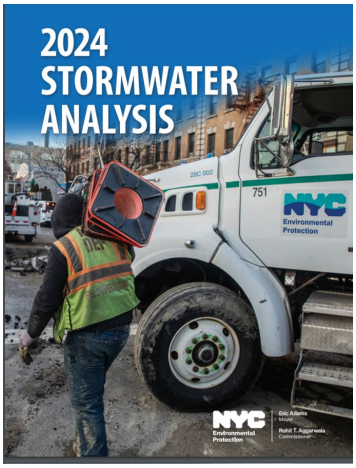



**Figure 6-2: 2024 Stormwater Analysis Report**

Climate change is causing more intense storms, more storm variability, and more intense precipitation events. In July 2022, NYC released *Rainfall Ready NYC* Action Plan to address short-term measures to prepare the city for more extreme rainfall in the future. In September 2022, NYCDEP, along with other city agencies released a report entitled *Increasing Stormwater Resilience in the Face of Climate Change: Our Long Term Vision*, which focuses on two strategies to address stormwater resilience in light of more intense storms caused by climate change: (1) implementing programs to expand sewer capacity and improve the performance sewers, and (2) advancing the installation of a citywide network of blue and green infrastructure to catch stormwater before it reaches the sewer system. NYCDEP provided a stormwater management update in May 2024 with the release of the *2024 Stormwater Analysis Report* **(Figure 6-2)**. This report provides an update to the stormwater analysis which includes planning progress, case studies, cost estimates, shared responsibility, project implementation, and next steps. NYCDEP has recently completed a citywide sewer hydraulic model, ATLAS, that includes all 7,500 miles of sewers in New York City. NYCDEP identified 80+ Priority Areas and developed a rough cost estimate of $30 billion to address flooding in the 80+ Priority Areas. Several of the projects identified in the 2024 Report are in active design, and implementation phase, including project locations in Gowanus 3rd Ave, Dyker Heights, Knickerbocker Ave, 86th Street in Brooklyn and Colgate Ave in the Bronx. NYCDEP plans to develop a comprehensive Stormwater Master Plan to identify additional stormwater projects that will require several years of planning, engineering design work, and implementation.

FloodNet is a collaboration with communities, researchers, and NYC government agencies working to better understand the frequency, severity, and impacts of flooding in New York City. MOCEJ, coordinating with NYCDEP, launched FloodNet, a new network of flood sensors that will provide real-time information about where streets are flooded. In 2025, flow monitors have been installed at over 250 sites for real time data collection throughout NYC.

## Wastewater

After Superstorm Sandy significantly impacted the New York City area in October 2012, NYCDEP strengthened its work on climate change adaptation and resiliency. In December 2012, the Mayor's Office formed the Special Initiative for Rebuilding and Resiliency (SIRR). In June 2013, NYC released a comprehensive document entitled *A Stronger, More Resilient New York,* which covered citywide

infrastructure impacts and community rebuilding and resiliency plans. Subsequently, NYCDEP released the *NYC Wastewater Resiliency Plan, Climate Risk Assessment and Adaptation Study* in October 2013. This Plan provided a comprehensive assessment of wastewater infrastructure at risk from future storms with proposed measures to protect equipment to reduce the risk of damage and loss of service. The study evaluated infrastructure at the NYCDEP WRRFs and wastewater pump stations to identify and prioritize facilities most at risk for flood damage. The framework used for this study consisted of climate analysis, risk analysis and adaptation analysis. The possible adaptation strategies ranged in varying degrees of resiliency, effectiveness, and cost. NYCDEP completed a series of assessments and conceptual engineering reports to update FEMA's Hazard Mitigation Program (HMP) to determine funding for flood proof resiliency measures at four WRRFs and several pump stations. NYCDEP is currently waiting for a response from FEMA regarding the HMP funding.

### Watershed/ Water Supply

Climate change adaptation evaluations are also taking place for other parts of The System. BWS is focused on climate change impacts on the water supply side using its Operation Support Tool (OST) models with advanced forecasting tools, the watershed protection program, and improving flexibility in operations with increased water supply interconnections. The OST is a computerized decision-making support system that BWS uses for water supply operations and planning. BWS is also conducting extensive research on the impact that climate change will have on the current and future water supply system. The Delaware River Basin Commission (DRBC) is conducting a study on the impacts of salinity, sea level rise, and the migration of the saltwater front in the Lower Delaware River. The salinity modeling is progressing. In May 2023, the Decree parties (New York City, State of Delaware, State of New Jersey, State of New York, and Commonwealth of Pennsylvania) signed an amendment to the 2017 Flexible Flow Management Program (FFMP), extending the agreement to 2028 and continuing the progress on the salt front studies.

The USACE, in partnership with the NYCDEP and the DRBC is performing a feasibility re-evaluation study for use of the Francis E. Walter Dam and Reservoir in White Haven, PA to help the Delaware River deal with future droughts, sea level rise, and saltwater intrusion because of climate change. Among other issues being evaluated, this study will examine reservoir management options that could release additional water under drought conditions to help reduce salinity downstream. NYCDEP continues to stay engaged in the saltwater intrusion issue in the Delaware watershed and its impact on water storage needs.

### Coastal Resiliency

Considering NYC has 520 miles of shorelines, resiliency improvements are ongoing to protect facilities from sea level rise and increasing storm intensities due to changing weather patterns. Large inter-agency and multi-faceted coastal resiliency projects are underway throughout NYC. BCR is the liaison with all current citywide coastal resilience projects, including the Lower Manhattan Coastal Resiliency (LMCR), Eastside Coastal Resiliency (ESCR) projects, Brooklyn Bridge – Montgomery Coastal Resilience (BMCR), Red Hook Coastal Resilience (RHCR), USACOE Staten Island Seawall (SISEAWL) project, and others. Along with many other NYC agencies, NYCDEP will play a role in these coastal

resiliency projects. BCR coordinates with BWT, BWSO, Sustainability, and BEDC on coastal resiliency efforts. Additional funding will be required as these coastal resiliency programs progress and for additional resiliency projects throughout the city. Although the funding for the majority of NYC coastal resiliency will not be derived from utility water and wastewater rates, it is important that coastal resiliency projects are in place to protect many NYC assets, including NYCDEP critical assets. The BCR intends to develop a comprehensive NYC Coastal Resilience Plan that will identify future needs.

The BCR is the lead responsible for the future operations and maintenance of these coastal resilience projects once construction is completed. Additional staff will be required for the future operations of these large citywide resiliency projects. The first phase of ESCR has recently been turned over to NYCDEP, which includes 12 gates and a one mile flood wall. As of now BWSO staff operate the coastal resiliency projects that have been handed over to NYC. The majority of the BCR will be city tax levy funded, with some utility funded positions. Currently, BWSO staff share their time between tax levy funded BCR operations and utility funded operations. As the new coastal resiliency infrastructure is turned over to NYCDEP, additional operational staff will be required for BCR operations of the new facilities.

### Ongoing Efforts

NYCDEP maintains strong involvement with the climate change science community on the city, state, national and international level. On the national level, NYCDEP maintains utility membership and actively engages with the Water Utility Climate Alliance (WUCA), the National Association of Clean Water Agencies (NACWA), and the US Water Alliance. NYCDEP was one of the founding members of WUCA and today there are 12 water utility members across the US that share the mission of sharing knowledge and advancing resilient water practices. WUCA released a report entitled *Leading Practices in Climate Adaptation* that focuses on five leading practices - engage, understand, plan, implement, and sustain. Several NYCDEP projects are highlighted in this report as examples of successful climate change adaptation implementation measures.

The US Water Alliance released a report entitled, *Integrating GHG Reductions in Capital Planning*. NYCDEP was highlighted as the utility spotlight entitled, *Capital Planning is Climate Planning at NYCDEP*.

Climate change adaptation is a challenge facing all water and wastewater utilities and should be considered in short-term and long-term utility planning. There is uncertainty inherent in climate science due to the magnitude, variability, timing and frequency of localized events and their impacts on the overall System. However, despite the uncertainty of climate change prediction, rational capital investments must be considered to protect NYCDEP facilities. NYCDEP is evaluating climate change impacts for all new project elements and implementing climate resiliency measures. Some resiliency measures are stand-alone projects, and some are built into existing projects. NYCDEP anticipates that additional resilience projects will be identified, and additional funding will be required.

## 6.4 Climate Budgeting

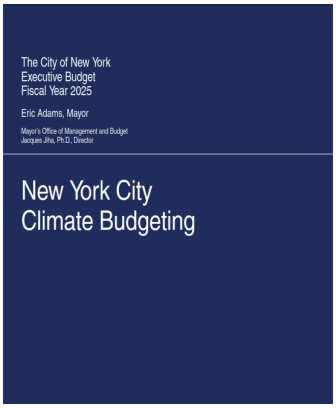



**Figure 6-3: NYC Climate Budgeting Report**

The first NYC Climate Budgeting Report **(**Figure 6-3) was released by Office of Management and Budget (OMB) as part of the Executive Budget on April 24, 2024, for all city agency projects. Climate Budgeting is a structured process that considers climate impacts in all future investments in NYC. The updated Climate Budget was released in 2025 with the Executive Budget.

# 7.0 CAPITAL IMPROVEMENT PROGRAM (CIP)

## 7.1 Budget Overview

Budgeting is a lengthy and comprehensive process, especially for an agency operating such a large and complex system as the NYCDEP. NYCDEP budgeting is an ongoing, iterative process that considers significant and substantial needs including regulatory requirements; legal mandates; state-of-good-repair (SOGR); mayoral initiatives; energy projects; capacity enhancements; dependability; environmental, health, and safety (EH&S) compliance requirements; localized community drivers; security measures; increased storm intensity; and additional climate change adaptation/resiliency improvements. These many needs must be met within the funding limitations. NYCDEP seeks opportunities for synergies with project implementation such as addressing SOGR needs along with energy and resource recovery and flood resiliency requirements. Project schedules, cost estimate updates, procurement, market conditions, technical issues, regulatory updates, emergency events, recurring events, and legal issues may impact project prioritization and the overall budgeting process. NYCDEP is continuously evaluating projects to prioritize NYCDEP's most critical needs first. This challenging budget exercise requires NYCDEP to evaluate project elements and scheduling to efficiently address the most immediate needs. As the projects are fully developed, scheduling modifications are necessary within the 10-Year Capital Strategy. As such, the 10-Year Capital Strategy is constantly being adjusted and published every two years.

The NYCDEP CIP consists of the Preliminary Ten-Year Capital Strategy for FY 2026 through FY 2035 and the Current Capital Plan for FY 2026 through FY 2030. The Current Capital Plan was published on February 17, 2026, and is updated quarterly. The Current Capital Plan supersedes the Ten-Year Capital Strategy in the overlapping fiscal years. The Preliminary Ten-Year Capital Strategy is updated every two years and was last published in January 2025. This report reviews the Current Capital Plan, including the capital budget for FY 2026, which ends on June 30, 2026, and the preliminary capital budget for FY 2027, which ends on June 30, 2027. Co-Consultants AECOM and MDE have reviewed the Preliminary Current Capital Plan and met with key individuals responsible for budgetary planning to provide an assessment of its adequacy. It is anticipated that the mayor will issue the Executive Budget in May 2026. Our findings are summarized in the following paragraphs.

### FY 2026 Capital Budget

The FY 2026 capital budget is set at $4.84 billion. Approximately 39.4% of the funding in FY 2026 supports regulatory mandated projects. Mandated funding in FY 2026 consists of green and grey infrastructure and mandated SOGR projects. NYCDEP priority projects such as the Southeast Queens storm sewer buildout program, water main distribution system and wastewater collection sewer work, and wastewater and water supply SOGR projects are also funded in FY 2026.

### FY 2027 Preliminary Capital Budget

The FY 2027 preliminary capital budget is set at $4.97 billion. Approximately 37.3% of the funding supports regulatory mandated projects such as the KEC tunnel contract which is a precursor project as required by the Hillview Cover Consent Judgement. Other mandate projects funded in FY 2027 include

grey and green infrastructure projects. Significant funding is also included in FY 2027 for NYCDEP priority projects such as wastewater and water supply SOGR projects, water mains distribution system and wastewater collection sewer work, City Tunnel #3 shaft work, and the Southeast Queens storm sewer buildout program.

### Capital Improvement Plan for FY 2026 to FY 2030

**Figure 7-1** shows the funding allocated per fiscal year in the Current Capital Plan for FY 2026 through FY 2030, which consists of $20.17 billion in capital commitment funding. Mandated and other NYCDEP priority project funding is shown per fiscal year. Approximately 35.4% of the total funding for FY 2026 through FY 2030 is dedicated to regulatory mandated projects. As shown in **Figure 7-1**, the funding for mandated projects varies from year to year, pending the schedules and capital costs of Consent Decree milestones and requirements. The significant majority of the mandated projects in FY 2026 through FY 2030 consist of the KEC tunnel, Newtown Creek CSO tunnel, Gowanus Superfund CSO tanks, and mandated SOGR projects. The remaining capital improvement program for FY 2026 through FY 2030 must be planned and budgeted based on its importance to the overall System and prioritization as determined by NYCDEP. These projects include extensive SOGR needs of the older assets in The System, BWSO water main and sewer replacement/installation, the Southeast Queens storm sewer buildout program, City Tunnel #3 shaft work, the Bluebelt program, and emergency contracts for emergency water and sewer work.

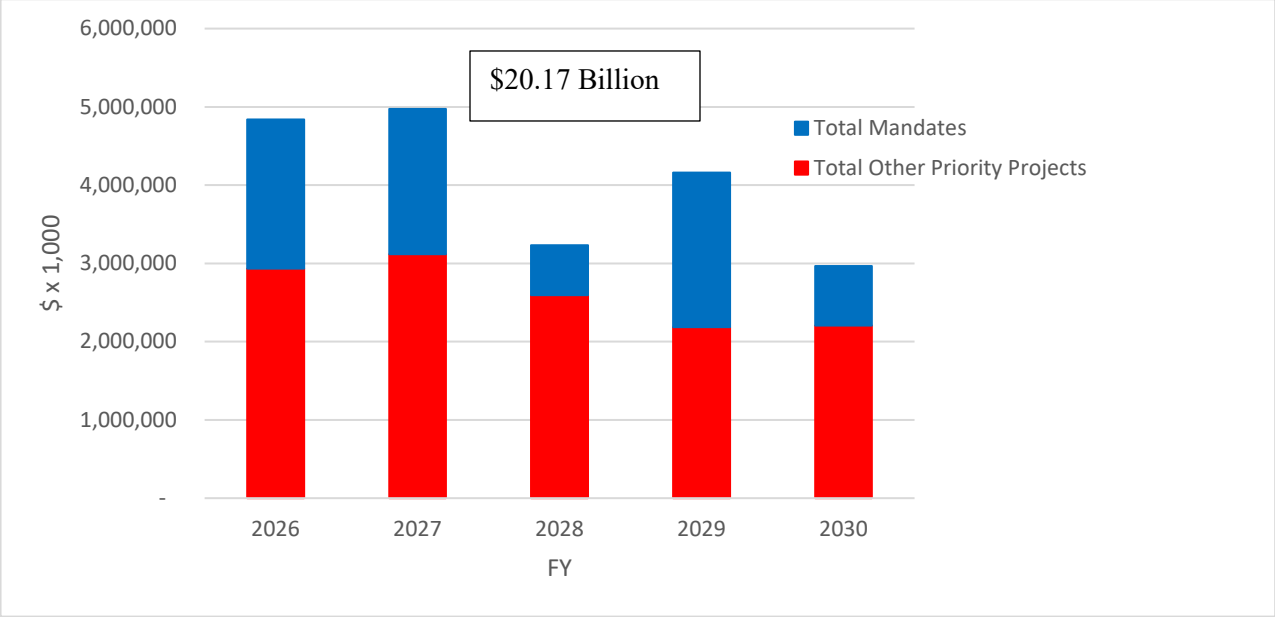



**Figure 7-1: Current Capital Plan ($ in billions) for FY 2026 – FY 2030**

**Figure 7-2** shows how the funding is allocated by each operating bureau for the Current Capital Plan for FY 2026 – FY 2030. BWT and BWSO have the largest funding in the Current Capital Plan. BWT's funding addresses SOGR needs for wastewater infrastructure (extensive work throughout the WRRFs and pump stations) and the CSO Program (the largest CSO projects being the Newtown Creek CSO tunnel and the Gowanus tanks). BWSO's funding supports water and sewer main replacement

throughout the city, the Southeast Queens Stormwater Program, Bluebelts, emergency water and sewer contracts, City Tunnel #3 completion, and other BWSO SOGR projects. BWS's funding addresses the mandated KEC tunnel and Hillview Reservoir modifications, SOGR needs for water supply infrastructure (including the Ashokan Century Program), FAD requirements, and other BWS projects. The OGI and BEPA's funding covers the green infrastructure program, Cloudburst projects and other BEPA projects. The remaining funding includes projects within BEDC, Bureau of Customer Services (BCS), Police and Security, Facilities Management, Fleet, Office of Information Technology, Department of Parks and Recreation and other bureaus.

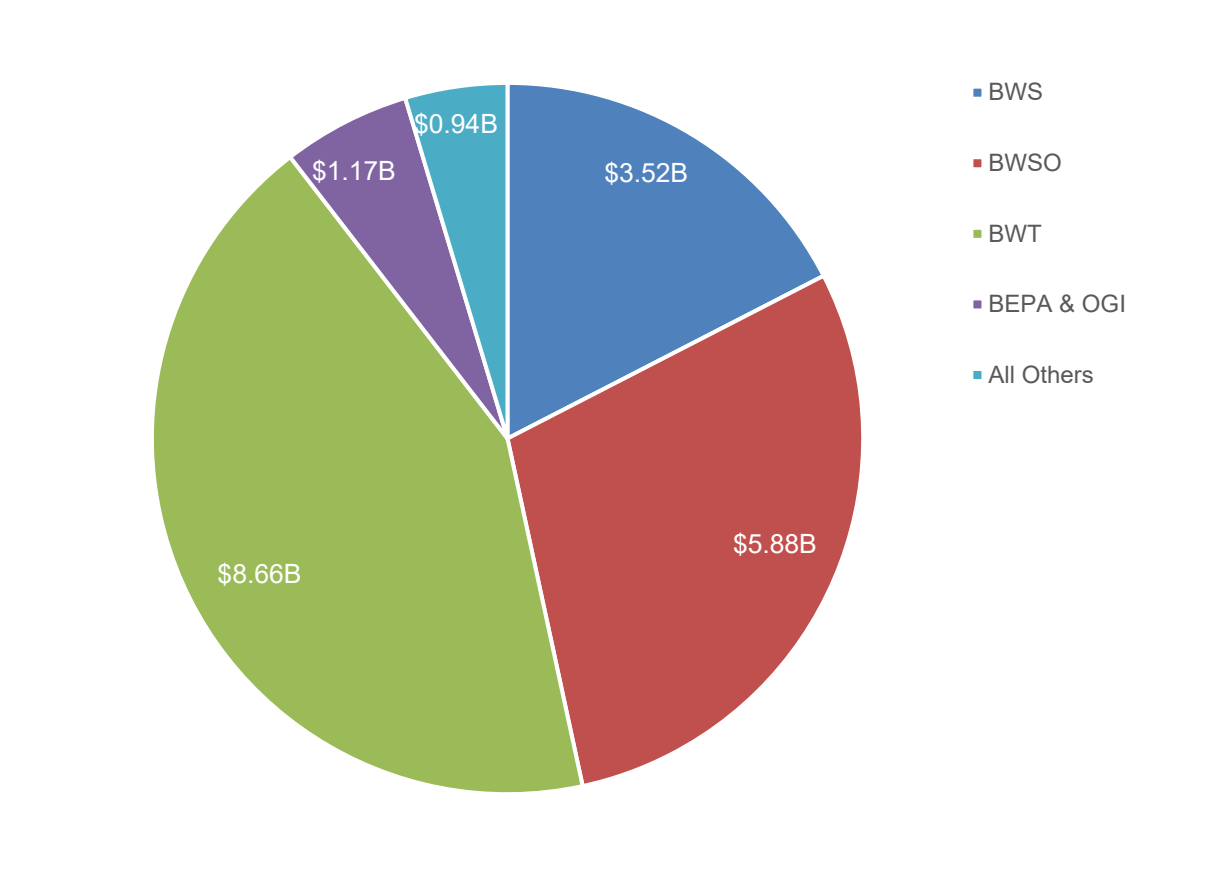



**Figure 7-2: Current Capital Plan by NYCDEP Operating Bureaus**

NYCDEP is continuously finding a balance between funding mandates and funding SOGR needs. There will be a continuous need to fund regulatory mandated projects. There will also be an increased and continuous need for extensive SOGR funding due to the age of the NYCDEP infrastructure and the enhanced ability to identify needs using Asset Management tools. Based upon the age of the infrastructure, there is a significant need to replace wastewater and water system assets in accordance with a proactive, systematic, data-driven plan that minimizes reactive replacements brought about by asset failures and emergencies. In addition, there will be a need for additional funding for resiliency projects to address climate change and increased storms. BWT is undergoing a SOGR stabilization study at two WRRFs (Port Richmond and Wards Island). The results of the study will be extrapolated to

the remaining twelve WRRFs to determine the current and baseline SOGR funding needs. It is anticipated that the results of this analysis will form the basis of the next 10-Year Capital Plan for BWT SOGR funding.

## 7.2 Capital Process Reform Task Force

NYCDEP continues to improve NYCDEP capital project delivery processes with the goal of reducing time and cost for capital delivery. NYCDEP has implemented improvements, with the focus on reducing procurement time and addressing contract change management. Improvements have been implemented in business processes, forecasting, reporting and management to create efficiency, accuracy, transparency and accountability. NYCDEP plans to implement control and continuous improvements, such as continuing to identify additional root causes and areas for improvement and automate manual tracking and reporting processes.

## 7.3 Recent Program Accomplishments

There are a number of program accomplishments during the past year that are noteworthy. These projects play an essential role in the development and advancement of the CIP and provide for prudent and professional management of The System.

- Hunts Point WRRF digesters are at 90% construction completion
- Newtown Creek CSO tunnel Construction Management contract has been awarded
- Substantial completion of North River WRRF Cogeneration Facility

## 7.4 Asset Management

In 2023, NYCDEP BWT established a Digital Transformation Directorate that will help deliver and achieve the goals of asset management, SCADA, and several other data management systems. As required by the 2022 SPDES permits, NYCDEP submitted an Asset Management Program (AMP) Update Workplan to NYSDEC. The submittal described BWT's existing AMP and the plans for future updates and expansion, including the strategies that will be used to determine the current state of assets, level of service, risk management, lifecycle planning, managing, funding, monitoring and reporting. NYCDEP is also required to submit an AMP Annual Report to NYSDEC by September 30$^{th}$ each year. BWT plans to expand the AMP to all 14 WRRFs with the support of a Consultant and NYPA for asset data collection at several facilities. The continued building and implementation of the NYCDEP AMP is a significant multi-year task due to the significant number of assets. BWT is committed to developing a more comprehensive, programmatic and strategic AMP that incorporates information associated with asset maintenance and/or renewal projects into a seamless enterprise system to increase data driven decision making.

The continued integration of the AMP with the CIP is evolving and it is anticipated that NYCDEP will improve their ability to prioritize and integrate SOGR projects into the CIP planning process. Due to the age and magnitude of the NYCDEP infrastructure, there are significant SOGR needs throughout the water and wastewater system.

## 7.5 Capital Improvement Program Highlights for the Water System (Supply, Treatment, and Conveyance Programs)

Several NYCDEP projects and programs for the water system are in various stages of implementation (planning, design, and construction). The most significant of these programs are described below.

### Delaware Aqueduct Rondout-West Branch Tunnel (RWBT)

After extensive evaluations and study of several repair alternatives, NYCDEP developed a long-term comprehensive plan to address the leaks in the Delaware Aqueduct RWBT. The Delaware Aqueduct RWBT bypass tunnel is the largest repair project in the history of the NYC's water supply system. Implementation of the plan consists of building a two-and-a-half-mile bypass tunnel under the Hudson River between the Town of Newburgh in Orange County (west connection site) to the Town of Wappinger, in Dutchess County (east connection site), which has been completed. This new tunnel will address the leaking section of the Delaware Aqueduct in the area of Roseton, NY, and NYCDEP will perform repairs of the concrete liner in upstream areas near Wawarsing, in Ulster County, NY when the Delaware Aqueduct is off-line. (**Figure 7-3**).

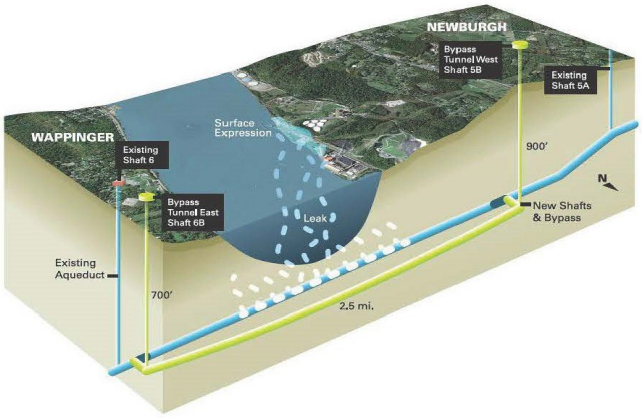



**Figure 7-3: Delaware Aqueduct RWBT Program**

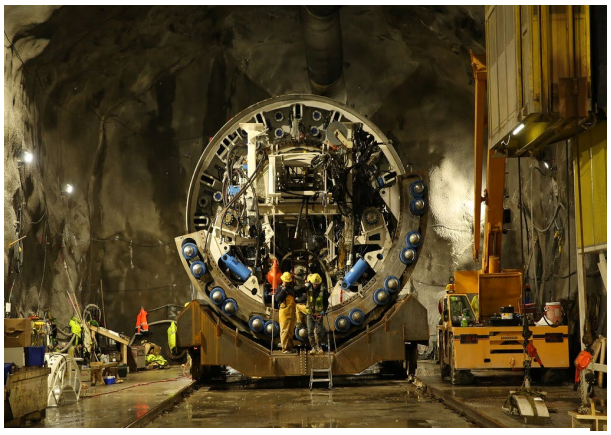


**Figure 7-4: Delaware Aqueduct Bypass Tunnel Boring Machine**

A tunnel boring machine (TBM) was utilized for the construction of the new tunnel between the two shafts, and the tunneling was completed in August 2019. The bypass tunnel steel-liner installation was completed in May 2020. A second layer of concrete lining was added inside the steel liner with the final concrete liner completed in February 2021. The triple pass design (concrete, steel, concrete) of the bypass tunnel is intended to provide structural stability and prevent future leaks (**Figure 7-4**).

The new bypass tunnel will be connected to the Delaware Aqueduct by short drill and blast tunnels. This will require the Delaware Aqueduct to be taken out-of-service and unwatered. NYCDEP has made schedule adjustments to the shutdown to provide additional time for the procurement of additional pumps, and related drainage infrastructure to be installed to provide worker safety during the shutdown

while the new tunnel is to remain dry during the connection. In addition, NYCDEP performed another pumping test in October/November 2023 to confirm the amount of inflow and that the available pumping capacity is sufficient to address inflows during shutdown. As expected, this resulted in some settlement of terrain in the Roseton area and reduced capacity in some of the water supply wells in the area.

After thorough planning and modeling forecasts, NYCDEP shut down the Delaware Aqueduct on October 1, 2024, to unwater and begin the connection of the new tunnel to the existing tunnel. Due to the dry conditions in October and November 2024, NYCDEP suspended the shutdown and brought the Delaware Aqueduct back into service to provide water supply from the Delaware watershed reservoirs.

Since then, NYCDEP has performed additional evaluations on the dewatering pumping system and future flow forecasting. NYCDEP formed a third-party Technical Review Committee and that group is finalizing an evaluation and recommendations for pumping needs during a future Delaware Aqueduct shutdown. In addition, NYCDEP continues to perform additional forecast modeling with Scripps Institution of Oceanography. NYCDEP is procuring a Negotiated Acquisition with the designer to implement pumping design changes. Due to the terms of the original contract and the suspension of the Delaware Aqueduct shutdown three times, NYCDEP is planning to procure a new contract (BT-3) to complete the connections of the new tunnel with the existing tunnel. The anticipated date of the next Delaware Aqueduct shutdown is Fall 2031.

NYCDEP continues to complete risk management mitigation and evaluations of mitigating impacts in the area. NYCDEP continues community outreach with project updates within the upstate communities. A strong organizational structure has been in place within BEDC and across all operating bureaus and executive management to diligently continue with the construction, implementation and risk management of this program due to its magnitude and complexity.

### Hillview Reservoir

The Long Term 2 Enhanced Surface Water Treatment Rule (LT2), a federal regulation administered by USEPA, requires the Hillview Reservoir (**Figure 7-5)** to be covered. However, a series of compliance agreements with several commitments to cover the Hillview Reservoir between NYCDEP and the regulators dating back to 1996 predate the LT2 requirement.

**Figure 7-5: Hillview Reservoir Located in Yonkers**

In 2017, the USEPA declined to reconsider the requirement to cover finished water reservoirs such as Hillview. NYCDEP requested that NYSDOH and USEPA further extend the deadline to complete construction of the cover to enable NYCDEP to complete two higher priority water supply infrastructure capital improvements: construction of the Kensico Eastview Connection (KEC) tunnel and Hillview Reservoir Improvements. NYSDOH and USEPA agreed to extend the schedule for commencing operation with the West Basin cover to 2049. A federal Consent Decree, known as the Hillview Consent Decree, was

approved by the federal court in May 2019. The Hillview Consent Decree provides new deadlines for covering the reservoir, along with design and construction milestones for the precursor projects (KEC tunnel, the Hillview Reservoir Improvements), and stipulated penalties to enforce such milestones.

NYCDEP has completed a facility planning study to evaluate a wide range of options for the development of covered storage. The selected option is to construct two concrete tanks at Hillview rather than covering the existing reservoir. The cost for the alternative is currently $5.4 billion, which is less than the estimated $6.4 billion estimated concrete cover. NYCDEP notified the regulators of their selected option for Hillview Reservoir to achieve LT2 compliance. The regulators have approved the selected alternative in accordance with the Hillview Consent Decree. Currently, $50 million is included in FY 2026 for design funding of the two concrete tanks to address the requirement to achieve LT2 compliance. However, additional design funding will be necessary to complete design. Significant construction funding will be required beyond the ten-year budget planning period.

The Hillview Reservoir Improvements project includes significant SOGR work including two new buildings to consolidate and improve chemical storage and provide flow-paced chemical feed systems (Chemical Addition Facility North and South), interim structures for chemical systems, modification of chambers, site electrical upgrades, new operations control center, new site-wide SCADA system, new North entrance to the site and security equipment, and other upgrades. This contract was awarded and NTP was issued in FY 2025. Funding of $301.1 million is in the Current Capital Plan for an additional contract.

### Kensico Eastview Connection (KEC) Tunnel Project

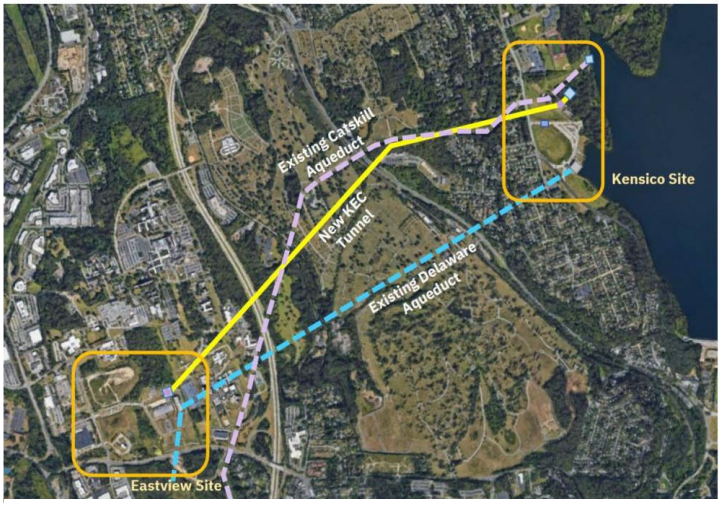



**Figure 7-6: Kensico Eastview Connection**

NYCDEP has determined that the KEC tunnel is essential to improve redundancy and increase operational flexibility by having a second means to convey water from the Kensico Reservoir to the Cat/Del UV Facility. The Catskill Aqueduct has not been able to convey water between Kensico and the UV Facility due to hydraulic limitations. As a result, the Delaware Aqueduct has been the only means to convey water from Kensico to the UV plant. The KEC tunnel project (**Figure 7-6**) will add another connection between these two vital components of the water supply, making a significant improvement to system reliability and operational flexibility. This is a high priority project for NYCDEP. The KEC tunnel project has been determined to be a precursor project under the Hillview Cover Consent Order, and the KEC tunnel is now considered to be a mandated project.

The KEC tunnel project will consist of many components, the chief being the tunnel itself, but also including upgrading of the existing Catskill Intake Chamber on Kensico Reservoir, construction of a new Screen Chamber at Kensico and a new Connection Chamber at the Eastview site. The tunnel will be excavated by TBM and will be about 2 miles in length extending from a new downtake shaft at Kensico to a new uptake shaft at the Eastview site adjacent to the UV Facility. The finished tunnel will be approximately 27 feet in diameter and 400 to 500 feet below ground. The tunnel will be designed for a peak capacity of about 2,600 MGD to provide redundancy to the water supply system.

The existing intake chamber on Kensico Reservoir will be upgraded and its capacity increased from 800 MGD to 2,600 MGD. The upgraded intake chamber will connect into a new Screen Chamber at Kensico via an existing tunnel, enlarged to handle the increased flow and provided with a short tunnel to connect into the downtake shaft of the KEC tunnel. The new Connection Chamber at Eastview will be constructed directly above the new uptake shaft and will connect into the existing UV facility via a system of 12-foot diameter steel pipes.

The KEC project was split into several construction contracts, of which four contracts have already been bid including the tunnel contract. Funding of $1.01 billion is included in the Current Capital Plan for FY 2027 for the last construction contract, the tunnel screening chamber contract.

### Catskill/Delaware Water Supply System Filtration Avoidance

On December 28, 2017, the NYSDOH issued another 10-year FAD, known as the 2017 FAD, to the NYCDEP for the Catskill and Delaware watersheds (**Figure 7-7**). NYCDEP received its first FAD in 1993 by the USEPA. Jurisdiction of the FAD was turned over to NYSDOH in 2007/2008. The current 2017 FAD consists of a watershed protection program for 2017-2027 and required a mid-point five-year review, which was finalized and released by NYSDOH in December 2022.

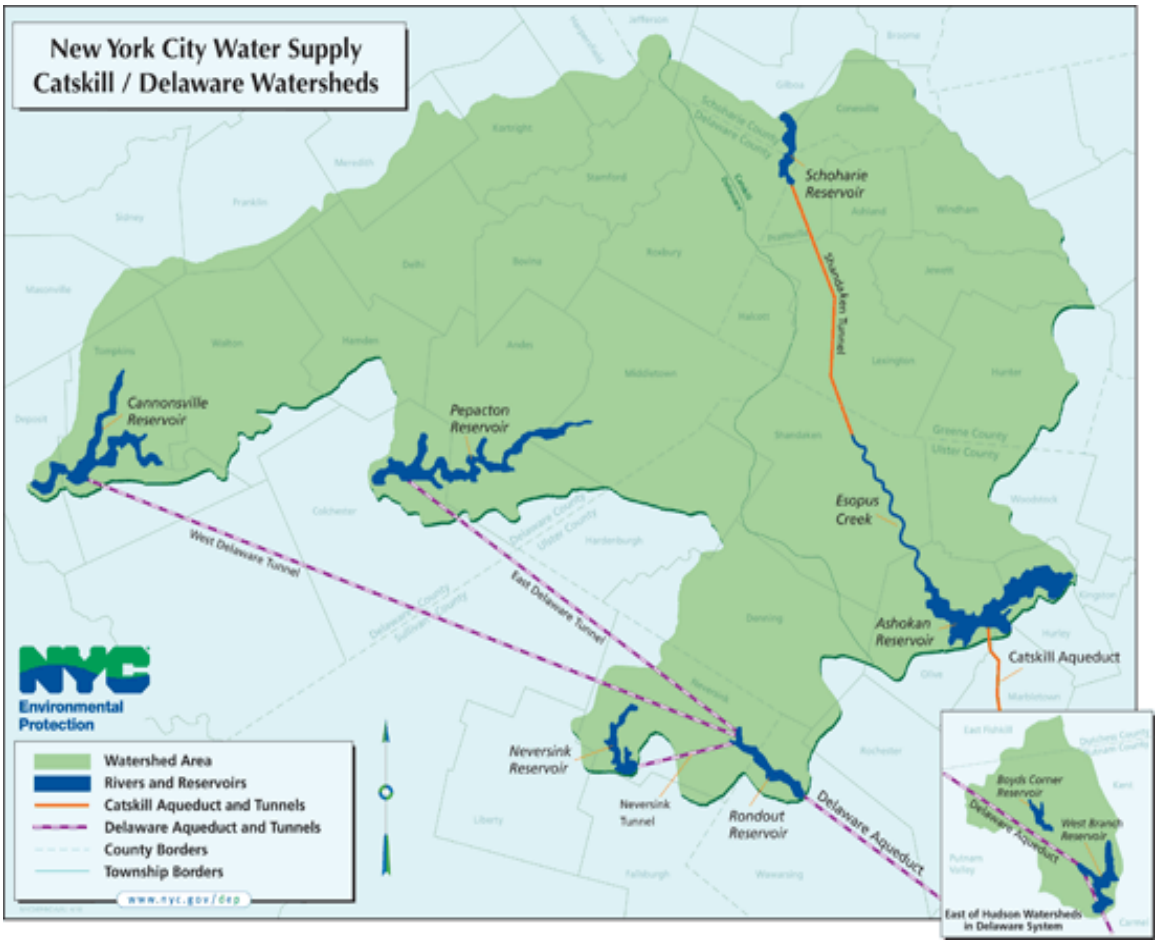



**Figure 7-7: Filtration Avoidance Determination (FAD) for the Delaware and Catskill Watersheds**

The 2022 five-year mid-term review of the 2017-2027 FAD was based in part upon the results of an expert panel review of the program. The National Academies of Sciences, Engineering, and Medicine expert panel completed a review of the current NYCDEP FAD programs and published a report titled *Review of the New York City Watershed Protection Program.* The panel performed a comprehensive review and evaluation of the NYCDEP's Watershed Protection Program to determine if the programs are adequate to comply with the Surface Water Treatment Rule now and into the future. The report was released August 10, 2020, and provided a number of conclusions and recommendations for specific programs of the FAD, including the land acquisition program, watershed agricultural program, stream management program, wastewater programs, ecosystem protection and management programs, and public health programs, along with monitoring, assessment and modeling. NYCDEP has thoroughly reviewed and addressed the expert panel review recommendations, including revising the land acquisition program and continuing to focus on climate change impacts to the water supply. Based upon the expert panel review, a significant revision to the revised FAD is the 43% reduction in the seven-year goal for solicitation for the watershed land acquisition program. Other revisions to the FAD include a new economic vitality study of the watershed communities, an evaluation of areas in the Kensico

Reservoir basin for potential future sewer connection, an expansion of the Stream Management Program in the Ashokan Reservoir basin, and an expansion of a collaboration between the Conservation Reserve Enhancement Program and the Catskill Streams Buffer Initiative.

NYCDEP is planning the 2027 FAD. At the end of March 2026, NYCDEP will submit a five-year summary and assessment of the current FAD, which should form the basis of discussions and negotiations for the subsequent FAD. It is anticipated that the successor FAD will address challenges such as climate change impacts to the watersheds. NYCDEP formed a panel of national scientific experts to review and identify risks to the FAD programs. The panel has completed its evaluation and it is expected that a white paper of the results will be released in April 2026.

The Water Withdrawal Permit that allows NYCDEP to acquire land in the watershed expired at the end of 2025, however NYCDEP received an administrative continuation of the permit. NYCDEP is currently negotiating with stakeholders regarding a successor permit.

Funding for FAD programs comes from both the NYCDEP capital budget and the annual expense budgets. The continuation of the existing FAD program is currently funded in the Current Capital Plan at a level of $72.3 million. Additional capital funding will be required in the later years of the Ten-Year Capital Strategy beyond 2027, once the successor FAD is negotiated. FAD funding currently in the expense budget consists of $85.64 million for FY 2026 and $62.45 million for FY 2027.

As part of the continuous long-term planning efforts, NYCDEP will update its planning level studies to identify the capital investment and operating cost impact if it becomes necessary to build a water treatment plant for the Delaware and Catskill water supply in the future. The Cat/Del UV Facility currently provides disinfection of the drinking water derived from the Catskill and Delaware watersheds; however, if the FAD is no longer in place, additional treatment facilities would be required for filtration. NYCDEP is conducting a comprehensive review of filtration methods and technologies and is planning to design and operate a filtration pilot plant. These studies will result in the development of a new conceptual design for a filtration facility and updated cost estimates. The NYCDEP capital and expense financial investments in FAD programs are a more cost-effective means to protect the Catskill/Delaware water supply than building a filtration plant with high up-front capital construction costs, as well as recurring operation and maintenance costs.

### Catskill Aqueduct Pressure Tunnels

NYCDEP is evaluating leaks in the pressure tunnel portions of the Catskill Aqueduct. Inspections of the Rondout pressure tunnel and Wallkill pressure tunnels using a remote operated vehicle (ROV) have been completed. Funding of $24.7 million is included in the Current Capital Plan for the design and repairs of the tunnel leaks identified in the Rondout Creek pressure tunnel. NYCDEP is planning to perform inspections of additional pressure tunnels of the aqueduct to determine their condition. Additional funding will be required to address additional sections of the Catskill pressure tunnels if additional leakage is determined.

### Dam Safety

Reservoir dams are critical infrastructure for NYCDEP operations and the safety of the surrounding communities. New York State requires existing high hazard dams to be capable of safely passing half of the probable maximum flood (PMF). The PMF is the flood that can be expected from the most severe combination of critical meteorological and hydrologic conditions that are reasonably possible in a particular area. When capital improvements are made at dams, NYCDEP evaluates the ability of the dams to safely pass half of the PMF and the full PMF, and DEC Dam Safety is briefed on these analyses.

Due to significant SOGR needs to provide continued dam safety, dam upgrades are in various stages of planning, design and construction throughout The System. Funding is provided for the Olive Bridge Dam, part of the Ashokan Century Program, as described below. An agreement was reached with NYSDEC for Olive Bridge Dam to be designed to meet 75% PMF. The full long-term rehabilitation upgrades for the Gilboa Dam that brought the dam into compliance with the NYSDEC dam safety guidelines have been completed. The New Croton Dam requires reconstruction and is funded with $173 million. Merriman Dam Spillway is funded with $34 million. Funding of $49 million is included for Class C high hazard dams in the Croton watershed.

NYCDEP has installed additional equipment at several upstate dams to enhance the monitoring capacity during and after storms. In addition to capital programs, NYCDEP maintains an inspection and maintenance program to support dam safety. NYCDEP continues their dam inspection program using engineering contracts and in-house NYCDEP inspectors. NYCDEP operates and maintains a safe dam system for upstate and in-city dams, based upon capital upgrades, inspection and maintenance programs, and emergency action plans.

### Ashokan Century Program

In 2017, as part of their commitment to SOGR upgrades in the watershed, NYCDEP announced the Ashokan Century Program. This program will upgrade all infrastructure associated with the Ashokan Reservoir (**Figure 7-8**) in the Catskill watershed. In addition to the upgrade to the Olive Bridge Dam, this program will include upgrades to the Ashokan Reservoir spillway, dividing weir bridge, and the Ashokan Reservoir headworks. The Current Capital Plan includes $575.6 million in funding for the Olive Bridge Dam and the Ashokan Reservoir upgrades. NYCDEP is currently evaluating schedule impacts between the Ashokan upgrades with the future Delaware Aqueduct shutdown.

**Figure 7-8: Ashokan Reservoir**

### City Tunnel No. 3, Stage 2

The Current Capital Plan includes funding of $488.2 million for the completion, activation and shaft work (Shafts 17B and 18B) for City Tunnel No. 3, Stage 2 Brooklyn/Queens leg. The Notice to Proceed (NTP) for the first contract was issued in January 2021, and work is proceeding. As of December 2017, City

Tunnel No. 3 Brooklyn/Queens leg achieved activation-readiness, which means it is available in case of an emergency. NYCDEP maintains a Stakeholder Management Plan for continuous internal and external communications. Significant ongoing coordination is required with NYCDOT and other city agencies. Full operation of City Tunnel No. 3 Brooklyn/Queens leg is expected once the construction contracts are completed, which is currently expected in 2032. NYCDEP is undergoing a significant City Water Tunnels Master Plan, including a condition and risk assessment of City Tunnel No.1 and City Tunnel No. 2. The tunnel buildout Master Plan will focus on prioritization and sequencing of buildouts, shutdowns, inspections, and repairs.

### Water Main and Sewer Replacement

The Current Capital Plan includes $3.19 billion for water main and sewer work (new and replacement) throughout the city. BWSO coordinates closely with NYCDDC and other city agencies for water and sewer projects. The NYCDDC is responsible for the construction and reconstruction of water and sewer mains in the city. The construction of new water and sewer pipes is coordinated with other utility underground infrastructure construction projects. NYCDEP is developing an artificial intelligence (AI) predictive model to forecast the likelihood of future water main breaks.

## 7.6 Capital Improvement Program Highlights for the Wastewater and Stormwater System

Several NYCDEP projects and programs for the wastewater and stormwater system are in various stages of planning, design, and construction. Many of these significant programs are described below.

### Combined Sewer Overflow (CSO) Program

The 2012 CSO Consent Order Modification incorporates a hybrid approach of green and grey infrastructure control strategies. The modified Consent Order is based upon an adaptive management approach to solving the CSO water quality issues which incorporates the Green Infrastructure (GI) Planning. The CSO Order contains milestones and schedules governing the planning, design and construction of a significant number of projects for NYCDEP's Citywide CSO Program. As required by the Order, NYCDEP has developed multiple waterbody-specific Long-Term Control Plans (LTCPs) to control CSOs and improve water quality in NYC's waterbodies and waterways. **Figure 7-9** shows the locations of the combined sewer areas associated with each LTCP waterbody. The goal of each LTCP is to identify appropriate CSO controls necessary to achieve waterbody-specific water quality standards, consistent with the Federal CSO Policy and the water quality goals of the federal Clean Water Act (CWA).

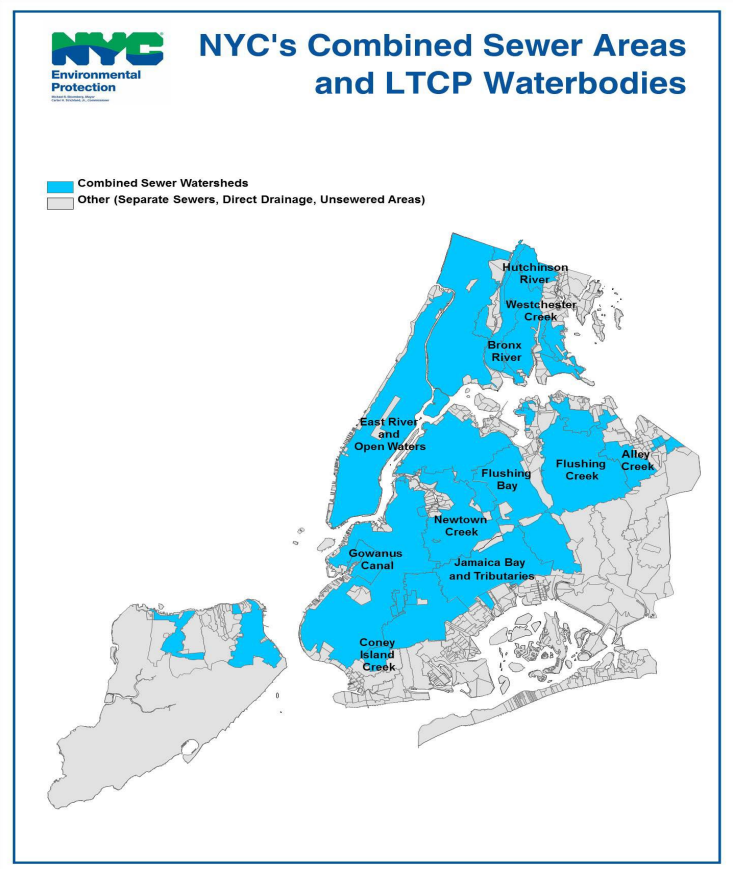



**Figure 7-9: Combined Sewer Areas and CSO LTCP Waterbodies**

NYCDEP has submitted eleven LTCPs to NYSDEC, all of which have been approved. Each approved LTCP identifies plans at each CSO LTCP waterbody. **Table 7-1** along with **Figure 7-10** present the status of the LTCPs.

**Table 7-1: Status of CSO Long Term Control Plans**

| Waterbody/LTCP | Status of LTCP |
|---|---|
| Alley Creek | Approved March 2017 |
| Westchester Creek | Approved August 2017 |
| Hutchinson River | Approved March 2017 |
| Flushing Creek | Approved March 2017 |
| Bronx River | Approved March 2017 |
| Gowanus Canal | Approved March 2017 |
| Flushing Bay | Approved March 2017 |
| Coney Island Creek | Approved April 2018 |
| Newtown Creek | Approved June 2018 |
| Jamaica Bay and Tributaries | Approved January 2023 |
| Citywide/Open Waters | Approved July 2023 |


**Figure 7-10: Status of CSO LTCPs**

The Current Capital Plan includes approximately $2.94 billion in funding for grey infrastructure capital projects for implementation of the CSO Program. The $2.94 billion includes $1.6 billion for the Newtown Creek CSO storage tunnel and $ 620.2 million for the Gowanus CSO Superfund Facility. The Gowanus CSO Superfund facility includes an 8-million gallon Owls Head (OH) tank, and a 4-million gallon Red Hook (RH) tank, and above grade facilities. The Newtown Creek CSO tunnel project consists of a 50-million gallon capacity tunnel, diversion structures at four outfalls, and a tunnel dewatering pump station. The Newtown Creek CSO tunnel project will be delivered in three construction contracts. Additional funding will be required in the outer years of the CIP and beyond the current budget planning period to implement additional infrastructure required as part of the approved LTCPs, including the Flushing Bay CSO tunnel. NYSDEC and NYCDEP have been in discussions evaluating how the Flushing Bay CSO tunnel can be designed to serve multiple functions in addition to CSO storage, including providing additional use for stormwater flooding, and providing additional resiliency. NYCDEP has submitted a Flushing Bay CSO modification request to NYSDEC. NYCDEP has submitted an additional modification

request for Alley Creek CSO to implement daylighting of Oakland Lake, which is funded with $169.3 million in the Current Capital Plan.

The LTCPs were based upon water quality criteria in effect at the time the individual LTCPs were developed. Those criteria have evolved over the course of the LTCP program. The proposed *Enterococcus* standards for fecal indicator may not be attainable on all water surrounding NYC on an annual basis. NYCDEP may be required to revise the LTCPs based upon *Enterococcus* bacteria rather than the fecal coliform standard. NYCDEP is evaluating the proposed changes to determine the impact on the approved LTCPs. Additional potential capital costs and operating costs may be required to achieve the new water quality standards.

### Green Infrastructure (GI)

**Figure 7-11: Green Infrastructure Rain Garden**

Since the release of NYC's Green Infrastructure Plan in 2010, NYCDEP has been continuously planning and constructing green infrastructure in the CSO areas throughout NYC. Currently 16,000 green infrastructure installations have been built. The GI assets include curbside rain gardens (**Figure 7-11**), infiltration basins, porous pavements, green roofs, and subsurface detention. The implementation of the GI Program in NYC has focused on three distinct locations: (1) public right of way (ROW) rain gardens, (2) GI on public property, and (3) GI on private properties. NYCDEP has implemented ROW GI assets in partnership with the NYCDOT. NYCDEP coordinates with many city agencies and partnering agencies to implement green infrastructure on public property, including parks, schools, and city housing facilities. NYCDEP engages with partnerships to implement the GI Program across the city, including Trust for Public Land, Department of Education, School Construction Authority, NYC Housing Authority, NYC Department of Parks and Recreation, NYCDDC, Economic Development Corporation, and other city agencies. NYCDEP has introduced the Private Property Green Infrastructure Retrofit Incentive Program to aggressively expand green infrastructure retrofits on private property. Also, the Unified Storm Rule requires all new development and redevelopments to manage stormwater on site.

In April 2023, NYCDEP and NYSDEC entered into an agreement to modify the 2012 Consent Order, known as the 2023 Citywide Green Infrastructure Modification. The modified Order includes an expanded definition of GI to include cloudburst projects, daylighting, bluebelts, and reuse, and includes construction of green infrastructure throughout the city beyond CSO areas. The modified Order committed NYC to an additional $2 billion in green infrastructure to better manage more intense rainfall and severe weather events caused by climate change. The modified Order also extends the milestone for completing green infrastructure to achieve 1.67 billion gallons a year in annual CSO reduction from 2030 to 2040. In December 2025, NYCDEP certified the CSO volume reduction required by the Consent Order.

The Tibbetts Brook Daylighting Project will reduce combined sewer overflow discharges to the Harlem River by diverting the brook away from the combined sewer system and into its own discharge conduit. The Tibbetts Brook Daylighting Project is advancing, and is included as part of the baseline conditions for the NYCDEP Citywide Open Waters Combined Sewer Overflow LTCP. The Current Capital Plan includes $116 million for this project, and additional funding will be provided from Department of Parks as part of the cost-sharing agreement that is in place. The Modified Order includes milestones for its implementation.

**Figure 7-12: A rendering of Cloudburst Infrastructure**

Cloudburst projects use a combination of green and grey infrastructure strategies to slow, delay, and divert stormwater to minimize nuisance flooding and damage to property and infrastructure (**Figure 7-12**). These projects typically manage more stormwater than traditional green infrastructure. A "cloudburst" is a sudden, heavy downpour of rain in a brief period of time. Cloudbursts can damage property and disrupt critical infrastructure. The New York City Housing Authority (NYCHA) South Jamaica Houses Cloudburst is now operational. NYCDEP Cloudburst program for four additional neighborhoods will be in final design later this year– Corona and Kissena Park in Queens, Parkchester in the Bronx, and East New York in Brooklyn. The selection process for the sites was based upon evaluations of historic and future stormwater flooding hotspots, existing city projects, environmental justice areas, and social factors that may increase vulnerability. Additional Cloudburst projects are underway in Brownsville and Homecrest in Brooklyn. Cloudburst hub projects are part of the city's continued resiliency efforts to better prepare for intense rainfall events.

The NYCDEP submits an annual report updating NYSDEC on the progress of the GI Plan. The 2024 Annual Report was submitted April 30, 2025 (**Figure 7-13**). It provides a comprehensive summary of the green infrastructure program in NYC and reflects the modified 2023 Order. The next update, the Annual Report for 2025, is expected to be released on April 30, 2026.

The Current Capital Plan includes approximately $639 million in funding for green infrastructure projects. Components of the GI program are also funded through the expense budget, including maintenance of the GI assets, research and development and partner agency support.


**Figure 7-13: Green Infrastructure Annual Report**

## Bluebelts

Bluebelts are innovative stormwater drainage systems made up of wetlands, creeks, streams and ponds, which are optimized to help control and filter stormwater from surrounding neighborhoods. NYCDEP has been successful in developing effective Bluebelt sites in the South Shore of Staten Island since the 1990s. NYCDEP has built more than 98 Bluebelts, with three additional Bluebelt sites currently in construction phase and 23 in design phase. Although the majority of the Bluebelts are located in Staten Island, NYCDEP is developing a Five-Borough Bluebelt Strategy evaluating expansion of the program to additional sites throughout the five boroughs. Approximately $353.3 million is included in the Current Capital Plan to expand the Bluebelts for stormwater management. The New Creek Bluebelt was expanded to protect the mid-island section of Staten Island from flooding (**Figure 7-14**).

**Figure 7-14: New Creek Bluebelt Expansion in Staten Island**

## Southeast Queens Stormwater Infrastructure

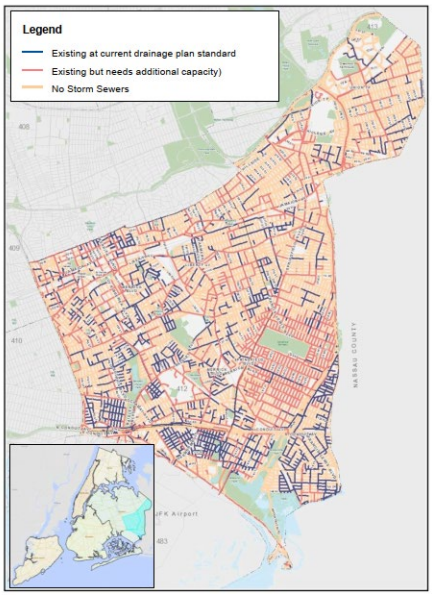



**Figure 7-15: Southeast Queens Stormwater Program**

NYCDEP is continuing a comprehensive program to improve drainage to address flooding issues in Southeast Queens **(Figure 7-15)**. Southeast Queens undergoes chronic flooding due to the topography in the area, the lack of storm sewers and undersized storm sewers. The existing storm sewers in Southeast Queens are not fully built out, and not all are built to NYC drainage standards. The Southeast Queens Program (Community Districts 12 and 13) was initially announced in 2015 with $1.5 billion in funding, and the program has increased to $2.6 billion to build out the drainage system and reduce flooding in Southeast Queens. In the Current Capital Plan, $888.9 million is funded for the Southeast Queens storm sewer program. NYCDEP is aggressively working on this storm sewer build-out program in Southeast Queens, as the Program consists of several projects which are in various stages of implementation (7 projects currently in active construction, 6 projects in design, and 8 projects in project development). NYCDEP has also developed an interactive online map that shows the completed and ongoing projects in Southeast Queens. NYCDEP has developed an approach to continue to address the flooding issues in the area, which consists of quick fixes in areas with the most severe flooding, construction of neighborhood sewers, construction of larger trunk sewers, and the evaluation of opportunities to reduce groundwater flooding. NYCDEP continues to implement projects in a phased

approach, on a priority basis. Green infrastructure and Bluebelts are also being constructed in Southeast Queens to help manage stormwater. NYCDEP has also identified locations in Southeast Queens to implement cloudburst projects.

NYCDEP provides annual updates that show progress of the implementation of the Southeast Queens Plan to the Mayor and City Council. NYCDEP also provides continuous public outreach and program updates to the Southeast Queens community. The buildout of the drainage system in Southeast Queens is a collaboration between NYCDEP, NYCDDC and NYCDOT. NYCDEP continues to maintain close coordination with other city agencies.

### Hunts Point WRRF Digesters and Sludge Thickening

NYCDEP is planning a major sludge processing upgrade at the Hunts Point WRRF that will improve digestion performance, enhance biosolids quality to enable more beneficial reuse, and increase biogas production. Replacement and upgrade of the digesters at the Hunts Point WRRF are at 90% construction completion. The upgrade to the sludge thickening equipment is an integral part of the overall sludge processing facilities. Improved thickening will make the digesters operate more efficiently. The sludge thickeners reduce the volume of water that passes through the digesters, which reduces the energy required for heating and increases solids retention time. The sludge thickeners are an important step to produce a product that meets the criteria for Class “B” Biosolids, so that the full program goals are attained. Funding for the sludge thickeners at Hunts Point WRRF is in the Current Capital Plan at a level of $34 million, with additional funding beyond the four-year plan.

NYCDEP is evaluating a biogas-to-grid project at Hunts Point WRRF as part of the new digesters project. NYCDEP continues to evaluate additional potential energy projects in collaboration with SOGR needs.

### Citywide Nitrogen Removal Program

The nitrogen program is funded with $83.5 million in FY 2026 for the conversion of the Sharon nitrogen removal process at the Wards Island WRRF to the Anammox process, as part of the BWT’s ongoing Research and Innovation Program.

### Total Residual Chlorine (TRC)

Prior to discharge to a receiving body, wastewater effluent is disinfected with chlorine at the WRRFs. Excessive residual chlorine can be toxic to aquatic life in the receiving water body. NYSDEC and NYCDEP have negotiated modifications to the TRC Order, which includes optimization of processes and revised schedules. This Order became effective in June 2022. The Current Capital Plan includes $33 million for implementation of the TRC program upgrades.

## 7.7 Superfund Designations

NYC has been identified as a potential responsible party (PRP) for the following three Superfund sites: Gowanus Canal, Newtown Creek, and Wolff-Alport Chemical Company. These sites have future potential financial impacts to NYC; however, the extent to which NYC will be responsible has not yet

been fully determined for the Newtown Creek and the Wolff-Alport Chemical Company sites. The term PRP still applies to NYC for the Gowanus Superfund site although financial responsibility has been identified, as described below.

In March 2010, the Gowanus Canal was declared a Superfund site and USEPA notified NYC that they are considered a PRP for hazardous waste under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). On September 30, 2013, USEPA issued its Record of Decision (ROD) for the Gowanus Canal, establishing the dredging, capping and source control requirements. The ROD requires NYC to build two CSO retention tanks as part of the source control component due to the CSO contribution at Gowanus Canal. In June 2016, USEPA issued a memorandum stating that the size of the two CSO storage tanks should be 8 million gallons at outfall RH-034 (Red Hook tank) and 4 million gallons at outfall OH-007 (Owls Head tank). USEPA issued a Unilateral Order to the city in March 2021, requiring the city to design and construct both CSO tanks by March 2029, to complete design and construction of a new bulkhead, and to implement additional stormwater controls in the Gowanus Canal sewershed. To date, NYCDEP has met all the design and construction deadlines in the 2021 Unilateral Order. The Gowanus CSO project was discussed in Section 7.6. The design costs of the in-canal portion of the remediation (dredging and capping of sediments) have been allocated between NYC and 20 other parties. In January 2020, the USEPA issued a Unilateral Order to the six largest PRPs to implement the in-canal remediation in the upper reach of the Canal, the first of three portions where this work will occur.

In September 2010, Newtown Creek was declared a Superfund site. In July 2011, NYCDEP entered into an Administrative Settlement Agreement and Order on Consent with EPA, along with five other PRPs that own or operate facilities adjacent to Newtown Creek in the investigation of conditions in Newtown Creek and the evaluation of feasible remedies. The investigation and feasibility study is expected to continue until 2027, and the ROD for the entire site is expected in 2027. The city's financial share has not yet been determined. The settlement does not cover any remediation that might eventually be required by USEPA to address the contamination identified as a result of the investigation and evaluation. In 2020, the USEPA issued the ROD to address the CSO discharges, which requires no further action beyond the projects identified in the NYSDEC approved Newtown Creek CSO LTCP. The Newtown Creek CSO project was discussed in Section 7.6. The September 2022 Administrative Settlement Agreement and Order on Consent between NYC and the USEPA requires monitoring of the four largest CSOs and other point sources on Newtown Creek. In January 2025, the USEPA issued its ROD for the East Branch section of the Newtown Creek Superfund site.

In May 2014, the USEPA listed Wolff-Alport Chemical Company in Queens as a Superfund site, based upon radioactive contamination at the site. USEPA has indicated that the Superfund process would include an investigation of impacts to the NYCDEP sewer system from operations at the chemical company site. Radioactive material was disposed on-site and also into the sewer system. In September 2017, USEPA issued its ROD requiring jet washing and replacement of sewers and excavation of contaminated portions of the right-of-way. In December 2017, USEPA notified NYC of its status as a PRP for the work on city property pertaining to this Superfund site. In September 2019, the USEPA issued a Unilateral Administrative Order requiring the city to perform additional investigatory work and

develop a remedial design in accordance with the ROD. In 2023, USEPA approved the workplan for the pre-design investigation and the schedule for completing the workplan. NYCDEP is also coordinating with NYCDOT and NYCDDC on this Superfund site.

NYC operated a wastewater treatment plant in the Town of Mt. Kisco, in Westchester County, which was decommissioned in the 1960s. Elevated radiation levels have been detected throughout the site. These levels are most likely due to the operations of Canadian Radium & Uranium Corporation (CRUC) which processed radioactive materials in Mt. Kisco and most likely sent wastewater to the Mt. Kisco Wastewater Treatment Plant (WWTP). Based upon NYCDEP's former operation of the Mt. Kisco WWTP, NYCDEP signed an Order of Consent with NYSDEC which committed NYCDEP to fund an environmental study of the site. NYCDEP completed the preliminary environmental study and submitted it to NYSDEC. A new or amended Order is anticipated that may require further investigations and actions. NYCDEP may be required to fund remedial design and remedial action at the site, along with waste disposal, which could amount to significant costs.

## 7.8 Potential Future Long-Term Water, Wastewater, and Stormwater Projects Beyond Current Budget Planning

### Consolidation Plans for Jamaica Bay WRRFs

NYCDEP has evaluated alternatives for future operation of the Rockaway WRRF for several years. NYCDEP completed a Facility Plan for the Rockaway WRRF in 2014, which analyzed alternatives for future Rockaway WRRF operations. An updated study was completed in 2022 expanding the options to evaluate eight alternatives for consolidation and treatment at Jamaica Bay WRRFs. The recent analysis resulted in a recommended alternative. NYCDEP has initiated a Master Planning contract to re-evaluate the preferred consolidation option, provide conceptual designs, cost estimates, and construction sequencing for the selected alternative of the Jamaica Bay WRRFs consolidation **(Figure 7-16)**.

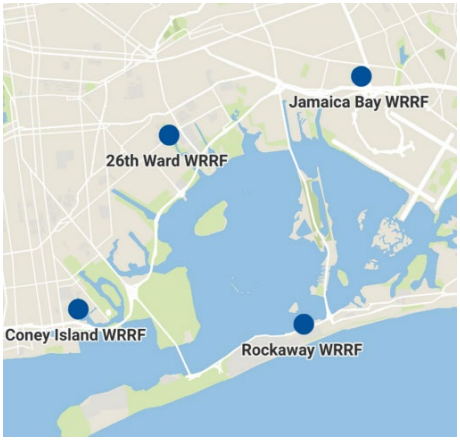



**Figure 7-16 WRRFs located in the Jamaica Bay**

## Renewable Rikers

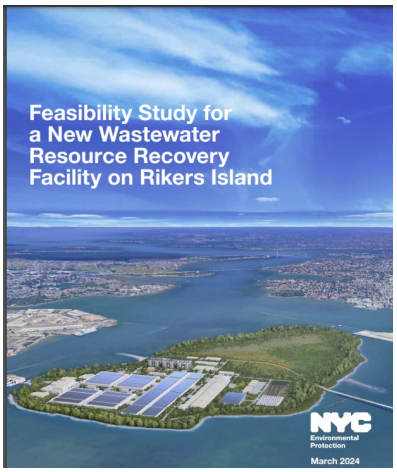



**Figure 7-17: Feasibility Study for a New WRRF on Rikers Island, March 2024**

City Council legislation required NYCDEP to perform studies to determine the future use of Rikers Island. The *Feasibility Study for a New Wastewater Resource Recovery Facility on Rikers Island* was released on March 4, 2024 (**Figure 7-17)**.

The feasibility study evaluated whether a new WRRF could be built on Rikers Island, evaluating the possibility of a new, state-of-the-art WRRF that would allow for relocation and consolidation of the four Upper East River (Bowery Bay, Tallman Island, Hunts Point, Wards Island) WRRFs to Rikers Island (**Figure 7-18)**. Rikers Island consists of 413 acres and is located in the East River between the Bronx and Queens. The new WRRF would be located on 245 acres, approximately 60% of Rikers Island. The new consolidated WRRF would have an average design flow of 705 MGD and a wet weather flow of 1,410 MGD. The cost of a new WRRF on Rikers Island is estimated at $34 billion (in 2024 dollars). A new WRRF on Rikers Island and its tunnel system would provide opportunities for enhanced CSO capture and stormwater management. For long-term planning purposes, it is important for NYCDEP to maintain the opportunity to use Rikers Island for future potential treatment.


**Figure 7-18: Overview of the Feasibility Study Including Four Upper East River WRRFs and Rikers Island**

## 7.9 Design-Build

Typically, NYCDEP projects are implemented with a design-bid-build process. NYCDEP is now utilizing design-build as an alternate project delivery method to save time with project implementation and delivery. NYCDEP has contracted with owner advisors to assist with the design-build program. NYCDEP continues three design-build pilot projects (Port Richmond WRRF electrical upgrades, upstate watershed road and culvert upgrades, and Port Richmond WRRF/ Rockaway WRRF dock improvements), which consist of six capital projects. These projects are in various phases of procurement and implementation. NYCDEP has determined that the Marble Hill PS and 19th Street PS upgrades are the next capital projects that will be delivered using design-build. The funding for these projects included in the Current Capital Plan is a combined $51.2 million. NYCDEP reviews all capital projects to determine if they are suitable for design-build project delivery selection.

## 8.0 EXPENSE BUDGET

The FY 2026 expense budget released in the Preliminary Plan is $1.89 billion. The proposed FY 2027 expense budget in the Preliminary Plan is $1.69 billion. Expense budget projections for FY 2027 are currently being evaluated based upon the new needs of The System and will require adjustment when the evaluation is complete. The FY 2027 expense budget is expected to increase and will be updated in the Executive Budget, to be released in May 2026. The expense budget is made up of both Personal Services (PS) costs and Other than Personal Services (OTPS) costs. The PS budget is made up of staff salary, fringe benefits and pension costs. The OTPS costs make up the remaining expense budget, including taxes, chemicals, supplies, fuel oil, gasoline, biosolids, equipment, contract services, leases, FAD, training, EH&S, vehicles, and other requirements/needs.

There are many competing needs within the Expense budget each year; therefore, NYCDEP must continue to evaluate all requirements of the water and wastewater system when completing the expense budget. In accordance with applicable regulations and directives, NYC decides the projects (or elements of a project) that are eligible for capital funding, but the studies themselves are not capital eligible. The remaining needs are covered in the expense budget. In addition to the day-to-day requirements to operate and maintain the NYCDEP system, the expense budget must also cover planning studies that are necessary to continue planning for short-term and long-term needs of The System and to prioritize capital investments. Planning studies, Master Plans, and Facility Plans are important aspects of overall long-term management of The System and should continue to be funded and carried out before significant capital funds are committed to a specific program, project or facility. However, among the challenges facing NYCDEP, planning studies are competing with the other expense funded needs of The System.

# 9.0 OPERATIONAL PERFORMANCE OVERVIEW

## One Water NYC – Water Conservation

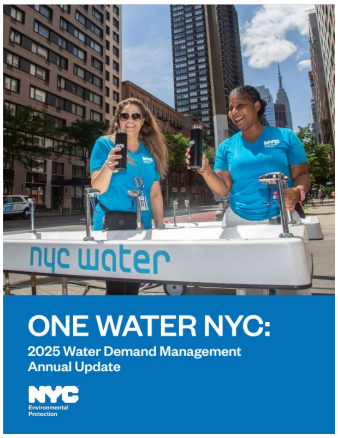



**Figure 9-1: Water Demand Management 2025**

NYCDEP released *One Water NYC: 2025 Water Demand Management Annual Update* in June 2025 (**Figure 9-1**). The annual report provides a description of NYCDEP's 2024 drought response, including the drought preparedness strategy. One Water NYC is a comprehensive holistic approach to water management. NYCDEP created an interactive online map identifying the location of water conservation projects, the estimated demand savings, and the estimated energy and greenhouse gas reductions anticipated from each project. NYCDEP's focus areas for the One Water approach include Water Distribution System Optimization; Municipal Partnerships; Water Reuse and Recirculation; Education and Outreach; and Affordability.

The average daily in-city water consumption for FY 2025 was 1,001 MGD. **Figure 9-2** presents the annual water consumption for the city for over three decades. Water conservation measures taken by NYCDEP in the 1990s have resulted in a steady reduction in the overall water demand. Water demand has decreased by approximately 35% over the past several decades. Declines in water consumption are attributed to continued conservation measures, water usage metering, availability of easily accessible data for tracking, weather patterns, and implementation of NYCDEP's Water Demand Management Program. New York's per capita water demand has declined from its peak of 213 gallons per day per person in 1979 to 118 gallons per day per person in 2024[7]. This reflects a 45% reduction in per capita water demand.

[7] One Water NYC: *2025 Water Demand Management Annual Update*, NYCDEP.

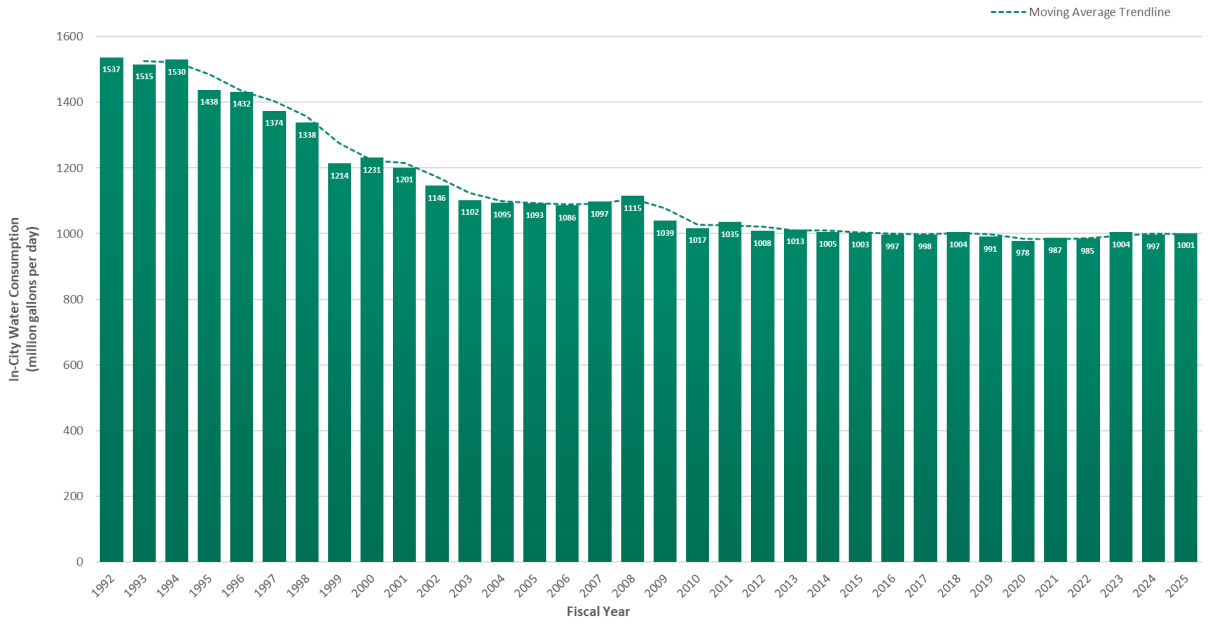



**Figure 9-2: New York City Average Daily Water Demand in Million Gallons per Day (MGD)**

## System Staffing Levels

**Figure 9-3** shows the NYCDEP approved staffing positions and vacancies for the past 30 years. The total number of NYCDEP vacancies has stayed relatively steady over the past three years, with a relatively small increase from 786 to 797 in FY 2026. NYCDEP continues to face a significant number of retirements and departures, along with challenges in the hiring process.

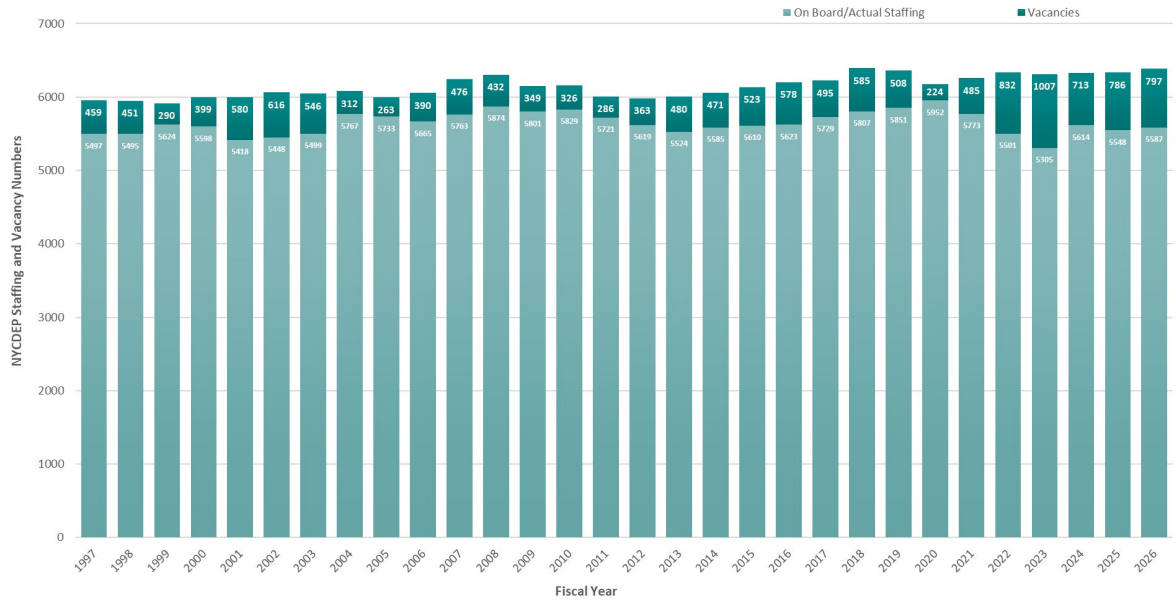



**Figure 9-3: Staffing and Vacancy Levels FY 1997-2026**

NYCDEP continues to experience significant retirements of experienced, critical employees. Recruitment, training, transfer of knowledge, and succession planning are essential to maintaining a skilled NYCDEP workforce. NYCDEP does utilize well-managed overtime when necessary, to manage staffing shortages and critical maintenance demands. NYCDEP continues to focus on improving recruitment, hiring and retention strategies.

It is vital to the organization that these efforts continue so that operations and capital delivery are not impacted. BWT has implemented a mentorship program to improve retention. However, staffing challenges remain within marine section, labs, sewage treatment workers (STWs), senior sewage treatment workers (SSTWs), process engineering, and EH&S staff. NYSDEC has identified staffing levels during the onsite inspections. BWS partners with State University of New York Ulster County for an Apprenticeship Program for water treatment operators. Vacancies also exist throughout BWSO and BEDC.

High numbers of vacancies continue to put a strain on NYCDEP's resources and have created challenges for some maintenance, planning and engineering activities. NYCDEP continues to operate water and wastewater facilities 24 hours per day, 7 days a week with essential workers/operators. However, NYCDEP will require additional staff to operate infrastructure associated with the new CSO facilities and citywide resiliency programs, in addition to the marine, laboratory, engineering, process engineering, and EH&S staff noted above.

### Operational Performance Indicators

Many operational parameters can be reviewed to assess the effectiveness of operating programs. Several performance indicators for water and sewer operations are summarized below. However, other parameters can impact these indicators, such as localized weather patterns.

A total of 552 water main breaks were reported in FY 2025, which translates to 7.9 breaks per 100 miles of main over a 12-month period (see **Figure 9-4**). The range of water main breaks that NYC has recently experienced remains much lower than the average frequency of water main breaks experienced by other municipalities in the United States (various studies show overall average annual break rates for all pipe materials average 25 breaks per 100 miles, 21-25 breaks per 100 miles, 14 breaks per 100 miles depending upon the study and utilities surveyed). NYCDEP BWSO has expanded its Leak Detection Program to proactively identify and repair minor leaks before they become more serious water main breaks. BWSO leak detection field units are using audio equipment to listen to sounds and pinpoint leaks, then repair the leaks before they become large disruptive water main breaks. BWSO operations continue a preventive maintenance program to target pressure reducing valves by exercising valves, inspecting regulators and utilizing predictive modeling to help prevent the occurrence of water main breaks, costly repairs, leaks and disruption of service. Most water main breaks occur in the winter since the water mains are impacted by the freeze/thaw cycles in the colder temperatures. NYCDEP restores water to residents following a break within an average of 3 hours and 47 minutes after the occurrence of a water main break.

NYCDEP replaced or reconstructed approximately 13 miles of water mains in FY 2025, which is lower than the average of new water main replacement or reconstruction over the past 20 years. NYCDEP completed construction or reconstruction of 7 miles of sewer lines in FY 2025, lower than the average of sewer line construction or reconstruction over the past 20 years. NYCDEP plans to utilize artificial intelligence predictive tool modeling to forecast future water main replacement and sewer replacement cycles, which will vary from year to year. In addition, the amount of water main replacement and sewer replacement varies from year to year based upon funding, procurement, DDC workload, and other factors. The average sewer replacement per year is typically less than the water main replacement due to operating conditions and pipe materials. Based upon the funding allocated in the Current Capital Plan, NYCDEP forecasts an increase in new water main replacement or reconstruction and sewer line construction or reconstruction.

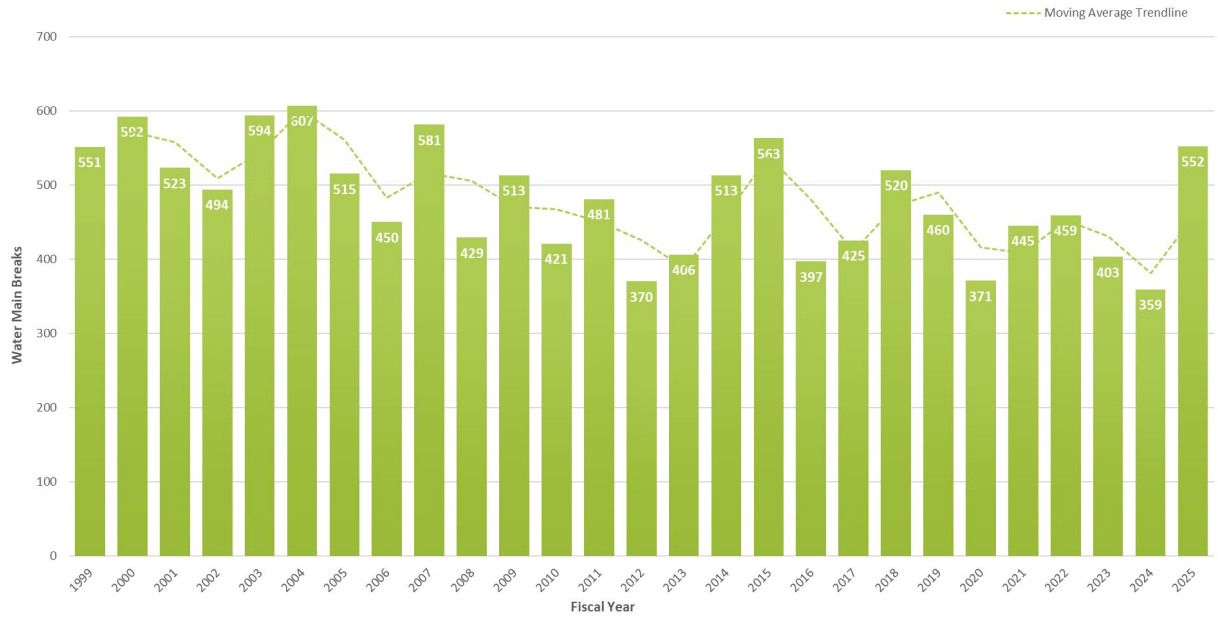



**Figure 9-4: Total NYCDEP Water Main Breaks per Fiscal Year**

BWSO has responsibility for repair and maintenance of approximately 112,000 fire hydrants in NYC. Approximately 0.31% of total fire hydrants were broken and inoperative in FY 2025. The average time to repair or replace high priority broken or inoperative hydrants (as determined by the Fire Department) by NYCDEP was 1.8 days in FY 2025, which is less than the target time for repair or replacement of five days.

A total of 43,697 catch basins were cleaned (both programmatic and complaint-driven cleaning) by BWSO in FY 2025, an increase from the past two years. BWSO has implemented a Catch Basin Modernization Plan. BWSO has increased catch basin cleaning frequency in specific areas and cleaning, based upon a data driven approach.

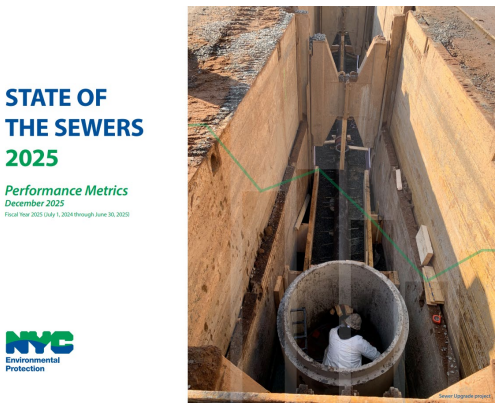



**Figure 9-5: State of the Sewers 2025**

NYCDEP received 7,345 sewer backup (SBU) complaints in FY 2025, which includes 1,401 confirmed SBUs (on NYCDEP infrastructure) and 5,946 unconfirmed SBUs (not on NYCDEP infrastructure or not found). Response time for SBUs was 2 hours and 30 minutes on average. NYCDEP has found that the significant majority of the confirmed sewer backups can be attributed to fats, oils and grease (FOG) buildup in the sewers. NYCDEP has continued to implement and expand aggressive operational and public outreach initiatives to address the FOG problem in the sewers. NYCDEP continues to use a public outreach campaign to educate the public about which objects should not be flushed down the toilet (wipes, cooking oil, and many other personal hygiene products) as they impact the operation of sewers and treatment plants. This campaign is known as **Trash It. Don't Flush It. FatbergFree.nyc**.

BWSO issued the bureau's annual *State of the Sewers 2025 Report*, which documents several metrics on sewer operations across the five boroughs (**Figure 9-5**). NYCDEP continues to use a data-driven proactive approach to operate and maintain the sewer system.

### Operational and Maintenance Program Summary and Updates

*Water Supply and Treatment Operations.* NYCDEP strives to increase the reliability, flexibility and redundancy of overall water supply operations. The interconnection of the Delaware Aqueduct with the Catskill Aqueduct at Shaft #4 allows water from the Delaware Aqueduct to be diverted to the Catskill Aqueduct. This interconnection provides operational flexibility and an additional tool in dealing with turbidity incidents following high rainfall in the Catskill watershed. The upgrades at the Croton Falls Pump Station and the Cross River Pump Station provide conveyance flexibility to NYCDEP and provide the ability for Croton water to be supplied to the Delaware Aqueduct, if required in emergencies or when parts of The System are out of service for planned or unplanned maintenance. NYCDEP receives NYSDOH approval prior to operating Croton Falls and Cross River Pump Stations. In addition, the connection between the Catskill Aqueduct and Croton allows blended water to be sent to the Croton WFP, if necessary. NYCDEP strives to maintain or increase operational flexibility in the operations of the vast network of upstate reservoirs and aqueducts to reliably deliver safe drinking water to NYC on a continuous basis.

*Croton Operations.* The Croton WFP initially began sending treated drinking water to the NYC distribution network in May 2015. In November 2015, Croton demonstrated operations at its full water production rate (290 MGD). Depending upon the water supply demands, NYCDEP varies water production at the Croton WFP. NYCDEP scientists and engineers continue to evaluate seasonal variations in water quality from the Croton watershed. In 2020, BWS installed new filter media at Croton WFP by removing the old anthracite filters and replacing them with granular activated carbon (GAC) filters to address the taste and odor issues. Croton WFP operated successfully at full capacity (Plant A and Plant B) during Delaware Aqueduct and Catskill Aqueduct shutdowns.

*UV Operations.* The Cat/Del UV Facility has been in operation since October 2012. NYCDEP BWS Operations staff successfully took over 100% control of the facility on June 15, 2013. The UV facility is the largest UV water disinfection facility in the world with a capacity to disinfect 2.4 BGD. It is currently receiving and providing UV disinfection to all water from the Catskill and Delaware watersheds. Currently, water is transferred from the Kensico Reservoir to the Cat/Del UV Facility via the Delaware Aqueduct.

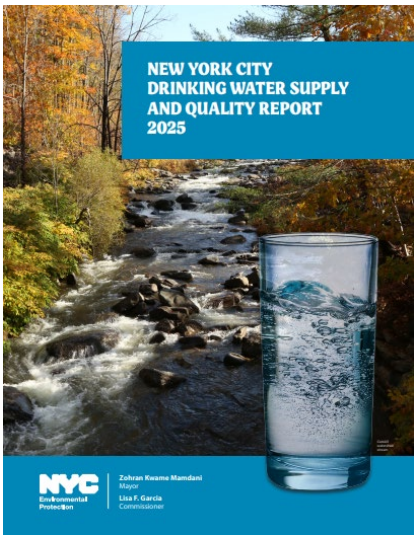



**Figure 9-6: New York City Drinking Water Supply and Quality Report 2025**

*Drinking Water Quality and Quantity.* NYCDEP released the *New York City Drinking Water Supply and Quality Report for 2025* in March 2026 (**Figure 9-6)**. NYCDEP conducts extensive monitoring of the source water and in-city water quality. In 2025, NYCDEP collected 24,050 samples from the distribution system and performed approximately 332,800 analyses, meeting all state and federal monitoring requirements. In addition, NYCDEP collected more than 12,550 samples and performed approximately 240,500 analyses from the upstate reservoirs and watersheds. Approximately 3 million robotic monitoring measurements were made to support FAD watershed protection programs and to optimize water quality. Microbiologists, chemists and other scientists with the BWS test water from key locations across the watershed and the city at NYCDEP laboratories. NYCDEP water quality laboratories are located in Hawthorne, Kingston, Grahamsville and Queens. As of March 30, 2026, the overall storage in NYC's water supply system stands at 99.3% of capacity, compared to the normal levels at this time of 94.9% of capacity.

*PFAS.* Per- and polyfluoroalkyl substances (PFAS) are a group of synthetic chemicals used in industrial applications and consumer products, such as stain resistant products, non-stick materials, waterproofing, and firefighting applications. Perfluoroalkyl substances are stable unless subjected to engineered treatment and therefore do not break down in the natural environment due to their unique and complex chemical properties. Some polyfluoroalkyl substances, partially fluorinated compounds, can be transformed in nature. However, the degradation typically results in a short perfluorinated substance, which cannot be further degraded in nature.

On April 10, 2024, USEPA announced the final National Primary Drinking Water Regulation (NPDWR) for six PFAS (PFOA, PFOS, PFHxS, PFNA, HFPO-DA, and mixtures containing two or more of PFHxS, PFNA, HFPO-DA, and PFBS). The final maximum contaminant level (MCL) for PFOA and PFOS is 4 parts per trillion (ppt). The final MCL for PFHxS, PFNA, HFPO-DA (commonly known as GenX) is 10 ppt, and mixtures containing two or more of PFHxS, PFNA, HFPO-DA, and PFBS have a MCL hazard index of 1 (unitless). In May 2025, USEPA announced that the MCLs for PFOA and PFOS will remain with an extended deadline to 2031, and the regulatory determination for PFHxS, PFNA, HFPO-DA and the hazard index mixture will be rescinded.

In 2020, New York State established MCLs for drinking water for two PFAS compounds, PFOS and PFOA, with enforceable limits of 10 ppt. NYCDEP monitors for PFAS, as required by the Fifth Unregulated Contaminant Monitoring Rule (UCMR5) which specifies 29 PFAS compounds. Monitoring for UCMR5 was required from 2023 to 2025. NYCDEP completed a desktop PFAS assessment of the Kensico Reservoir Basin in 2025. The results of this assessment show that the overall risk of exceeding the PFAS MCLs at the Kensico Reservoir outflow is currently low.

*Operation Support Tool.* NYCDEP utilizes the Operation Support Tool (OST) for various decision making and operating modes. The OST model links water quality and water quantity models, uses near real-time data for reservoir levels, stream flows entering reservoirs, snowpack and water quality in streams and reservoirs, and includes National Weather Service forecasts. As of July 2024, NYCDEP continues to partner with the Center for Western Weather and Water Extremes (CW3E), which provides enhanced forecasting and improved reservoir operations. CW3E is part of the Scripps Institution of Oceanography, a world renown center for global earth science research and education.

*Wastewater Operations.* BWT utilizes predictive maintenance methods to better identify maintenance and replacement cycles and increase overall reliability of the WRRF equipment. Examples of predictive maintenance include measuring mechanical wear on equipment parts and using thermographic cameras to examine electrical systems. This program is anticipated to save on capital replacement and energy costs.

*Wastewater Treatment SPDES*. NYCDEP current SPDES Permits for the 14 NYC WRRFs expire in 2027. The new permits require additional sampling and monitoring for ammonia, free cyanide, and *Enterococcus*, with compliance limits. Further upgrades are anticipated to be required in the future due to current ammonia limits, future *Enterococcus* limits, whole effluent toxicity (for 26$^{th}$ Ward), and free cyanide future limit. NYCDEP is operating in accordance with the 2022 SPDES permits for the 14 WRRFs. Based upon diligent wastewater treatment plant operations, 99.7% of the NYCDEP wastewater treatment plant effluent met state pollutant discharge elimination standards in FY 2025. For the first four months of FY 2026, measurement of effluent samples drawn from the plants indicated that 99.9% of the NYCDEP wastewater plant effluent met state pollutant discharge elimination standards.

*BNR Operations at the Wastewater Resource Recovery Facilities*. NYCDEP has been operating in Step Feed BNR mode at the UER WRRFs (Hunts Point, Bowery Bay, Tallman Island, Wards Island) and the Jamaica Bay WRRFs (26$^{th}$ Ward, Rockaway, Jamaica, Coney Island.). NYCDEP conducted a 12-month performance evaluation to establish a performance-based TN limit of 19,300 lbs/day as of November 1, 2023, for Jamaica Bay. Due to the long-term planning and significant capital projects that have been implemented, the UER and Jamaica Bay WRRFs have seen a significant reduction in TN in the effluent and compliance with the TN limit is high. However, the UER WRRFs exceeded TN compliance from July 2024 through September 2024, and again in October 2025. NYCDEP is expecting to receive additional mandates from NYSDEC regarding the UER TN non-compliance.

*PFAS.* New SPDES permits for the 14 WRRFs will include Action Levels for PFOS and PFOA, while other PFAS will have a “monitor only” requirement. NYS requires BWT to sample in advance of the next SPDES permit application, which is December 2026. BWT subcontracted with a lab to perform PFAS

analysis. BWT has begun sampling and analysis on a quarterly basis as required for the SPDES renewal application. Additional sampling is planned for domestic background sources and key industrial sources of PFAS.

*Harbor Water Quality.* NYC has collected and maintained records of water quality data for over 100 years. The New York Harbor Water Quality Survey currently consists of 84 sampling stations harbor-wide. NYCDEP has increased the number of monitoring sites throughout the harbor and at the mouth of key tributaries to evaluate the effectiveness of the NYCDEP stormwater management and CSO control projects. The number of water quality parameters measured has increased from five at the start of the New York Harbor Water Quality Survey Program to 27 water quality parameters at present. The 2024 Harbor Survey Report is available online.

*Sludge Vessels.* NYCDEP operates four sludge motor vessels plus one back-up. The sludge vessels transport liquid sludge from the WRRFs not served by onsite dewatering facilities to those WRRFs with dewatering facilities. A tragic fatal accident occurred on the Motor/Vessel (M/V) Hunts Point in May 2025. As a result of this accident, BWT convened a third-party audit of the accident, and formed a BWT Working Group to implement training and SOP recommendations. NYCDEP continues to utilize a sludge barging contract to address the staffing issue and supplement the barge capacity due to the ongoing repairs.

*Biosolids.* NYCDEP typically produces 1,200 - 1,400 wet tons per day of biosolids from wastewater treatment operations at the 14 WRRFs. NYCDEP has developed a Biosolids Strategic Plan to identify alternative end uses for NYCDEP biosolids beyond 2030. Over the past several years, NYCDEP has steadily been increasing beneficial reuse of biosolids rather than landfilling. Currently, approximately 48% of the biosolids is sent to beneficial reuse. BWT plans to continue to increase the beneficial reuse of biosolids, with the goal of 100% beneficial reuse by 2030. Pending future PFAS regulations for biosolids, available disposal methods and disposal costs may be significantly impacted. BWT continues to assess potential impacts of a proposed 5-year moratorium on land application of biosolids in NYS.

*Environmental Health & Safety (EH&S).* NYCDEP maintains a robust and comprehensive EH&S program across all bureaus throughout the NYCDEP. NYCDEP provides consistent EH&S training so that staff can carry out their work responsibilities safely and in compliance with the many local, state and federal regulations. The EH&S Group is responsible for a comprehensive EH&S compliance program, all EH&S training, audits, EH&S employee surveys and the NYCDEP internal compliance office. EH&S is carried out by in-house NYCDEP management and staff as well as EH&S contracts. Safety is one of NYCDEP's core values. NYCDEP maintains a culture where safety comes first for every employee, contractor and the public. NYCDEP continues to put safety as a top priority and is committed to creating the safest possible workplace for everyone involved in their work at NYCDEP.

*MS4 Stormwater Permit.* A portion of New York City has separate storm and sanitary sewer systems. The storm sewers are addressed under the municipal separate storm sewer system (MS4) permit and the separate sanitary sewers send flows to the WRRFs, which operate under the SPDES permits. NYC is the permit holder since the MS4 requirements cover 14 city-chartered agencies. However, NYCDEP coordinates all required activities under the permit. In August 2015, NYSDEC issued a final MS4 permit for NYC. A revised permit was later issued in August 2022, and is in effect at this time. In October 2013, an Executive Order was signed addressing coordination and implementation of stormwater controls and MS4 permit requirements for NYCDEP and other NYC agencies. Memorandums of Understanding (MOUs) have been developed between NYCDEP and the chartered city agencies that are impacted by the MS4 permit. As required by the MS4 permit, NYC established legal authority in 2017 with the passage of Local law 97. The New York City Council approved comprehensive legislation that consolidates, clarifies, and supplements existing legal authority, to allow the City to act in a regulatory capacity to control pollutant discharges into and from its MS4. The city has established a Stormwater Controls Working Group that includes representatives from each agency that meet quarterly to discuss stormwater program development tasks and permit-related information. The MS4 permit includes robust requirements, which significantly expand the city's obligations to reduce pollutants discharging to the storm sewers. The MS4 permit requires NYC to submit a Stormwater Management Program (SWMP) Plan within three years of the effective date of the permit. The original SWMP was submitted August 1, 2018. Key components of the SWMP include public education and outreach, mapping, illicit discharge detection and elimination (IDDE), construction site stormwater runoff control, post-construction stormwater management, pollution prevention and good housekeeping for municipal operations, industrial stormwater sources, control of floatable and settleable debris, monitoring and assessment of controls, and impaired waters. The SWMP Plan was approved by NYSDEC in March 2019. In the fall of 2021, the city updated the SWMP to reflect the current status of program implementation and the city's compliance with the 2015 MS4 Permit. The updated SWMP was released in February 2022 (**Figure 9-7**). The MS4 Permit includes annual reporting requirements. NYCDEP highlights major programmatic changes in the MS4 Annual Report. As discussed previously in the report, the Unified Stormwater Rule will benefit MS4 areas by requiring more on-site stormwater management. The USEPA completed an audit of NYCDEP MS4 program at the end of 2025.

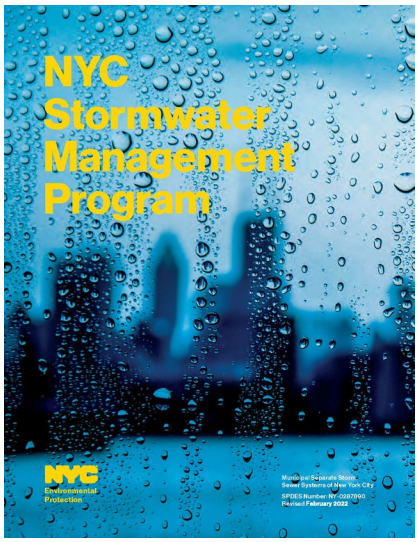



**Figure 9-7: SWMP Plan**

# 10.0 OTHER NOTEWORTHY ISSUES AND COMMENTS

## Lead and Copper Rule

The USEPA finalized the Lead and Copper Rule Improvements (LCRI) in October 2024 and it took effect on December 30, 2024. The LCRI requires complete replacement of lead service lines across the United States in a 10-year timeframe, beginning in 2027. The LCRI substantially changes requirements from the Lead and Copper Rule Revisions (LCRR) by lowering the lead action level from 15 ug/L to 10 ug/L, changing sampling protocols, and requiring continual lead service line inventory updates and replacement plans. NYCDEP submitted the annual service line inventory to NYSDOH on December 29, 2025. In December 2025, NYCDEP submitted the *New York City Lead Service Line Replacement Plan 2025* to NYSDOH, two years ahead of 2027 EPA deadline. NYCDEP's Plan consists of DEP conducting no-cost replacements when the City disturbs a lead service line (LSL) during water main replacement work. NYCDEP will implement an LCRI-compliant outreach program requesting that homeowners replace their LSLs at their own expense, with communications assisting homeowners through the replacement process. Both the LSL Inventory and the Plan can be found on the NYCDEP website.

NYCDEP has received funding through the Bipartisan Infrastructure Law (BIL) for LSL replacements in eligible targeted areas in the Bronx. As of 2024, DEP has launched BIL-funded replacement programs in several Bronx neighborhoods. The neighborhoods were selected based upon environmental justice criteria, LSL density, and median household income. Other neighborhoods in Brooklyn and Queens have been identified for the next phase of LSL replacements. NYCDEP has faced challenges with homeowners' participation in this free LSL replacement program.

The drinking water supply is lead-free when it leaves the upstate reservoir system. The city-owned distribution system is also lead free. NYCDEP is currently in compliance with the current Lead and Copper Rule. NYCDEP has an active corrosion control program in place to reduce lead absorption from service lines and internal plumbing. NYCDEP treats water with food grade phosphoric acid and sodium hydroxide. Sodium hydroxide is added to raise the pH and reduce corrosivity, which prevents the leaching of lead from pipes into the drinking water. Phosphoric acid is added to create a protective film on pipes that reduces the release of metals, such as lead, from household plumbing. In certain cases, privately owned infrastructure contains lead such as the LSL that connects the homes to the city-owned water mains. Under the current federal Lead and Copper Rule, mandated at-the-tap lead monitoring is conducted at select households throughout New York City. The at-the-tap monitoring results are presented in the annual *New York City Drinking Water Supply and Quality Report*. NYC residents can request a free lead kit to test their water.

NYCDEP has been engaged with the National Drinking Water Advisory Council (NDWAC) Lead and Copper Rule Working Group, Water Research Foundation expert panel, and others. NYCDEP has taken a proactive approach and has initiated studies to further optimize corrosion control, better understand lead exposure, and help prepare for the LCRI. BWS conducted a pilot program in City Island in the Bronx to further optimize corrosion control treatment by increasing the orthophosphate ($PO_4$) dosage.

## Awards

NYCDEP's capital program, operations, and workforce continue to receive national, statewide, and citywide recognition for excellence in design, infrastructure delivery, environmental performance, and public service. A NYCDEP project received a Platinum Award in the Structural Systems category from the American Council of Engineering Companies of New York (ACEC NY) 2026 Engineering Excellence awards for the Replacement of Esopus Creek and Route 28A RR Bridges. Another NYCEP project, Resilient NYC Partners, part of the NYCDEP Green Infrastructure program, won Platinum in the Water Resources category for the ACEC NY 2026 Engineering Excellence awards.

NYCDEP's operational excellence was also widely recognized. The Red Hook WRRF earned a NACWA Platinum Peak Performance Award for maintaining 100 percent permit compliance for five consecutive years, which was the agency's first Platinum designation. The North River and Wards Island WRRFs were named Demand Response Champions for energy management leadership, while staff members received citywide honors for advances in decarbonization and innovation. Several NYCDEP staff received awards at the New York Water Environment Association (NYWEA) technical conference in February 2026. NYCDEP teams also achieved top statewide recognition at the NYWEA Operations Challenge, and staff were honored through the NYCDEP's Always Creating Excellence (A.C.E.) Awards for innovation and customer service, including a major expansion of free residential lead testing. These honors collectively reflect NYCDEP's sustained commitment to protecting public health, advancing sustainability, and delivering excellence across all aspects of its mission.

## Water Rate Study

The NYCDEP Sustainable Rate Structure Analysis (SRSA) is undergoing internal NYCDEP review. The SRSA has analyzed water, wastewater, and stormwater rate structure options and customer assistance and credit programs.

## 11.0 SUMMARY AND CONCLUSIONS

Although NYCDEP continues to face challenges due to staffing vacancies in engineering and support groups, NYCDEP continues to operate facilities to provide essential services of water and wastewater treatment and delivery. Considering the magnitude of the overall infrastructure and the level of operational service required, it is our opinion that:

- The System continues to be managed in a professional and prudent manner with an appropriate regard for the level of service afforded to the users within the available funding.

- The physical condition of The System receives an “adequate rating”, our highest rating. Due to the size and complexity of The System, NYCDEP will continue to require future capital investments for the following: continuous replacement and/or repair of aging infrastructure in a systematic and cost-effective manner; implementation of infrastructure to meet regulatory mandates; additional projects/programs to continue to address climate change impacts to The System.

- NYCDEP capital and expense budget projections for Fiscal Year (FY) 2026 satisfy the immediate needs for The System. This includes regulatory mandated projects, which comprise approximately 39.4% of the capital budget for FY 2026.

- NYCDEP capital budget projections for FY 2027 are expected to satisfy the immediate needs for The System. This includes the regulatory mandated projects which comprise approximately 37.3% of the capital budget for FY 2027. Expense budget projections for FY 2027 are currently being evaluated based upon the projected new needs of The System and may require adjustment when the new needs evaluation is complete.

- NYCDEP capital planning is an ongoing iterative process addressing priorities and needs of The System. NYCDEP capital planning is considered responsive to the long-term requirements of The System.

- Currently, NYCDEP has 797 staffing vacancies, which represents a 12.5% vacancy rate. NYCDEP continues to face significant staffing challenges due to high attrition rates. NYCDEP continues to actively recruit and fill critical vacancies. In addition to the current vacancies, NYCDEP will also require additional staff as new facilities, particularly coastal resiliency and CSO infrastructure, come on-line.

### Regarding System Management

In our opinion, The System continues to be managed in a professional and prudent manner with an appropriate regard for the level of service afforded to the users. The physical condition of The System receives an “adequate” rating. In our opinion, the NYCDEP facilities and infrastructure are in adequate condition. NYCDEP faces similar issues to many other large urban areas nationwide, such as aging infrastructure, strict regulatory requirements, staffing issues, and ongoing climate change resiliency concerns. NYCDEP continues to successfully manage the overall operations of NYC’s large and complex water and wastewater system and prioritizes the most important projects and programs. Capital funding will need to be allocated to address the state of good repair of aging infrastructure in order to avoid emergency repairs and critical failure of essential processes. These needs will have to continue to be addressed and implemented in a systematic way. NYCDEP is taking a proactive approach, prioritizing its needs and spending (capital investment and operating expenses) where it will have the greatest impact on the water and wastewater system operations, reliability and redundancy, and to the

water quality in the upstate watershed and the surrounding NYC waterways. Projects that address climate change impacts to The System and adaptation needs are in various stages of implementation (feasibility planning, design and construction) based upon sound cost-effective analysis. These evaluations will need to continue as additional resiliency projects are identified. Prioritization of greatest need is a significant factor in moving forward with implementation of climate change resiliency. NYCDEP must remain diligent to make sure operational needs continue to be met while capital programs are identified and implemented in a timely manner. Because of the vast and extensive nature of the NYCDEP facilities and its aging infrastructure, continued diligence and future capital improvements will continue to be required in the near term and long term.

### Regarding the Capital Improvement Program (CIP)

Projects/Programs that will require additional funding in future budgets include:

- *SOGR:* As indicated throughout the report, significant additional funding in future budgets will be required for the continuation of SOGR projects due to the aging infrastructure throughout the wastewater and water system and to support critical infrastructure projects required for the safe and continuous operation of the water and wastewater systems. This is required in the near and long term.

- *FAD:* It is anticipated that additional funding for capital and expense budgets will be identified for the next FAD in 2027.

- *CSO and GI Programs*: Additional funding will continue to be required for implementation of the CSO projects that have been identified in the LTCPs in the outer years of the current CIP and future budget cycles beyond the ten-year horizon. Specifically, the Flushing Bay CSO tunnel will require significant funding. Also, additional funding will be required for the continuation of the Green Infrastructure Program.

- *Hillview Cover Alternative Project:* Significant funding will need to be added to future capital plans to support the design and construction of the Hillview Reservoir tanks that will bring NYCDEP into compliance with LT2.

- *Climate Change Adaptation, Resiliency, Energy Carbon Neutrality, and Sustainability Projects*: NYCDEP is seeking supplemental funding mechanisms for climate change resiliency and energy carbon neutrality projects. There may be a need in the future for additional NYCDEP funding to pursue these projects. This might result in an incremental cost added to some SOGR projects or entirely new projects. Additional funding needs will continue to be identified in future budgeting cycles.

- *Stormwater Projects:* Additional projects are anticipated to be identified in the Stormwater Master Planning that will require significant additional funding.

## 12.0 LIST OF ACRONYMS

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|---|---|
| A.C.E. | Always Creating Excellence |
| ACEC | American Council of Engineering Companies |
| ADG | Anaerobic Digester Gas |
| AI | Artificial Intelligence |
| AMP | Asset Management Program |
| BCR | Bureau of Coastal Resilience |
| BCS | Bureau of Customer Services |
| BEC | Bureau of Environmental Compliance |
| BEDC | Bureau of Engineering, Design, and Construction |
| BEPA | Bureau of Environmental Planning and Analysis |
| BGD | Billion Gallons per Day |
| BIL | Bipartisan Infrastructure Law |
| BMCR | Brooklyn Bridge – Montgomery Coastal Resilience |
| BNR | Biological Nitrogen Removal |
| BWS | Bureau of Water Supply |
| BWSO | Bureau of Water and Sewer Operations |
| BWT | Bureau of Wastewater Treatment |
| Cat/Del UV | Catskill/Delaware Ultraviolet |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act |
| CFO | Chief Financial Officer |
| CFD | Computational Fluid Dynamics |
| CIP | Capital Improvement Program |
| CMMS | Computerized Maintenance Management System |
| COO | Chief Operating Officer |
| CRUC | Canadian Radium & Uranium Corporation |
| CSO | Combined Sewer Overflow |
| CWA | Clean Water Act |
| CW3E | Center for Western Weather and Water Extremes |
| DAF | Dissolved Air Flotation |
| DCAS | Department of Citywide Administrative Services |
| DO | Dissolved Oxygen |
| DRBC | Delaware River Basin Commission |
| DSNY | Department of Sanitation of NY |
| ECM | Energy Conservation Measure |
| ECN | Energy Carbon Neutrality |
| EDC | Economic Development Corporation |
| EH&S | Environmental Health & Safety |
| ESCR | Eastside Coastal Resiliency |
| FAD | Filtration Avoidance Determination |
| FEMA | Flood Emergency Management Agency |
| FFMP | Flexible Flow Management Program |
| FOG | Fats, Oils and Grease |
| FY | Fiscal Year (NYCDEP Fiscal Year begins on July 1 and ends on June 30) |

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|---|---|
| GAC | Granular Activated Carbon |
| GHG | Greenhouse Gas |
| GI | Green Infrastructure |
| HMP | Hazard Mitigation Program |
| HPD | Housing Preservation and Development |
| IDDE | Illicit Discharge Detection and Elimination |
| IHD | In-House Design |
| JOC | Job Order Contracts |
| KEC | Kensico Eastview Connection |
| LCRI | Lead and Copper Rule Improvements |
| LCRR | Lead and Copper Rule Revisions |
| LL | Local Law |
| LMCR | Lower Manhattan Coastal Resiliency |
| LSL | Lead Service Line |
| LT2 | Long Term 2 Enhanced Surface Water Treatment Rule |
| LTCPs | Long Term Control Plans |
| LTR | Long-Term Revisions |
| MCLs | Maximum Contaminant Levels |
| MDE | Macan Deve Engineers, DPC |
| MGD | Million Gallons per Day |
| MOCEJ | Mayor's Office of Climate and Environmental Justice |
| MOCR | Mayor's Office of Climate Resiliency |
| MOU | Memorandums of Understanding |
| MS4 | Municipal Separate Storm Sewer System |
| MTA | Metropolitan Transportation Authority |
| MW | Megawatt |
| M/V | Motor Vessel |
| NACWA | National Association of Clean Water Agencies |
| NDWAC | National Drinking Water Advisory Council |
| NPCC | New York City Panel on Climate Change |
| NPDWR | National Primary Drinking Water Regulation |
| NTP | Notice to Proceed |
| NYC | New York City |
| NYCDCP | New York City Department of City Planning |
| NYCDDC | New York City Department of Design and Construction |
| NYCDEP | New York City Department of Environmental Protection |
| NYCDOT | New York City Department of Transportation |
| NYCEM | New York City Emergency Management |
| NYCHA | New York City Housing Authority |
| NYPA | New York Power Authority |
| NYS | New York State |
| NYSDEC | New York State Department of Environmental Conservation |
| NYSDOH | New York State Department of Health |
| NYWEA | New York Water Environment Association |

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|---|---|
| OERR | Office of Energy and Resource Recovery |
| OMB | Office of Management and Budget |
| OST | Operation Support Tool |
| OTPS | Other than Personal Services |
| PFAS | Per- and Polyfluoroalkyl Substances |
| PFOA | Perfluorooctanic Acid |
| PFOS | Perfluoroctanesulfonic Acid |
| PMF | Probable Maximum Flood |
| $PO_4$ | Orthophosphate |
| PPA | Power Purchase Agreement |
| ppt | Parts per Trillion |
| PRP | Potential Responsible Party |
| PS | Personal Services |
| PVSC | Passaic Valley Sewage Commission |
| RCME | Reliability Centered Maintenance Engineer |
| RHCR | Red Hook Coastal Resilience |
| ROD | Record of Decision |
| ROV | Remote Operated Vehicle |
| ROW | Right of Way |
| RWBT | Rondout-West Branch Tunnel |
| SBU | Sewer Backup |
| SCADA | Supervisory Control and Data Acquisition |
| SIRR | Special Initiative for Rebuilding and Resiliency |
| SISEAWL | USACOE Staten Island Seawall |
| SOGR | State of Good Repair |
| SPDES | State Pollutant Discharge Elimination System |
| SRSA | Sustainable Rate Structure Analysis |
| STW | Sewage Treatment Worker |
| SSTW | Senior Sewage Treatment Worker |
| SWMP | Stormwater Management Program |
| TBM | Tunnel Boring Machine |
| TMDL | Total Maximum Daily Load |
| TN | Total Nitrogen |
| tpd | Tons per Day |
| TRC | Total Residual Chlorine |
| UCMR5 | Fifth Unregulated Contaminant Monitoring Rule |
| UER | Upper East River |
| µg/L | Micrograms per Liter |
| USACOE | United States Army Corp of Engineers |
| USEPA | United States Environmental Protection Agency |
| UV | Ultraviolet |
| WBE | Women Business Enterprise |
| WFP | Water Filtration Plant |
| WMI | Waste Management, Inc. |
| WRRF | Wastewater Resource Recovery Facility |

| | |
|---|---|
| WUCA | Water Utility Climate Alliance |
| WWTP | Wastewater Treatment Plant |

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