NYC Stormwater Management Program

2023 MS4 Annual Report

Municipal Separate Storm Sewer System of New York City
SPDES Number: NY-0287890

Contents

Heavy rainfall, Queens.

EXECUTIVE SUMMARY

Report Overview

When precipitation (rain, snow) falls on impervious surfaces like rooftops, streets, and sidewalks, and the ground cannot absorb all the precipitation naturally, stormwater runoff results. This runoff flows over streets and sidewalks, potentially collecting pollutants such as oils, chemicals, sediment, debris and pathogens before entering the sewer system through the catch basins. In municipal separate storm sewer system (MS4) areas, the runoff flows into local waterways without receiving treatment. To reduce potential stormwater pollution in MS4 areas, the City developed the NYC Stormwater Management Program (SWMP) Plan. This Annual Report describes the activities the City performed throughout calendar year 2023 to implement the SWMP and to comply with the MS4 permit in an effort to manage urban sources of stormwater runoff, both to protect overall water quality and to improve water quality in impaired waters.

2023 Major Accomplishments

- **The City completed and timely submitted to DEC MS4 Permit deliverables due in 2023: the MS4 IDDE Plan and the NYC MS4 Outfall Monitoring Program Report.**
- **Environmental Compliance Outreach (ECO) conducted door-to-door environmental education outreach in south Brooklyn reaching 19,256 households or nearly 49,000 residents.**
- **The City took more than 750 enforcement actions against entities responsible for illicit discharges and abated almost 1,350 illicit discharges.**
- **The City held/participated in 317 community clean-up events and 10 SAFE (Solvents, Automotive, Flammables, and Electronics) disposal events with more than 20,000 participants.**
- **The City swept more than 985,000 miles of streets citywide, inspected more than 25,000 catch basins, and cleaned more than 10,000 catch basins.**

2023 Program Updates

1. **Public Education and Outreach**

   This effort includes education and outreach initiatives to inform the public on the MS4.

   The City distributed approximately 10,000 coloring books on NYC's "water story" to schools, partner organizations, and the public.

2. **Public Involvement and Participation**

   This effort includes initiatives to get the public involved in MS4 related activities.

   The City participated in 370 park stewardship events that involved more than 6,100 participants.

3. **Mapping**

   This ongoing effort includes identifying and mapping the MS4 outfalls and drainage areas.

   The City provides an interactive, public map – view the map at nyc.gov/dep/ms4map.

4. **Illicit Discharge Detection and Elimination (IDDE)**

   This effort includes finding, fixing, and preventing illicit discharges.

   The City abated 1,347 illicit discharges, including an illicit discharge to outfall TI-008 in Alley Creek.

5. **Construction and Post-Construction**

   This effort includes managing pollution risks from development and redevelopment projects in MS4 and combined sewer areas draining to the city-owned sewer system.

   The City reviewed 381 SWPPPs and issued 97 Stormwater Construction Permits for a total of 127 active construction sites.

6. **Pollution Prevention/Good Housekeeping (PP/GH) for Municipal Operations and Facilities**

   This effort includes managing pollution risks at the City's own facilities and during its operations conducted in the streets.

   The City assessed 530 City-owned facilities to evaluate stormwater controls associated with the facilities' operations and to assess the facilities' stormwater pollution potential.

7. **Industrial and Commercial Stormwater Sources**

   This effort includes managing pollution risks from industrial and commercial facilities that engage in certain activities that may cause stormwater pollution.

   The City assessed 31 unpermitted facilities for potential SPDES permitting by DEC and inspected 16 MSGP -permitted facilities to evaluate implementation of stormwater controls.

8. **Control of Floatable and Settleable Trash and Debris**

   This effort includes measures taken to reduce NYC's litter and keep trash and debris from reaching waterbodies.

   The City continued work on a study to determine the loading rate of trash and debris from the MS4 to floatables-impaired waterbodies.

9. **Monitoring**

   This effort includes analyses that will facilitate evaluation of long-term trends in water quality.

   The City initiated the Harbor Survey data analysis to establish a baseline for future evaluation of long-term trends in water quality.

10. **Special Conditions for Impaired Waters**

    This effort incudes identifying any impaired waterbody with an approved CSO LTCP that does not predict compliance with applicable water quality standards, where stormwater pollution from the MS4 is expected to contribute to the impairment.

    Upon DEC's approval of the Jamaica Bay LTCP, the City determined that Bergen Basin, Thurston Basin and Fresh Creek have met the criteria that will require the City to create a plan for each waterbody to address the pollutants of concerns.

Plans for 2024

1. **Public Education and Outreach**

   Continue to implement programs including Harbor Protectors, SAFE Disposal events, and various environmental education programming.

2. **Public Involvement and Participation**

   Continue to engage with local stakeholder groups and to participate in community events.

3. **Mapping**

   Continue to update GIS datasets for the next MS4 map due 8/1/27.

4. **Illicit Discharge Detection and Elimination (IDDE)**

   Continue implementing the Shoreline Survey, Harbor Survey, Sentinel Monitoring, and Emergency Response Unit programs, including abatement of identified illicit discharges.

5. **Construction and Post-Construction**

   Continue outreach efforts to the construction community, the review and approval of SWPPPs, and inspections of sites that have construction permits.

6. **Pollution Prevention/Good Housekeeping (PP/GH) for Municipal Operations and Facilities**

   Continue to self-assess facilities and off-site operations and provide appropriate training to staff; inspect and maintain municipally constructed GI.

7. **Industrial and Commercial Stormwater Sources**

   Continue the assessment of unpermitted facilities and inspection of permitted facilities and take any necessary enforcement actions.

8. **Control of Floatable and Settleable Trash and Debris**

   Continue to analyze data obtained as part of the Floatables Loading Rate Study and continue floatables control programs, including PEO efforts, street sweeping, catch basin inspections and cleaning, and booming/ netting.

9. **Monitoring**

   Complete Harbor Survey baseline analysis and report on progress in development of Urban Stormwater Quality (USWQ) Models.

10. **Special Conditions for Impaired Waters**

    Create waterbody plans for Bergen Basin, Thurston Basin and Fresh Creek, and continue to implement and refine enhanced BMPs in the Coney Island Creek area.


84 St
WAY

Litter Clean Up Earth Day Event.

Background

Pursuant to the New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) Municipal Separate Storm Sewer System (MS4) Permit (No. NY-0287890), first issued to the City of New York (City or NYC) in 2015 and renewed as of August 1, 2022, the City implements a Stormwater Management Program (SWMP) Plan,[1] which sets forth the City's measures to reduce pollution in stormwater runoff discharging into and from the MS4.

Through proper management and increased awareness, the City works to keep our streets and facilities well-maintained to reduce the risk of stormwater runoff's contributing pollution to NYC's waterbodies. As most waterbodies in NYC receive stormwater from both the combined and separate sewer systems, the SWMP is an important component of the City's comprehensive integrated planning approach to protecting and improving our waterbodies.

New York City's iconic waterfront and beloved waterbodies are cleaner and healthier than they have been since the 1860s. Whales and seals are returning to the harbor, wetland and mussel restoration projects are thriving, and New Yorkers are enjoying recreational activities in our local waterways. These improvements are in no small part a testament to the City's substantial investments in upgrading our wastewater infrastructure over the last five decades.

Building on these investments, fourteen City agencies now implement the SWMP in the areas served by the City's MS4, which carries stormwater runoff directly to nearby waterbodies instead of to a wastewater resource recovery facility (WRRF) for treatment; water that flows on the streets and into catch basins or directly into waterbodies may carry pollution such as pathogens and debris.

Each year, the City prepares an MS4 annual report, as required by Part IV.M of the MS4 Permit, to inform NYSDEC and the public of the City's progress in implementing the SWMP and the status of its compliance with the MS4 Permit. This MS4 Annual Report, covering January 1 through December 31, 2023, includes a brief description of the SWMP activities completed during the 2023 reporting year, measurable goals, and specific reporting requirements included in the MS4 Permit. If applicable, this report also includes activities planned for the 2024 calendar year and any proposed changes to the SWMP.

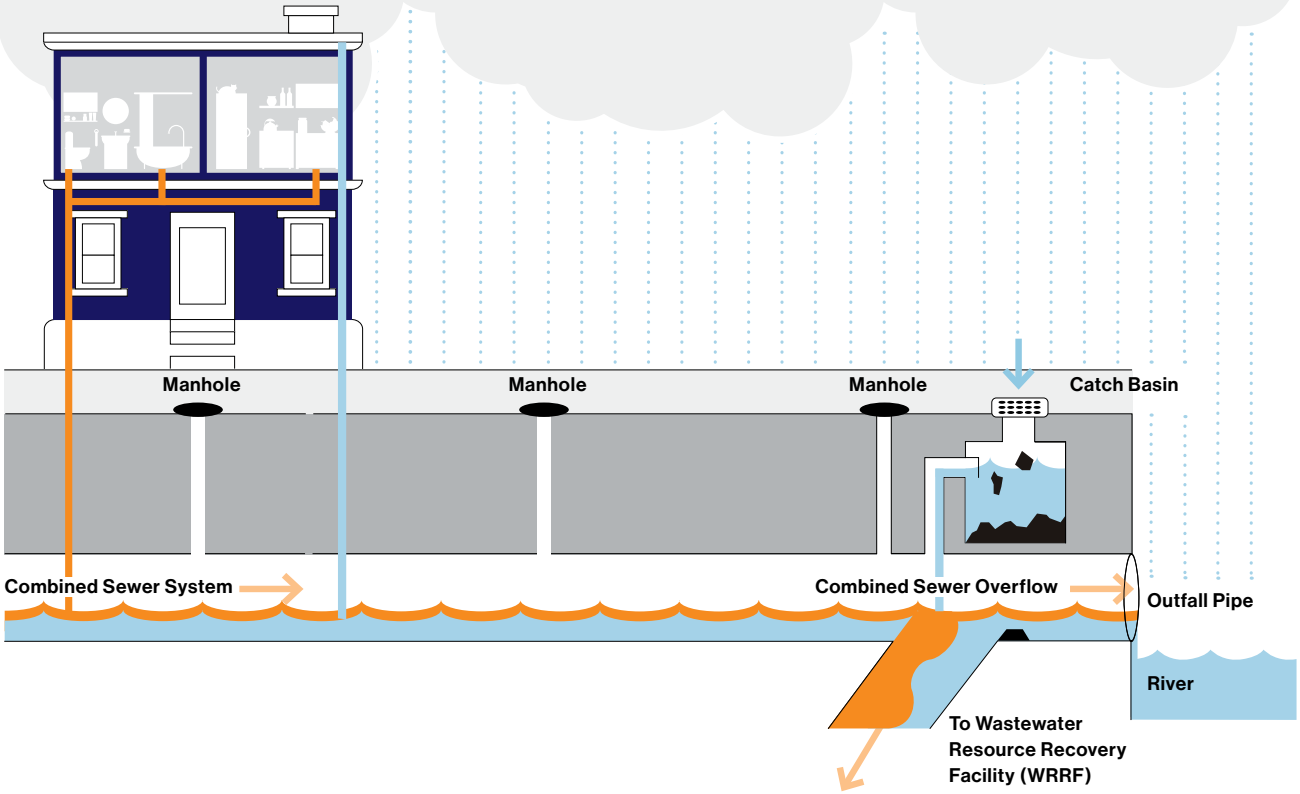
1 https://www1.nyc.gov/assets/dep/downloads/pdf/water/stormwater/ms4/nyc-swmp-plan-full.pdf

New Creek, Gateway to Bluebelt in Staten Island.

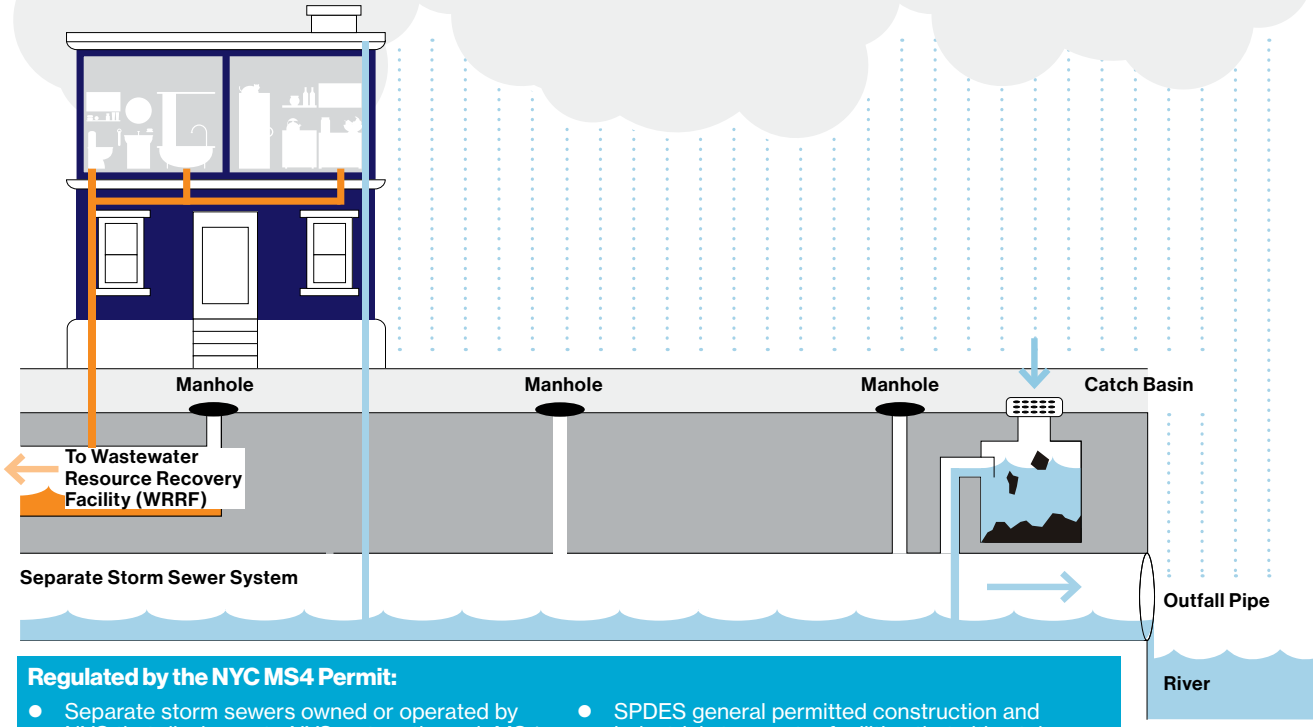
Introduction

Each component of the SWMP Plan includes best management practices (BMPs) and associated measurable goals, which the City reports on annually. The City periodically refines the measurable goals based on lessons learned from implementation of the programs, interagency working groups, and public input. Continuing to refine and update the measurable goals allows the City to better quantify and more accurately represent the effectiveness of the SWMP. The City bases its assessment of the effectiveness of the SWMP on the achievement of the stated measurable goals for each program.

Combined Sewer System



Municipal Separate Storm Sewer System



Regulated by the NYC MS4 Permit:

- Separate storm sewers owned or operated by NYC that discharge to NYS waters through MS4 outfalls or that connect to combined sewer outflow pipes downstream of the regulator owned or operated by NYC,
- High level storm sewers and Bluebelts that ultimately discharge to waters of NYS through MS4 outfalls owned or operated by NYC,
- SPDES general permitted construction and industrial stormwater facilities that ultimately discharge to waters of NYS through MS4 outfalls and combined sewer overflow pipes downstream of the regulator owned or operated by NYC,
- NYC municipal operations and facilities that drain by overland flow to waters of NYS.

Administration of the SWMP

The New York City Department of Environmental Protection (DEP) coordinates the implementation of the SWMP with the assistance of and contributions from the Stormwater Controls Working Group. The Stormwater Controls Working Group is a team of representatives from the following New York City agencies that collaborate on MS4 programs (a subset of these agencies has obligations under the MS4 Permit):

Agencies with MS4 Permit Obligations

- Department of Citywide Administrative Services (DCAS)
- Department of City Planning (DCP)
- Department of Design and Construction (DDC)
- Department of Environmental Protection (DEP)
- Department of Buildings (DOB)
- Department of Correction (DOC)
- Department of Education (DOE)
- Department of Health and Mental Hygiene (DOHMH)
- Department of Transportation (DOT)
- Department of Parks and Recreation (Parks)
- Department of Sanitation (DSNY)
- Fire Department (FDNY)
- Police Department (NYPD)
- Small Business Services (SBS)

Collaborators

- NYC Law Department (LAW)
- Economic Development Corporation (EDC)
- Mayor's Office of Management and Budget (OMB)
- Mayor's Office of Climate and Environmental Justice (MOCEJ)

MS4 Annual Reports

Each year, the City reports on SWMP implementation and MS4 Permit compliance. Reporting years are full calendar years (January 1 to December 31). The MS4 annual reports reflect the structure of the City's MS4 Permit and the SWMP Plan, both of which are organized by program. For each program, these MS4 annual reports include the following sections:

- **Introduction**. This section includes an overview of the program and context for the activities completed within a reporting year. For more information on the programs, refer to the SWMP Plan.
- **Program assessment.** This section includes information on activities completed during the reporting year. Tables that present the measurable goals and measures of a program for the reporting year are complemented by a narrative that highlights and explains important activities.
- **Goals for the next reporting cycle.** This section includes the City's objectives for the ongoing implementation of applicable programs during the next reporting cycle.
- **Program updates.** This section includes information on SWMP updates that the City is proposing as part of refining and adapting its program. The program updates section does not appear if no changes are required for a program. The City updates the SWMP Plan text annually but implements as soon as practicable any necessary changes identified during the reporting year.

Every spring, the City publishes a draft MS4 Annual Report online for public comment and holds a public meeting during the comment period. Following the public review of the draft MS4 Annual Report, the City revises the Report, as needed, and includes responses to public comments. The final version of the Report is due to NYSDEC on September 30 of each year. The MS4 Annual Reports are available on the DEP website.[2]

2 https://www1.nyc.gov/site/dep/water/municipal-separate-storm-sewer-system.page

2023 Art and Poetry, Grades 10-12.

Public Education and Outreach

The City implements a public education and outreach program (PEO Program) as part of its MS4 Permit obligations.[3] The PEO Program has many education and outreach initiatives that inform a broad range of stakeholders and the public about stormwater, the sources of pollutants associated with stormwater, and stormwater's potential impacts on water quality.

2023 Program Assessment

As part of the PEO Program, the City implemented 15 programs that included more than 2,300 events, 85,000 individuals, and the distribution of approximately 4,000,000 materials. These metrics are drawn from activities conducted citywide.

Program Highlights

Environmental Education. Through the NYC Department of Design and Construction's Town+Gown Program, DEP partnered with the Fashion Institute of Technology to design and distribute a new educational resource. *Drippy's Water Adventure* is an engaging coloring book with activities, vocabulary and concepts highlighting NYC's extensive water and wastewater infrastructure. The coloring book illustrates water use, the City's wastewater treatment system, stormwater management and green infrastructure, harbor protection and stewardship opportunities. Approximately 10,000 coloring books were distributed to schools, partner organizations, and the public in 2023.

In 2023, DEP hosted and participated in multiple professional learning opportunities engaging over 300 classroom teachers and non-formal educators. DEP partnered with numerous organizations to highlight educational programs and resources about NYC's sewer systems, stormwater resiliency, and environmental stewardship, including South Street Seaport Museum, Brooklyn Public Library, Idlewild Park Preserve, NY Sea Grant, NY State Parks, Math for America, and the NYC Department of Education.

DEP continued to enhance, distribute, and workshop the following three educational resources, which were shared with thousands of educators citywide.

- **Understanding NYC's Water Story: A Curriculum Guide for the Classroom** – This comprehensive guide for K-8 teachers explores various content related to our shared water resources. The guide includes six units and features a variety of lessons and activities to enhance teaching styles and learning about the New York City water cycle. These lessons and activities are centered on science, technology, engineering, and math (STEM) concepts and humanity subjects, and are designed to support an interdisciplinary, hands-on approach to teaching.
- **NYC Water Virtual Tours –** Designed using ArcGIS StoryMaps, these virtual tours offer a collection of historical imagery, in-the-field footage, interactive maps, and staff interviews for a fun and easy way to discover the New York City drinking water supply, sewer system, wastewater treatment system, and harbor protection.
- **Jamaica Bay Education Resource Directory** – This guide provides an important teaching tool for educators and features partner organizations and educational opportunities, such as resources and program opportunities in and around the Jamaica Bay watershed. In 2023, the guide was updated and reprinted to include new organizations and opportunities throughout the watershed.

3 https://www.nyc.gov/site/dep/environment/education-programs.page

Harbor Protectors. This innovative stewardship program recruits volunteers from schools and community groups to participate in activities such as clearing off catch basin gratings, stenciling educational/informational messages on the sidewalks near catch basins, caring for rain gardens and participating in shoreline cleanups. In addition to beautifying communities and keeping pollution out of NYC's waterways, these stewardship actions also aid DEP in its critical mission to protect and improve water quality across the five boroughs. The Harbor Protectors program hosted 1 event with 25 students cleaning and stenciling 12 catch basins.

SAFE Disposal Events. Safe Disposal events provide a designated location for New Yorkers to dispose of waste, including harmful household products. These events help the City reduce the risk of pollution in stormwater runoff through trash management and illegal dumping prevention. The City distributed more than 4 million mailers to residents and held 10 events covering all NYC boroughs with more than 20,000 participants.

Urban Park Ranger Programs. NYC Parks Urban Park Rangers offered to approximately 16,000 participants, through several programs, more than 700 events focused on ecology, stormwater, and waterbodies. These programs include The Natural Classroom: People, Place and Parks for school groups; Custom Adventures for summer camp and youth groups; and free Weekend Adventures and Pop-Up Adventures for the public. Each park in New York City is unique and is shaped by its natural features, the plants and animals that live there, and the communities it serves. Through these programs students enjoy exploring these unique urban spaces in active and engaging on-site learning experiences that highlight real-world examples of concepts, ideas, and content learned in the classroom.

During the educational tours, students investigate the diversity of parks and green spaces in the City, how these spaces improve the daily lives of New Yorkers, and how Parks maintains the parks and recreational spaces. Over the years, these types of immersive, on-site outdoor environmental programs have been shown to advance academic achievement, build character, promote wellness and good health, cultivate environmental stewardship, and foster community and ecological resilience.

Environmental Compliance Outreach (ECO) to Business Community. ECO has continued to work with its primary partners including local business groups, trade associations and city agencies to conduct business outreach reaching 3,133 business citywide. ECO has attended business resource fairs organized by local BIDs (Business Improvement Districts) and partners like the Queens, Bronx, & Brooklyn Chambers of Commerce where direct one-on-one engagement with businessowners and prospective businessowners was conducted around BMPs and local environmental regulations on safe disposal. Local partners have promoted DEP's resources in newsletters and other public facing materials throughout the year including DEP's "Trash It. Don't Flush It." PSA campaign.

ECO initiated a new environmental compliance education program in Summer 2023, titled "Mercury Free NYC" which aims to mitigate mercury contamination and pollution in the environment from business industries that work with mercury-containing materials. The outreach conducted consisted of direct outreach to 152 automotive businesses where safe disposal and BMP resources were shared in multiple languages with business management. Additionally, 503 automotive businesses were directly mailed these DEP resources. ECO also conducted direct citywide outreach with Mobile Food Vendors, informing them on local environmental regulations and BMPs, reaching 143 mobile food vendor businesses.

Southeast Queens Outreach. ECO conducted extensive door-to-door residential environmental education outreach to reduce sewer backups, reaching nearly 24,000 residents in 9,314 households. Outreach materials were provided in multiple languages to the residential community and were prioritized in various sectors of Southeast Queens between Community Boards 12 and 13, where DEP data indicated sewer backups were most prevalent. Outreach in 2023 was conducted so that ECO reached most neighborhoods in Southeast Queens from Queens Village, Hollis, Springfield Gardens to Cambria Heights.

South Brooklyn Outreach. ECO continued to conduct significant door-to-door residential environmental education outreach in South Brooklyn's Community Boards 13 & 15 to reduce sewer backups reaching 19,256 households or nearly 49,000 residents. By Fall 2023, ECO has completed block by block direct outreach in both Community Boards in 2023 since the program began marking the first-time DEP has covered the entire geographic area through this outreach. Outreach materials were provided in multiple languages to the residential community and prioritized sectors of South Brooklyn between CBs 13 and 15 where sewer backups were most prevalent, based on DEP data. Outreach was conducted with a focus on completing neighborhoods like Gravesend, Brighton Beach and Sheepshead Bay while engaging the communities of Manhattan Beach and Gerritsen Beach.

Staten Island Outreach. ECO continued to conduct business outreach in Staten Island reaching 26 businesses in 2023, participating in a business fair with the local Staten Island Chamber of Commerce as well as working with local agencies to reduce sewer backups in Northern Staten Island.

Table 1 lists measurable goals, measures, and the status of the City's implementation of each Public Education and Outreach BMP.

Table 1: Public Education and Outreach 2023 Status of Implementation

BMP	Measurable Goals	Measures	Status
Provide an ongoing public education and awareness program	Develop, implement, and assess an ongoing public education and outreach program	List of education and outreach programs/ events and relevant metric(s) for each (e.g., number of participants, events, or materials distributed)	• Adopt-a-Highway (72 materials distributed) • Annual Art and Poetry Contest (4 events; 2,430 participants) • Automotive Association Outreach (157 businesses visited; 497 materials distributed) • Community Clean-ups (317 events) • DEP Environmental Education (121 events; 14,301 participants; 23,174 materials distributed) • Parks Environmental Education (14 events; 4,520 participants) • Forgot Your Bag? (231 canine waste dispensers in the MS4 area) • Harbor Protectors (1 events; 12 catch basin cleanup; 12 catch basin stenciling; 25 participants) • Operation P.O.O.P. (26 events; 2,000 participants) • Park Stewardship (370 events; 6,159 participants) • SAFE Disposal Events (10 events; 20,522 participants; 4,056,797 materials distributed) • "Trash it, Don't Flush It" Outreach (29,848 households contacted) • Urban Park Rangers Natural Classroom (705 events; 15,995 participants) • Visitor Center at Newtown Creek (208 events; 5,917 participants) • Weekend, Pop-up, and Custom Adventures (529 events; 14,012 participants)
		List of planned educational and outreach programs/ activities to be undertaken in the next reporting cycle	• Annual Art and Poetry Contest • Automotive Associations Outreach • Community Clean-ups • DEP Environmental Education • Parks Environmental Education • Forgot Your Bag? • Operation P.O.O.P. • Park Stewardship • Harbor Protectors • "Trash It, Don't Flush It" Outreach • Urban Park Rangers Natural Classroom • Visitor Center at Newtown Creek • Weekend, Pop-up and Custom Adventures
	Develop and implement educational and informational activities related to illicit discharges for businesses and the public	List of education and outreach programs/ events and relevant metric(s) for each (e.g., number of participants, events, or materials distributed)	• Annual Art and Poetry Contest (4 events; 2,430 participants) • Automotive Association Outreach (157 businesses visited; 497 materials distributed) • Community Clean-ups (317 events) • DEP Environmental Education (121 events; 14,301 participants; 23,174 materials distributed) • Parks Environmental Education (4 events; 1,120 participants) • Forgot Your Bag? (231 canine waste dispensers in the MS4 area) • Harbor Protectors (1 events; 12 catch basin cleanup; 12 catch basin stenciling; 25 participants) • Park Stewardship (370 events; 6,159 participants) • SAFE Disposal Events (10 events; 20,522 participants: 4,056,797 materials distributed) • "Trash it, Don't Flush It" Outreach (29,848 households contacted) • Urban Park Rangers Natural Classroom (705 events; 15,995 participants) • Visitor Center at Newtown Creek (208 events; 5,917 participants) • Weekend, Pop-up, and Custom Adventures (529 events; 14,012 participants)
		List of planned educational and outreach programs/activities to be undertaken in the next reporting cycle	• Annual Art and Poetry Contest • Automotive Associations Outreach • Community Clean-ups • DEP Environmental Education • Parks Environmental Education • Forgot Your Bag? • Harbor Protectors • Park Stewardship • "Trash It, Don't Flush It" Outreach • Urban Park Rangers Natural Classroom • Visitor Center at Newtown Creek • Weekend, Pop-up and Custom Adventures

* These metrics reflect activities conducted citywide.

BMP	Measurable Goals	Measures	Status
Facilitate public reporting of illicit discharges	Promote, publicize, and facilitate public reporting of illicit discharges and potential water quality impacts	Summary of public reports received by 311	The City received 97,464 service requests for the 311 complaint types listed in this report as relevant to stormwater pollution.

Goals for 2024

The City will continue to implement the programs listed as "planned" in Table 1, including Harbor Protectors, SAFE Disposal events, and various environmental education programming. DEP will also continue to collaborate with other agencies on outreach and MS4-related materials. The City will continue to develop educational materials and will increase our efforts to collaborate with stakeholders.

Educators sail from South Street Seaport Museum.

311 is New York City's main source of government information and non-emergency services.

It provides the public with quick, easy access to all New York City government services and information. The public may connect with 311 24 hours a day, 7 days a week, 365 days a year by:

- Visiting 311 online at nyc.gov/311;
- Calling 311 or (212) NEW-YORK, (212) 639-9675, from outside New York City;
- Texting 311-692;
- Downloading the NYC 311 mobile app for Apple or Android devices; or
- Tweeting to @nyc311

311 is accessible to non-English speakers, available online in over 50 languages and by phone in over 170 languages.

311 facilitates transparency and accountability. Service requests and agency responses are available to the public as open data online.

Currently, the public can use 311 to access information on many topics relevant to stormwater pollution and water quality. The public is also encouraged to use 311 to report information relevant to stormwater pollution. Through 311, the public can report:

- **Waterway Complaint.** Report floatables, trash, oil, gasoline, sewage, or an unusual color in a waterway; report a potential illicit discharge from an MS4 outfall.
- **Dry Weather Sewage Discharge Complaint.** Report water flowing through a sewer outfall pipe during dry weather.
- **Dumping in Catch Basin or Sewer.** Report grease, gasoline, natural gas, cement, oil, sewage, chemicals, or other liquids going into a sewer or catch basin.
- **Oil Spill.** Report an oil spill.
- **Illegal Dumping Complaint.** Report the dumping of large amounts of trash.

Olympia Blvd expansion of New Creek Bluebelt area, Staten Island.

Trout in the classroom trout stripping demonstration at Newtown Creek.

Public Involvement and Participation

Involving the public in the implementation of the SWMP is a fundamental requirement of the City's MS4 Permit. Whether it is NYC residents who enjoy recreation in local waterbodies, real-estate developers who build in the MS4 area, groups who organize waterbody cleanups, or environmentalists who advocate for a healthier harbor, there is a wide range of stakeholders who participate in the City's efforts to improve water quality.

2023 Program Assessment

The City continued to engage the public using virtual platforms, including on SWMP implementation. DEP published the draft 2022 MS4 Annual Report (which covered activities completed in 2022) on the DEP website and hosted the 2022 MS4 Annual Report meeting as a hybrid event (in-person and virtual) in June 2023 with the in-person event space in Coney Island. The public was encouraged to provide comments on the draft MS4 Annual Report. These comments were addressed in Appendix 1 of the final 2022 MS4 Annual Report submitted to NYSDEC on September 30, 2023, and published on the DEP website.

The City published this draft MS4 Annual Report on the DEP website on May 22, 2024. This report covers SWMP implementation for the 2023 calendar year. The City will host the MS4 Annual Report meeting at 4:00 pm on June 10, 2024. The public is encouraged to submit comments from May 22, 2024, through July 2, 2024, by email to MS4@dep.nyc.gov.

Table 2 lists measurable goals, measures, and the status of the City's implementation of Public Involvement and Participation BMPs.

Table 2. Public Involvement And Participation 2023 Status Of Implementation

BMP	Measurable Goals	Measures	Status
Provide and promote the opportunity to report and receive stormwater information	Identify mechanism for public to report and request stormwater-related information including contact process to receive and respond to requests	Summary of public reports and requests received by MS4@dep.nyc.gov	The City responded to inquiries on various SWMP activities including construction/ post-construction permitting, potential construction projects, USWR and general stormwater discharge inquiries.
Provide public opportunity to participate in SWMP implementation	Seek public input on SWMP implementation and provide public access to Annual Reports	Date and location of draft Annual Report posted for public review and comment period	On June 2, 2023, the City posted on the DEP website the draft 2022 MS4 Annual Report, which was available for public comment through July 13, 2023.
		Date and time of draft Annual Report stake-holder meeting and number of participants	June 13, 2023, at 4:00 pm. 60 individuals participated. (Online and in person)
		Summary of comments received on draft Annual Report and City responses	See Appendix 1 of 2022 MS4 Annual Report
		List of involvement and participation activi-ties (e.g., programs, events, key stakeholder meetings)	• 2022 MS4 Annual Report Public Meeting (1 event, 60 participants) • DCP-USWR Briefing and Coordination (1 event, 64 participants) • Stormwater Management Lunch and Learn (1 event, 50 participants) • Community Clean-ups (317 events) • Park Stewardship (370 events; 6,159 participants)
		Status and location of final Annual Report and the SWMP Plan	The SWMP Plan and final MS4 Annual Reports are available at www.nyc.gov/dep/ms4.
		List of planned partici-pation and involvement programs/activities to be undertaken in next reporting cycle	• Presentation of this 2023 MS4 Annual Report • Community Clean-ups • Park Stewardship

Goals for 2024

The City plans to continue engaging with local stakeholder groups and participating in community events. In compliance with MS4 Permit requirements, the City also plans to publish and respond to comments on this Annual Report.

Mapping

The City maintains a GIS-based map of the urbanized area and its MS4 outfalls. The map together with supportive documentation satisfy each of the requirements listed in the 2022 MS4 Permit (see IV. Stormwater Management Program Requirements (C) (2) (a-h)). The City has several programs that document and map important information about NYC, including all of its outfalls and drainage areas. Much of the information gathered by these programs is available to the public through NYC Open Data at opendata.cityofnewyork.us.

As required by the 2015 MS4 Permit, the City submitted with the SWMP Plan the Preliminary MS4 Map, which showed the MS4 drainage areas and outfalls known as of August 1, 2018. The 2015 MS4 Permit further required the City to update and submit, along with supplemental information relevant to stormwater management, the final MS4 map of the permit cycle on August 1, 2020. The next update of the MS4 map will be due on August 1, 2027, 5 years from the effective date of the current 2022 MS4 Permit.

2023 Program Assessment

The current MS4 Map (as submitted to NYSDEC on August 1, 2020) is available to the public in an interactive format at www.nyc.gov/dep/ms4map. The Map includes 764 outfalls, more specifically 693 MS4 outfalls and 71 CSO outfalls with MS4 connections.

As stated in the SWMP Plan, GIS datasets are dynamic and change over time as updates are received and processed. As a result, the MS4 Map may be periodically updated as new information becomes available.

Table 3 lists measurable goals and measures with the implementation status of the City's Mapping BMPs.

Table 3. Mapping Program 2023 Status Of Implementation

BMP	Measurable Goals	Measures	Status
Map the MS4 Area	Final Map required by 2015 MS4 Permit submitted August 1, 2020	Status and location of the MS4 Map	The MS4 Map is online and available to the public at nyc.gov/dep/ms4map
		Number of known MS4 outfalls mapped	764 outfalls mapped
	Update MS4 Map 5 years from EDP	Date of latest updated MS4 Map	Current map dated 8/1/20; updated map due August 1, 2027

Goals for 2024

The City will continue to update GIS datasets for the next map due 8/1/27.

Staten Island Bluebelt.

2020 MS4 Drainage Areas and Outfalls

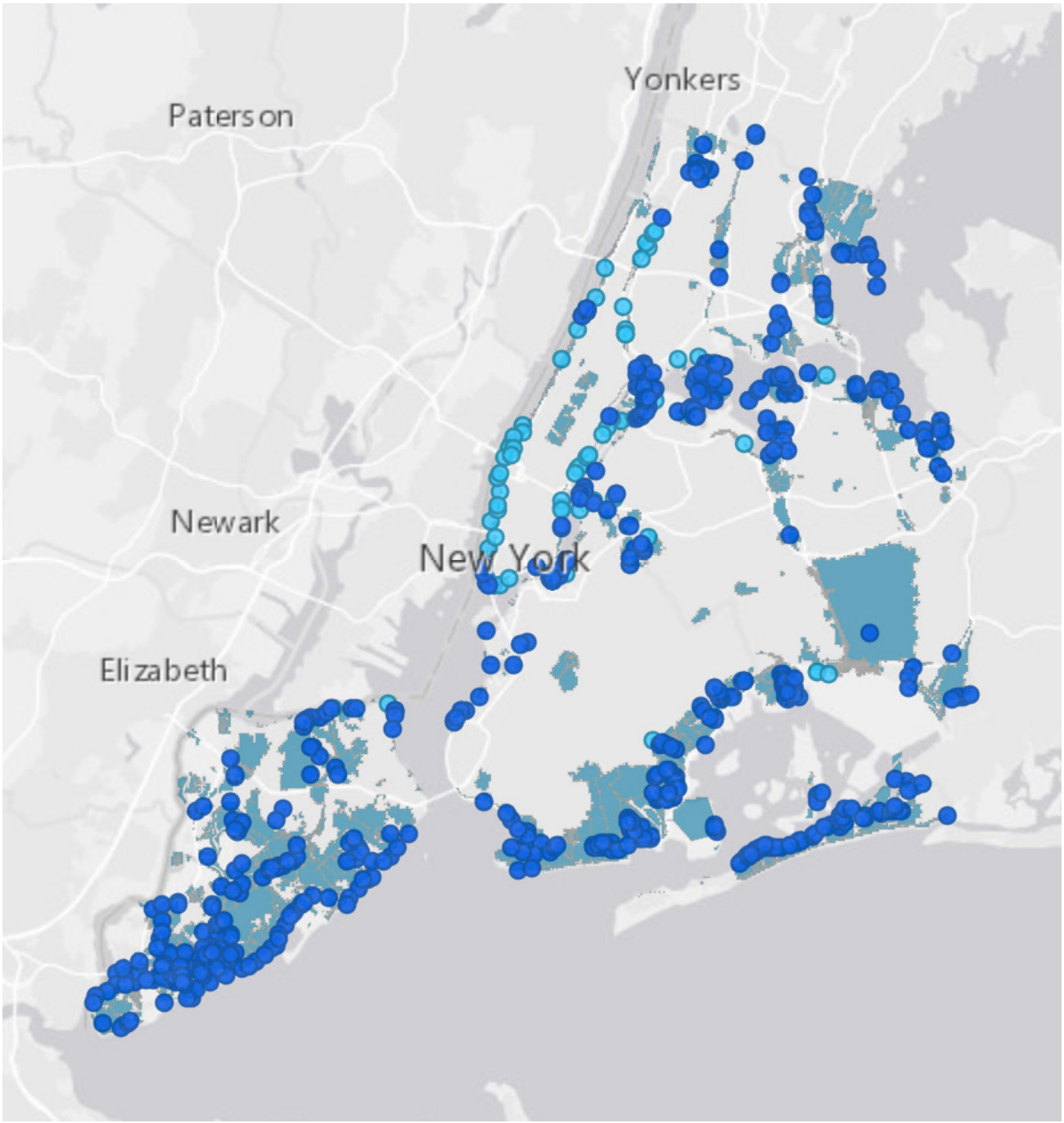
The information shown on this map is the best available information as of August 1, 2020.

MS4 Outfalls

- MS4 Outfall
- CSO with MS4 Connection

MS4 Drainage Areas

- City
- Unknown



Illicit Discharge Detection and Elimination (IDDE)

Illicit discharges are non-stormwater, unauthorized discharges into and from the MS4. Examples include sanitary pipes illegally connected to storm sewers and substances like oils dumped into catch basins. The City has longstanding, effective programs for detecting, identifying, and eliminating illicit discharges citywide. These include the Shoreline Survey, Sentinel Monitoring Program, Harbor Survey Program, and Emergency Response Units. City agencies also detect and abate illicit discharges discovered and confirmed to be originating from their properties.

The City has PEO programs for the public, businesses, and City employees on the hazards of improper disposal of materials and actions to take to reduce the risk of an illicit discharge. City employees working offsite and the public are encouraged to call 311 if they see a potential illicit discharge.

Typically, once the City identifies a potential illicit discharge, it initiates a trackdown to find the source and then takes steps to abate the discharge, if confirmed to be illicit. The trackdown process may include a series of complex steps both in the office and in the field. Each trackdown investigation is unique; some can take a few hours, while others can take days or months depending on the location, the number of sources, the logistics and the complexity of the drainage area.

2023 Program Assessment

During this reporting period, the City continued to implement its citywide IDDE Program: characterizing outfalls, sampling receiving waterbodies, source tracking, and eliminating illicit discharges. The City detected illicit discharges and eliminated them citywide through the DEP Response and Compliance Units; Sentinel Monitoring and Shoreline Survey programs; and agency actions at their municipal facilities in the MS4 area. The City is working to investigate the illicit discharges that are within the City's jurisdiction that were detected in 2023 but not eliminated within the calendar year. Some illicit discharges reported as detected will not have an accompanying abatement record because of circumstances such as an investigation's resulting in the determination that the discharge was not illicit or that the matter should be turned over to NYSDEC.

Under the Shoreline Survey Program, the City conducts an outfall reconnaissance inventory (ORI), surveying 100 percent of shoreline outfalls every 10 years.[4] MS4 outfalls are not evenly distributed throughout the shoreline; therefore, the number of outfalls the City inventories each year depends on the area of shoreline inventoried.[5] In 2023, DEP inventoried approximately 89 MS4 outfalls included in the Shoreline Survey and sent to NYSDEC an updated list of the DEP-owned CSO and MS4 outfalls.

Established as an enhancement to the Shoreline Survey, the DEP Sentinel Monitoring Program entails the regular monitoring and sampling of waterbodies throughout NYC. The purpose of the program is to detect continuous, intermittent, and/or transitory illicit discharges. Using a set list of Global Positioning System (GPS) coordinates, DEP goes to sentinel stations quarterly, collects water for samples, and analyzes the samples for pathogens. DEP may also use Harbor Survey data for this effort. The results of the mini-shoreline investigations and sampling are included in the Integrated Sentinel Monitoring Reports.

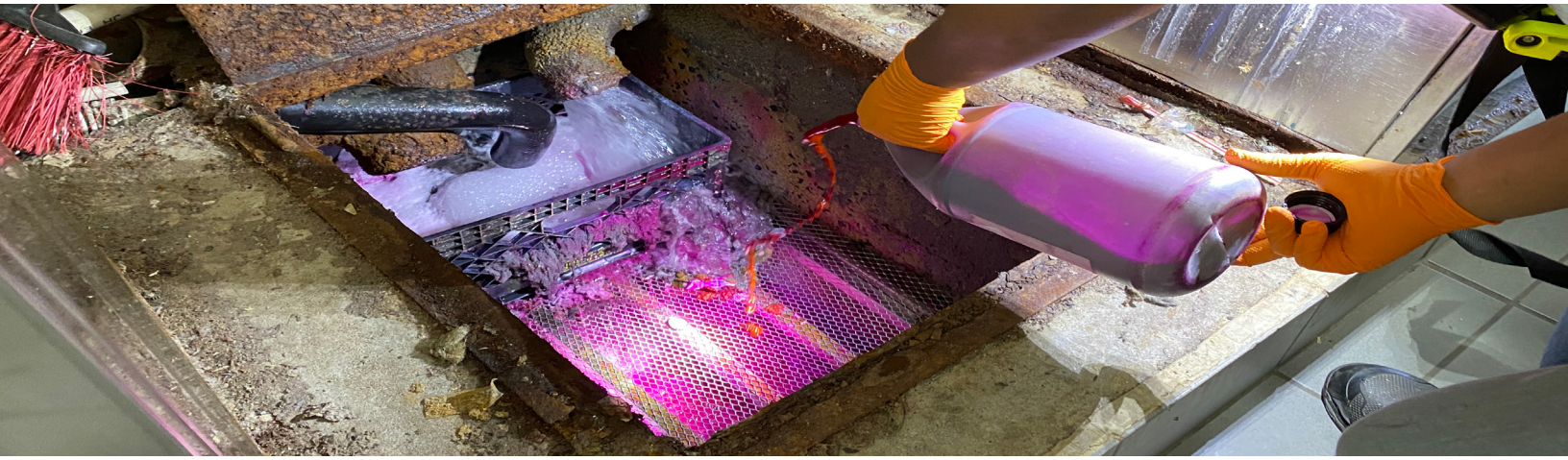
Program Highlights

Elimination of Illicit Discharge to Outfall TI-008. DEP performed a walk-through of the storm sewer tributary to TI-008 and collected samples. All the samples collected were low for fecal coliform and the outfall is now in compliance. DEP also collected samples at this outfall during different tide cycles and all results are now in compliance.

Table 4 lists measurable goals and measures with the status of the City's implementation of IDDE BMPs and represents citywide metrics.

4 As required in the 14 WRRF SPDES permits, DEP conducts the Shoreline Survey Program by surveying 50 percent of the shoreline every five years so that 100 percent of shoreline is completed every 10 years, as required by the MS4 Permit. DEP may also re-visit target drainage areas due to anticipated or identified changes to outfalls.

5 The most recent Shoreline Survey report covered the 2018-2022 period (report submitted March 2023). The 2013-2022 period represented the ten-year period during which 100% of MS4 outfalls were surveyed in compliance with the MS4 Permit.



DEP conducts dye test to track down illicit discharge.

Table 4. IDDE Program 2023 Status Of Implementation

BMP	Measurable Goals	Measures	Status
Detect and eliminate illicit discharges	Detect and eliminate illicit discharges including illegal dumping	Number of illicit discharges detected	1355*
		Number of illicit discharges abated	1347*
		Number of and type of enforcement actions	DEP issued 92 summonses and 354 Commissioner's Orders; DSNY issued 307 summonses†
	Conduct an outfall reconnaissance inventory with 100% completed every 10 years	Updated outfall spreadsheet submitted to NYSDEC	Appendix 2 – SPDES outfall listing‡
		Number of MS4 outfalls for which an outfall reconnaissance inventory (ORI) was performed	89
Prepare reports	Prepare a Special Report for waterbodies with fecal coliform above 200 colonies/100 ml and for unauthorized non-stormwater discharges within 3 years of August 1, 2015 and annually thereafter.	Status and location of Integrated Sentinel Monitoring Report submitted to NYSDEC	Available on the DEP website under the header Sentinel Monitoring Program: https://www1.nyc.gov/site/dep/water/harbor-water-quality.page
Provide an ongoing public education and awareness program	Implement a public education program on potential hazards of illicit discharges	List of education activities for public employees	PP/GH agency staff training
		List of education & outreach programs/ events and relevant metric(s) for each (e.g., number of participants, events, or materials distributed)	• Annual Art and Poetry Contest (4 events; 2,430 participants) • Automotive Association Outreach (157 businesses visited; 497 materials distributed) • Community Clean-ups (317 events) • DEP Environmental Education (121 events; 14,301 participants; 23,174 materials distributed) • Parks Environmental Education (4 events; 1,120 participants) • Forgot Your Bag? (231 canine waste dispensers in the MS4 area) • Harbor Protectors (1 events; 12 catch basin cleanup; 12 catch basin stenciling; 25 participants) • Park Stewardship (370 events; 6,159 participants • SAFE Disposal Events (10 events; 20,522 participants: 4,056,797 materials distributed) • "Trash it, Don't Flush It" Outreach (29,848 households contacted) • Urban Park Rangers Natural Classroom (705 events; 15,995 participants) • Visitor Center at Newtown Creek (208 events; 5,917 participants) • Weekend, Pop-up, and Custom Adventures (529 events; 14,012 participants)
Provide an ongoing public education and awareness program	Implement a public education program on potential hazards of illicit discharges	List of planned educational and outreach programs/activities to be undertaken in the next reporting cycle	• Annual Art and Poetry Contest • Automotive Associations Outreach • Community Clean-ups • DEP Environmental Education • Parks Environmental Education • Forgot Your Bag? • Harbor Protectors • Park Stewardship • "Trash It, Don't Flush It" Outreach • Urban Park Rangers Natural Classroom • Visitor Center at Newtown Creek • Weekend, Pop-up and Custom Adventures

BMP	Measurable Goals	Measures	Status
Provide training for staff	Implement a staff training program on IDDE	Number of staff training opportunities/events	14 events
		Number of staff trained on IDDE	89 participants total[I§]

* Number includes illicit discharges detected/abated by DEP citywide and illicit discharges detected/abated by City agencies on-site at municipal facilities in the PP/GH Inventory. The total number of illicit discharges detected may not be counted by the City as abated if the resolution action includes transferring a case to DEC.
† Excludes cases DEP referred to NYSDEC; DSNY summons are for vehicle spillage and the extrusion of noxious liquids.
‡ The spreadsheet is a full listing of DEP CSO and MS4 outfalls.
§ Participant total includes those who attended multiple training events.

Goals for 2024

The City will continue its IDDE program, including the Shoreline Survey, Harbor Survey, Sentinel Monitoring, Emergency Response Units, and responding to issues discovered on-site at municipally owned facilities.

Non-stormwater discharges (e.g., water line flushing potable water, AC unit condensate, water from crawl spaces, dechlorinated swimming pool discharges) into the MS4 are generally considered illicit. However, some non-stormwater discharges are allowed, including those from firefighting activities and discharges determined by DEP not to be significant contributors of pollutants. DEP makes the determination on a case-by-case basis. To obtain DEP approval to discharge non-stormwater into the MS4, email DEP at MS4@dep.nyc.gov with the subject line "Non-stormwater Discharge Inquiry."

Nikkitta Caban and Alejandra Diaz, Biology Lab.

Construction and Post-Construction

NYSDEC requires development or redevelopment projects disturbing an acre or more of soil to obtain coverage for stormwater discharges under the SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-020-001) (CGP).

The City's Construction and Post-Construction (C/PC) Program complements the NYSDEC CGP program in the NYC MS4 area[6] by reviewing and approving stormwater pollution prevention plans (SWPPPs) and inspecting construction sites both for stormwater impacts and for operation of post-construction stormwater management practices (SMPs). The C/PC Program also requires developers to install adequate controls to ensure no net increase (NNI) of a pollutant of concern causing the impairment of an impaired water without a total maximum daily load (TMDL). As part of the C/PC Program, DEP issues two types of stormwater permits for covered development projects: the Stormwater Construction Permit and the Stormwater Maintenance Permit.

Rules governing the C/PC Program first went into effect on June 1, 2019, and were amended in February 2022 to meet the reduced threshold identified in the Lot Size Soil Disturbance Threshold Study required by the 2015 MS4 Permit. The 2022 Unified Stormwater Rule (USWR) aligned and streamlined stormwater-related requirements throughout NYC. It expanded the C/PC program to include combined sewer system areas, lowered the soil disturbance threshold that triggers the program from one acre to 20,000 square feet, and included as an additional trigger for construction permitting the creation of 5,000 square feet of new impervious surface. For more information on the USWR, visit https://www.nyc.gov/site/dep/water/unified-stormwater-rule.page.

6 The City program was extended to the combined sewer area by Local Law 91 of 2020, effective March 26, 2021.

2023 Program Assessment

The City reviewed 381 SWPPPs and issued 97 Stormwater Construction Permits, bringing the total number of active Stormwater Construction Permits to 127. A list of active Stormwater Construction Permits is available through the Stormwater Permitting and Tracking System (SWPTS) at https://deppermits.microsoftcrmportals.com/. SWPTS is also the site for applicants to submit and then track the review and approval of their SWPPPs and issuance of their permits.

The City inspected 93% of active construction sites at least once in 2023, issuing 2 stop work orders, 2 notices of non-compliance, and 35 summonses.

Of the 381 new projects received by the City, 111 met the criteria for the NNI requirement. NNI is a requirement in the Special Conditions section of the MS4 Permit (II.B.1), under which projects that discharge to waters that are impaired but do not have a TMDL allocation, must implement SMPs that preclude any potential increase in pollutant loading.

Table 5 lists measurable goals and measures with the status of the City's implementation of C/PC Program BMPs.

Willets Point construction progress.

Table 5. C/PC Program 2023 Status of Implementation

BMP	Measurable Goals	Measures	Status
Construction Site Stormwater Runoff Control	Review and approve SWPPPs	Number of SWPPPs reviewed	381
	Inspect construction sites and enforce Stormwater Construction Permits	Number of active construction sites	127
		The percentage of active Stormwater Construction Permit sites inspected once	93%
		The percentage of active Stormwater Construction Permit sites inspected more than once	37%
		Number and type of enforcement actions	• Stop Work Orders: 2 issued • Notice of non-compliance: 2 issued • Summons: 35 issued
		Number of construction site stormwater control trainings planned or completed	• Completed: 0 • Planned: 1
Post-Construction Stormwater Management	Inspect post-construction sites and enforce Stormwater Maintenance Permits	Number and type of enforcement actions	• Stop work order: 0 • Summons: 0 • Commissioner's Order: 0 • Notice of Non-Compliance: 0 • Penalties: 0
		Number of post-construction stormwater management practices (P-C SMPs), including the type of practice and the contributing impervious area managed by each practice within the MS4 areas.	0
		Number and type of P-C SMPs inspected	0
		Number and type of P-C SMPs properly maintained as determined by inspections	0
		Number of individuals trained in inspection of long-term operation and maintenance of post- construction SMPs	0

Goals for 2024

DEP's Stormwater Permitting Group plans to continue outreach efforts to the construction community, to review and approve SWPPPs, and to inspect sites that have construction permits. Additionally, City staff will continue to respond to inquiries and provide applicants with information and training, as needed or requested.

Pollution Prevention/ Good Housekeeping (PP/GH) for Municipal Operations and Facilities

The City has an extensive network of municipal facilities and operations that serve New Yorkers and keep vital infrastructure functioning properly. To help reduce the potential for these facilities and operations to pollute stormwater, the City implements a comprehensive PP/GH Program, which:

- Maintains an inventory of municipal facilities and operations, prioritizes them for their potential to contribute pollution to stormwater runoff and assesses them on 2, 5 and 7-year cycles for high, medium and low priority, respectively;
- Provides guidance on stormwater control measures (SCMs) to reduce stormwater pollution from municipal facilities and operations;
- Evaluates runoff reduction techniques including green infrastructure (GI) in planned municipal upgrades (PMUs); and
- Trains City staff on PP/GH practices.

The City also updates the facility inventory and priority ratings, as they are not static and can change from year to year based on new information.

2023 Program Assessment

Inventory. The facility inventory is dynamic in nature: facilities can be consolidated or separated, newly occupied or vacated, or confirmed served by the MS4 or combined sewers. The City updates the inventory annually. At the end of 2023, there were 530 facilities in the inventory: 34 high priority, 272 medium priority, and 224 low priority.

Facility and Off-site Assessments. Facility assessments evaluate stormwater controls associated with a facility's operations and assess stormwater pollution potential. Based on pollution potential, a facility may be categorized as a high, medium, or low priority site. The City assessed 100 facilities including sites owned or operated by DSNY, DOE, Parks, NYPD, FDNY, DOT, and DOC.

The City also assessed off-site operations. Off-site operations are municipal activities generally performed in the right of way (ROW), including, but not limited to, pavement cleaning, road repairs, and catch basin cleaning. The off-site operations are assessed against the potential risk of impacts to stormwater runoff due to activities associated specifically with the operations. Typically, this assessment includes evaluation of waste-generating activities and their management, as well as stormwater controls.

Stormwater Control Practices. City agencies continued to implement stormwater control practices such as cleaning catch basins, sweeping pavement and practicing proper storage of materials.

Pollution Prevention Training. The City continued to administer the PP/GH Training in both classroom (in-person and virtual), and computer-based environments. More than 7,847 municipal employees received PP/GH training through DEP virtual, classroom-based sessions and through their agencies.

Table 6 lists measurable goals and measures with the status of the City's implementation of PP/GH Program BMPs.

Catch Basin Cleaning Mania Competition.

Table 6. PP/GH Program 2023 Implementation Status

BMP	Measurable Goals	Measures	Status
Provide program for pollution prevention and good housekeeping (PP/GH) for municipal operations and facilities	Maintain an inventory of municipal operations and facilities	Number of facilities, by priority	High – 34 Medium – 272 Low – 224
		Number of off-site operations, by priority	Medium – 16 Low – 3
	Implement the PP/GH Program	Acres of parking lot swept	6,763.7*
		Miles of street swept	988,751.7*
		Number of catch basins inspected	25,091†
		Number of catch basins cleaned	10,404†
		Number of catch basins maintained	755†
		Miles of storm sewers inspected	510.9‡
		Miles of storm sewers cleaned	516.3‡
		Number of self-assessments conducted, high priority facilities	28
		Number of self-assessments conducted, medium priority	49
		Number of self-assessments conducted, low priority	23
Provide staff awareness training	Implement a PP/GH Training Program	Number of staff trained in-person	194
		Number of staff trained computer-based	7,653
Consider runoff reduction and green infrastructure	Consider runoff reduction techniques and green infrastructure in PMUs	Number of municipal upgrade projects where green infrastructure or runoff reduction techniques were incorporated	0
Provide training to responsible staff	Implement a GI inspection and maintenance training program	Number of staff trained in inspection and maintenance of municipally constructed green infrastructure assets and post-construction SMPs.	0
Inspect and maintain green infrastructure (GI) assets	Implement a GI inspection and maintenance program	Number of municipally constructed green infrastructure assets and post-construction SMPs inspected.	6
		Number of municipally constructed green infrastructure assets and post-construction SMPs maintained.	6

* Based on citywide numbers for ROW, arterial highways, bridge roadways, tunnels, and underpasses, and work done by agencies at their facilities listed in the inventory.
† Data include the DEP ROW catch basin program based on the 2020 MS4 map and work done by agencies at their facilities listed in the inventory.
‡ Based on work done by DEP for all sewers citywide and work done by agencies at their facilities listed in the inventory.

Goals for 2024

The City will continue to assess facilities and off-site operations based on their priority status; refine the facility and off-site operation inventory; inspect and maintain municipally constructed GI; and administer staff trainings. DEP and DSNY plan to implement a roadway porous pavement cleaning pilot. Field activities for the pilot are anticipated to start in Spring/Summer 2024.

Industrial and Commercial (I/C) Stormwater Sources

NYSDEC requires certain industrial facilities to obtain coverage for stormwater discharges under the State Pollution Discharge Elimination System (SPDES) Multi-Sector General Permit for Stormwater Discharge from Industrial Activities (GP-0-23-001) (MSGP). While NYSDEC issues the MSGP, DEP is responsible for the associated inspections and enforcement of the MSGP at privately owned MSGP-covered facilities in the MS4 area. DEP also assesses unpermitted industrial and commercial facilities in the MS4 area and sends its observations to NYSDEC to facilitate NYSDEC's determination of the facilities' potential need for SPDES permit coverage. DEP maintains a list of these permitted and unpermitted facilities, referred to as the I/C Facility Inventory.

DEP and Stantec assess an unpermitted facility for MSGP applicability.

2023 Program Assessment

Unpermitted Facility Assessments. Since the start of the I/C Program, DEP has assessed 1,434 unpermitted facilities. Except for 24 unpermitted sites from the original inventory that still required field assessment, facilities in the inventory have either been identified as referrals to NYSDEC for SPDES coverage, or as "no further action." Assessments of no further action were made for a variety of reasons: facilities did not meet the criteria for SPDES referral; facilities were abandoned; buildings were demolished, replaced, or occupied by a new business unrelated to the previous enterprise or industrial sector; facilities were determined not to be in the MS4 area and, therefore, not subject to the I/C program; or facilities had already obtained SPDES MSGP coverage or applied for permit coverage, making assessment to determine SPDES permit applicability unnecessary.

DEP continued assessing (desk-top) for SPDES applicability the remaining 24 unpermitted facilities from its original inventory, while also supplementing its inventory with 4 newly identified unpermitted facilities. During the 2023 reporting period, DEP conducted field assessments of 31 unpermittedfacilities for SPDES permit applicability. Of the 31 facilities assessed, DEP identified 9 facilities for referral to NYSDEC for potential MSGP no-exposure, full MSGP or other SPDES permitting. The remaining 22 facilities did not meet the criteria for referral and have been classified as requiring no further action, which includes a total of 16 facilities that were identified as inactive (i.e., out of business). These facilities were removed from the inventory and classified as no further action. Furthermore, an additional 20 facilities were assessed as being located outside of the MS4 area.

To date, DEP has finalized classification of 14 facilities as potential significant contributors of Pollutants of Concern (POCs), and these have been reported to NYSDEC.

Table 7 summarizes the results of unpermitted assessments performed.

Permitted Facility Inspections. During 2023, the City inspected 16 MSGP-permitted facilities. Table 8 summarizes the MSGP-permitted site inspections

Table 7. Unpermitted Assessment Summary

Assessment Results	Number of Facilities in Reporting Period (2023)	Cumulative Number of Facilities to Date (2019-2023)
Unpermitted facilities with no further action needed*	22	1,272
Unpermitted facilities to be referred to NYSDEC for SPDES Permit Determination†	9	162
Total	**31**	**1,434**

* Includes inventory listings deemed inactive or where no industrial activity was observed; and inventory listings that did not meet criteria for SPDES permitting referral.
† Includes facilities that may be eligible for MSGP coverage, may qualify for no exposure waiver, or may need an individual SPDES permit.

completed during this reporting period. These findings will be memorialized in inspection reports and associated enforcement (corrective action letters) to be completed after the reporting period. Inspection frequencies dictated by the MS4 Permit were met during this reporting period.

Complaint-Driven Inspections. By calling 311, the public may make a variety of complaints related to industrial activity. DEP received and evaluated 26 complaints received via 311 tickets for potential applicability to the I/C program. All 26 Infor Public Sector (IPS) tickets were referred to other DEP response programs for appropriate action.

Two additional complaints were received via other referrals to the I/C program. One of the 2 resulted in an enforcement action (by DEP Emergency Response Unit (ERU)), and the other was referred to other DEP response programs.

Enforcement. During the 2023 reporting period, DEP I/C issued 7 Commissioner's Orders (COs) to facilities in the I/C inventory. A CO, under the I/C program, is an order issued by DEP to enforce its rules for the use of and discharges to the MS4; the Order explains the nature of the violation and provides a deadline for taking corrective action. Four COs were issued to unpermitted facilities and 3 COs to permitted facilities. There were several categories of COs issued: most, considered '"precautionary" COs, prohibited non-stormwater discharge to the street and sidewalk; some related to investigation and elimination of illicit discharges; one required a recipient to clean up the street and sidewalk of waste discharged from the site; and several were related to MSGP compliance deficiencies.

DEP sent 17 formal corrective action letters to MSGP-permitted facilities in 2023. These letters directed facilities to make improvements to SWPPPs and/or housekeeping practices. Seven of the letters were linked to inspections conducted during the prior reporting period (2022). An additional 6 corrective action letters stemming from inspections conducted in 2023 are still pending final completion and are expected to be completed in 2024.

DEP did not observe any active, unauthorized non-stormwater discharges to the MS4 while performing MSGP compliance inspections or unpermitted facility assessments. Therefore, in 2023, the City issued no enforcement actions with penalties (i.e., summonses) for observed, active, illicit discharges.

Table 8 lists measurable goals and measures with the status of the City's implementation of the I/C Program BMPs.

Table 8. I/C Program 2023 Implementation Status

BMP	Measurable Goals	Measures	Status
Provide an industrial and commercial pollution control program	Implement an inspection and assessment program for unpermitted industrial and commercial sources	Status of the inspection program and stormwater controls for unpermitted industrial and commercial facilities	DEP performed 31 unpermitted facility assessments in 2023. 9 of these facilities will be referred to NYSDEC for SPDES coverage. DEP issued 4 Commissioner's Orders to unpermitted facilities.
	Implement an inspection program for MSGP Permit holders based on priority and evaluate stormwater controls	Number of SPDES MSGP facilities inspected, high priority	7
		Number of SPDES MSGP facilities inspected, medium priority	8
		Number of SPDES MSGP facilities inspected, low priority	1
		Number of non-compliant SPDES MSGP facilities	6
		Number of repeat non-compliant SPDES MSGP facilities	10
		Number and type of enforcement actions completed and penalties issued	17 completed formal letters to permittees identifying deficiencies & associated corrective actions. A portion of these were tied to inspections completed during the prior reporting period. DEP issued 3 Commissioner's Orders to permitted facilities. 6 formal letters in progress to permittees identifying deficiencies & associated corrective actions. 2 Commissioner's Orders are in progress to permittees.
	Track significant contributors of POCs	Number of facilities identified as significant contributors of POCs	14

Goals for 2024

DEP plans to continue the assessment of unpermitted facilities and inspection of permitted facilities. In addition, DEP plans to finalize SPDES assessment report referrals from the prior year and take any necessary enforcement actions stemming from assessments and inspections done in 2023.

Control of Floatable and Settleable Trash and Debris

Stormwater runoff can transport trash and debris from streets and sidewalks into local waterbodies. Once waterborne, these materials are referred to as floatables. The SWMP relies on many existing programs to control trash and debris stemming from the MS4 area. The key programs to control trash and debris and to intercept materials that could potentially discharge via storm sewer through outfalls include street sweeping, catch basin hooding and maintenance, and catch basin inspection. The City also implements in-water floatable containment facilities such as booming, netting, and skimming to collect floatables in waterbodies. Public education, outreach, involvement, and participation are also important parts of the City's holistic efforts to control floatables. A variety of programs encourage the public to help manage trash and debris, including a suite of stewardship programs (e.g., Parks Community Cleanups) and 311, which enables New Yorkers to report to the City dirty conditions they observe.

2023 Program Assessment

During this reporting period, the City implemented the floatables control programs described in the Plan. These programs included sweeping 988,751.7 miles of streets citywide, inspecting 25,091 catch basins and cleaning 10,404 catch basins. DEP maintained 23 in-water floatable containment facilities. DEP is working closely with DSNY to share and review street sweeping information, as an important floatables control measure.

Loading Rate Study. The City developed and conducted a Floatables Loading Rate (FLR) Study to determine the loading rate of trash and debris from the MS4 to floatable-impaired waterbodies. The primary goal of this study was to use data collection and analysis to quantify a loading rate at monitored catch basins and to use statistical modeling to predict the floatables loads at MS4 catch basins and outfalls discharging to floatables-impaired waterbodies throughout the City.

DEP conducted data analysis and reporting between December 2021 and December 2023. The monitoring data will be analyzed to compute loading rates at the monitored catch basins and investigate the relationships among the loading rates, factors affecting loads (street litter level, street sweeping frequency, catch basin hood status, drainage area and curb length), and additional predictors or variables such as demographics and land use. These relationships will be used in a statistical analysis to predict the corresponding floatables loads at unmonitored catch basin locations within the MS4.

Table 9 lists measurable goals and measures with the status of the City's implementation of the Control of Floatable and Settleable Trash and Debris program BMPs.

Table 9. Control of Floatable and Settleable Trash and Debris 2023 Status of Implementation

BMP	Measurable Goals	Measures	Status
Provide a Floatable and Settleable Trash and Debris Management Program	Determine Loading Rate of Floatable Trash and Debris discharged from MS4 to waterbodies impaired for floatables	Status of Loading Rate Study	Floatables Loading Rate (FLR) Study analysis in progress
	Continue DEP's Catch Basin Inspection, Cleaning, and Hood Replacement Program	Number of catch basins inspected, cleaned, and retrofitted†	25,091 catch basins inspected, 10,404 catch basins cleaned
		Number of catch basin hoods installed, or replaced†	0 catch basin hoods repaired, and 686 catch basin hoods installed
	Continue DEP's boom and netting program	Status and location of Combined Sewer Overflows Best Management Practices (CSO BMP) Annual Report with Floatables Control Program results	The most recent CSO BMP Annual Report is online and available to the public at https://www.nyc.gov/site/dep/water/combined-sewer-overflows.page
	Implement a public education program on floatables	List of education & outreach programs/events and relevant metric(s) for each (e.g., number of participants, events, or materials distributed)	• Adopt-a-Highway (72 materials distributed) • Automotive Association Outreach (157 businesses visited; 497 materials distributed) • Community Clean-ups (317 events) • Parks Environmental Education (2 events; 40 participants) • Harbor Protectors (1 events; 12 catch basin cleanup; 12 catch basin stenciling; 25 participants) • Park Stewardship (370 event; 6,159 participants) • SAFE Disposal Events (10 events; 20,522 participants: 4,056,797 materials distributed) • "Trash it, Don't Flush It" Outreach (29,848 households contacted)

Goals for 2024

The City plans to continue its key floatables control programs, including public education and outreach, street sweeping, catch basin inspections and cleaning, and DEP's boom and netting program.

FLR Study[7] information will be applied to the Urban Stormwater Quality (USWQ) modeling effort currently being piloted to assess the effectiveness of different stormwater BMPs including floatables controls (see the Monitoring section for more information on USWQ modeling).[8]

7 The MS4 Permit requires the FLR Study to be completed by August 1, 2025.

8 DEP will use information from the FLR Study and USWQ models to propose, before the end of the permit term in 2027, a methodology for selecting, sizing, and siting floatables controls to reduce trash and debris that discharges to the City's waterbodies.

Loading Rate Study Lab.

Materials collected from Loading Rate Study.

Monitoring

To assess the quality of stormwater runoff from the MS4, the City developed and implemented an MS4 Outfall Monitoring Program that combines data collected from existing monitoring programs with additional water quality and flow data collected in manholes upstream of select outfalls. An important goal for the MS4 Outfall Monitoring Program was to collect and analyze water quality data to determine whether a relationship exists between land use type and pollutant concentrations in the City's stormwater. The City collected water quality and flow data during wet weather events to assess the influence of land use on stormwater discharge and pollutant concentrations. The MS4 outfall sampling locations were representative of six land use types within NYC: mixed; high-density residential; low-density residential; industrial; open space; and highway. The wet weather events during which the City sampled had to meet the criteria for a "qualifying rain event":

- No storm equal to or greater than 0.1 inches occurred in the outfall catchment area within 48 hours preceding the rain event;
- Weather forecasts at least a day in advance predict rain with 80 percent probability of occurrence; and
- The event is predicted to result in at least 0.2 inches of rain.

2023 Program Assessment

NYC MS4 Outfall Monitoring Program. Sampling for the MS4 Outfall Monitoring Program was conducted between 2019 and 2022, resulting in the collection of a total of 64 samples over the 41-month monitoring period. The City performed statistical analysis to comprehensively characterize and evaluate the quality of stormwater discharges to determine whether there were significant differences among the outfalls. The NYC MS4 Outfall Monitoring Program Report outlining the study was completed and submitted to NYSDEC in June, in accordance with the MS4 Permit requirement.

USWQ Hydrologic and Hydraulic (H&H) Model. The City initiated a pilot to develop an USWQ model for the MS4 areas of the Tallman Island WRRF sewershed. Existing hydraulic and hydrologic (H&H) models developed under the Citywide Stormwater Engineering Analysis and Planning (CSEAP) project are being used to add a water quality modeling component. These models will then be used to assess the build-up and wash-off of POCs identified in the MS4 Permit and the effectiveness of different structural and non-structural BMPs. The City expanded the H&H model network for the Tallman Island sewershed based on the 2020 MS4 Map, updated the hydrology approach within the model and performed a hydraulic recalibration of the model network.

Harbor Survey Trend Analysis. The City also initiated the development of the Harbor Survey Trends Analysis toward its goal of evaluating long-term water quality trends. The planned Harbor Survey Trends Analysis will utilize data from the Harbor Survey, which measures a variety of water quality parameters that generally describe the overall condition of water quality in NYC's receiving waterbodies. Per MS4 Permit requirements, the City will develop an initial data analysis for the five-year period prior to the implementation of the SWMP (i.e., 2014 to 2018) to establish baseline water quality conditions to satisfy the permit requirement.

Table 10 lists measurable goals and measures with the status of the City's implementation of the Monitoring Program BMPs.

Table 10. MS4 Monitoring Program 2023 Implementation Status

BMP	Measureable Goals	Measures	Status
Monitoring and Assessment Program	Conduct wet weather sampling from outfalls/	Results of monitoring data collected and analyzed	Outfall monitoring data was analyzed, and a comprehensive report was submitted to NYSDEC.
	Evaluate long-term trends in receiving water quality	Analyze 5 years of Harbor Survey data to establish baseline conditions prior to SWMP implementation (2014-2018)	Due 8/1/24
	Develop urban stormwater quality models	Report on progress	1st report due 8/1/24

Goals for 2024

DEP will finalize the report summarizing the MS4 Outfall Monitoring Program data collection, analysis, results, and conclusions. Stormwater concentration data from the MS4 Outfall Monitoring Program will be used to calibrate USWQ models as model development continues throughout 2024. The City will provide to DEC a progress report on development of the models by August 2024, as required by the MS4 Permit.

The City will perform a baseline analysis of Harbor Survey data from the five years prior to SWMP implementation. The City will review and evaluate Harbor Survey data, including parameters, depths and recording times, from 195 monitoring stations. The data analysis will be completed by August 2024, as required by the MS4 Permit.

Special Conditions for Impaired Waters

In addition to the City-administered programs and practices to reduce or remove pollutants in stormwater runoff throughout the MS4 area, there are special conditions for specific impaired waterbodies:

- Impaired waters without TMDLs;
- Impaired waters with NYSDEC-approved CSO LTCPs that have identified stormwater as a significant contributor to the impairment.

Information on impaired waters without TMDLs is included in the Construction and Post-Construction section of this report. Impaired waters with approved CSO LTCPs that do not predict compliance with applicable water quality standards, and where stormwater contributions from the MS4 are expected to be a significant contributor to the impairment, require the City to implement enhanced BMPs. In 2022, Coney Island Creek was the only waterbody to meet these criteria.

In January 2023, DEC approved the Jamaica Bay and Tributaries LTCP. Accordingly, Thurston Basin, Bergen Basin and Fresh Creek likewise now meet the criteria, requiring the City to determine, for those waterbodies, the priority source categories for the POCs causing the impairments; what additional or customized non-structural BMPs should be implemented and on what schedule; and any opportunities for implementing cost effective and feasible green infrastructure projects and other structural retrofits. Future annual reports will include information on the City's progress in implementing the program in these additional waterbodies.

For Coney Island Creek, the MS4 Permit lists pathogens (fecal coliform) and floatables (garbage and refuse) as the POCs causing impairments.

Table 11 shows a summary of the source categories of the POCs and the City's proposed control measures for Coney Island Creek.

Jamaica Bay goose with babies.

Table 11. Source Categories Of POCS Proposed Control Measures For Coney Island Creek

Pollutant of Concern	Targeted MS4 Source Categories	Proposed Control Measures and Projects for CIC
Floatables	• Highly impervious area (littering)	• Catch basin marking • Source control • Public education and outreach
Pathogens	• Illicit discharges • Pet waste	• Catch basin marking • Sentinel Monitoring • Source tracking and control • Public education and outreach

2023 Program Assessment

The City continued to implement enhanced BMPs in the Coney Island Creek watershed.

Table 12 provides status updates on the enhanced BMPs the City included in the SWMP Plan.

Table 12. Special Conditions Program Status Updates

Program	Description	Update
Pet waste management	Maintain pet waste bag dispensers and signage as part of Parks' "Forgot Your Bag?" Program, to minimize the presence of exposed pet waste.	Parks continued to maintain the pet waste bag dispensers and signage in both Calvert, Vaux, and Kaiser Parks.
Catch basin marking	Include a "no dumping" message on the iron curb piece on new and replaced catch basins in the MS4 area. Provide catch basin stenciling opportunities for local organizations.	The City continued to include a "no dumping" message on newly installed catch basin curb pieces throughout the City. DEP administers a Harbor Protectors Program in Coney Island Creek, providing 4 different stencil designs and guidance to the local community.
Source Tracking/ IDDE	Source tracking efforts in Coney Island Creek.	DEP Compliance Monitoring Section (CMS) has done multiple investigations near Coney Island Creek and has resolved a number of cases, including broken sanitary sewer line and illicit discharge via overland flow from NYCHA Gravesend property to catch basins connected to the storm sewer.
Public education and outreach	Conduct education and outreach in the Coney Island Creek Community on pollution source controls.	On April 24, 2023, DEP Harbor Protectors Program participated in a "Canarsie Earth Day Event." 25 students were engaged in cleaning and stenciling 12 catch basins. Harbor Protectors are DEP volunteers (students or community groups) who engage in stewardship activities in their neighborhoods. These activities help keep our communities clean and pollution out of our waterways. Volunteers participate in one or more activities that support stormwater management: • Clean Catch Basins: New York City has more than 144,000 catch basins! Catch basins collect rainwater that flows down streets and sidewalks. Harbor Protectors remove litter and leaves that can cover catch basins causing flooding and pollution in nearby waterways. • Stencil Catch Basins: Sometimes people pour oils or dump garbage down catch basins. Those oils and debris can end up as pollution in nearby waterways. Harbor Protectors stencil an educational message on the sidewalk near a catch basin to remind their neighbors not to dump anything there. • Care for Rain Gardens: Rain Gardens are built in City sidewalks and are designed to collect rainwater before it gets to the catch basins. Harbor Protectors care for rain gardens by removing litter and debris, clearing inlets and outlets, and helping City maintenance staff care for plants. • On July 15, 2023, Parks hosted the It's MY Park event in Coney Island at Kaiser Park for a park Clean-up in honor of World Water Day and removed approximately 83 lbs. of debris.
Green infrastructure	Identify potential GI opportunities in Coney Island Creek MS4 areas by prioritizing City-owned sites based on their potential to capture runoff.	DEP identified 5 schools suitable for SMP projects. • K095: Gravesend – subsurface retention practice • K238: Anne Sullivan – bioretention practice and subsurface retention practice • K234: W. A. Cunningham – subsurface stormwater chamber • K212 Lady Deborah Moody – synthetic turf practice with subsurface stone storage • K303: I.S. 303 Herbert S. Eisenberg – Green Roof Construction is complete at K238 and K234; construction will be starting at K095 by Summer 2024. For the fourth school, K212 Lady Deborah Moody, synthetic turf practice with subsurface stone storage has been included in a separate construction contract with other synthetic turf projects, and is set to start construction Summer/Fall 2024. The fifth school, I.S. 303 Herbert S. Eisenberg, has entered the Basis of Design Report stage of early design as of January 2024.

Goals for 2024

The City will work on developing a Plan for implementing enhanced BMPs in Thurston Basin, Bergen Basin and Fresh Creek areas.

Recordkeeping and Reporting

Each year, the City prepares an MS4 Annual Report documenting the status of compliance activities related to the MS4 Permit. The City submits the MS4 Annual Report to NYSDEC by September 30 following each reporting year. The public can also request information related to the SWMP by emailing MS4@dep.nyc.gov.

This report documents activities related to MS4 Permit compliance for the 2023 reporting period and serves as the Annual Effectiveness Assessment required by the permit. The City assesses SWMP effectiveness through its achievement of the measurable goals included in the BMP tables. In addition, the annual report includes a narrative highlighting and explaining important activities conducted during the reporting year. The City also periodically refines its measurable goals with information gained from program planning and implementation, interagency working groups, and public input. Continuing to refine and update the measurable goals allows the City to better quantify and accurately represent the effectiveness of each one.

Table 13 shows the 2023 recordkeeping and reporting implementation status.

Table 13. Recordkeeping and Reporting 2023 Implementation Status

BMP	Measurable Goals	Measures	Status
Provide annual reports to document compliance with the MS4 permit	Develop Annual Report due September 30 following each reporting year.	Summary of annual effectiveness assessment	• See effectiveness assessment of each program under pertinent sub-sections of this report.
		Municipal Compliance Certification submission	• Appendix 3 – Municipal Compliance Certification (City to include with final draft)

Installation of New Catch Basins for Willowbrook/Westerleigh.

Tallman Island landscaping and green infrastructure for storm water management.

Related Initiatives

NYC Green Infrastructure Program

Over the past decade, DEP has developed 11 drainage basin-specific Long Term Control Plans (LTCP) with federal and state regulators for NYC waterways impacted by combined sewer overflow (CSO). Since the New York State Department of Environmental Conservation (DEC) issued the 2012 CSO Consent Order, DEP has administered the NYC Green Infrastructure Program as part of the regulatory milestones to complement traditional gray infrastructure investments. DEP has been leading the NYC Green Infrastructure Program in areas served by the combined sewer system, constructing green infrastructure practices in the public right-of-way, on City-owned property, on private property through financial incentive programs, and through stormwater regulations. The use of green infrastructure is expanding on public and private properties through updates to stormwater regulations, such as the implementation of the Unified Stormwater Rule in 2022.

In 2023, DEP and DEC signed a modification to the Consent Order. Major changes between the 2012 CSO Order and the 2023 Citywide Green Infrastructure Modification (2023 Modification)[9] include expanding the definition of green infrastructure, extending the NYC Green Infrastructure Program's timeline, updating the Program's certification metrics and interim milestones, and increasing the Program's total funding commitment to include projects located citywide. The Program's regulatory goal is to reduce CSOs by 1.67 billion gallons per year (BGY) in combined sewer areas by December 2040 and to expend $3.5 billion on green infrastructure in combined and separately sewered areas (MS4) by December 2045.

The modification allows DEP to track green infrastructure constructed in MS4 areas toward the new financial milestones. Prior to the 2023 Modification, DEP had been strategically constructing green infrastructure in MS4 areas for MS4 Permit obligations, as well as through DEP's financial incentives and partnerships, and median projects. Going forward, DEP will consider multiple benefits of green infrastructure for neighborhoods, in addition to CSO volume reduction, such as flood management and water quality improvements.

The Green Infrastructure Program currently offers two citywide financial incentive programs for private property owners in combined and separately sewered areas of NYC. The Green Infrastructure Grant Program[10] funds the design and construction of green roof retrofits on private property, and Resilient NYC Partners[11] funds the design and

9 https://extapps.dec.ny.gov/docs/water_pdf/2023nycgiordermod.pdf

10 https://www.nyc.gov/site/dep/water/green-infrastructure-grant-program.page

11 https://www.nyc.gov/site/dep/whats-new/resilient-nyc-partners.page

construction of site-level GI practices on private properties with large areas of impervious surface. In 2023, Resilient NYC Partners funded the design and construction of a new subsurface storage and porous pavement system at T-Mina Supply Inc., a 1.3-acre supply yard along College Point Boulevard. The GI practices will capture 1.26 million gallons of stormwater annually, which will reduce flooding, ease pressure on the area's sewers, and improve the water quality discharging to nearby Flushing Creek from the T Mina site.

The GI Program includes a research and development effort, which reviews GI performance over time, ensures performance-based maintenance and operations, and conducts cost-benefit analyses of various GI designs. The data analysis supports the City's water quality-related compliance programs

For more information on the NYC Green Infrastructure Program, visit the DEP website https://www1.nyc.gov/site/dep/water/green-infrastructure.page.

Southeast Queens

Southeast Queens has already seen flooding events caused by extreme rain and is anticipating that flooding may become worse with climate change. Flooding has been a chronic issue for more than 70 years and has been exacerbated by increasing rainfall, loss of permeable surfaces, and reduced groundwater. Over the past ten years, Queens Community Boards 12 and 13 have had more flooding complaints than any other areas of New York City. DEP's 10-Year Capital Budget allocates $1.5 billion to plan and initiate full sewer build-out and to provide short-term relief wherever possible. Full build-out requires completion over many years of approximately 450 miles of new storm sewer, and upgrades to 260 miles of sanitary sewer and 30 miles of combined sewer.

Southeast Queens sewer build out.

DEP identified two pilot projects in Southeast Queens to help demonstrate the feasibility of implementing the cloudburst approach. These projects aim to supplement ongoing sewer buildouts and act as a buffer for storms that are not captured by sewers due to the size of the storm or the lack of fully built-out storm sewer infrastructure. This effort would reduce flooding in areas where grey infrastructure takes longer to implement and would alleviate chronic flooding of upstream areas. More information on these projects is provided in the Cloudburst section.

Cloudburst Projects

A "cloudburst," as seen in 2021 during Hurricane Ida, is a sudden, heavy downpour that occurs in a short amount of time and may lead to flooding, property damage, disruptions to critical infrastructure, and pollution of NYC's waterways. Cloudburst management[12][12] implements a combination of methods that absorb, store, and transfer stormwater to reduce flooding. Using gray infrastructure (e.g., drainage pipes and underground storage tanks) and green infrastructure (e.g., rain gardens and porous pavement), cloudburst management can minimize damage by reducing the strain on the municipal sewer system.

DEP is designing cloudburst projects capable of capturing greater quantities of stormwater than traditional green infrastructure projects. In addition to managing localized flooding, these cloudburst projects will also help DEP meet its stormwater management water quality goals to reduce CSOs in CSS areas and to reduce the risk of polluted stormwater discharging to local waterways in MS4 areas.

DEP and NYCHA are designing two cloudburst pilot projects at South Jamaica Houses in Queens and Clinton Houses in Manhattan to combat these high-intensity rain events. The South Jamaica Houses project is expected to break ground in 2024 and design for the Clinton Houses project, which is currently underway, is expected to be completed in Fall 2024. NYCHA has continued to advance cloudburst strategies across its portfolio, completing design at Jefferson Houses in Manhattan and evaluating proposals for cloudburst infrastructure design services at five additional developments with high vulnerability to flooding.

In Southeast Queens, DEP is working with Parks on two cloudburst projects that are currently advancing designs: Archie Spigner Park in the neighborhood of St. Albans, and Rufus King Park. These projects are designed to improve drainage conditions in the park and on select adjacent streets where possible. Additionally in St. Albans, DDC and DOT have partnered with DEP

12 https://www.nyc.gov/site/dep/environment/cloudburst.page

on a roadway improvement project to address frequent flooding issues near the intersection of 177th Street and 112th Ave. The proposed cloudburst design for this project involves a combination of green infrastructure in the roadway and includes roadway changes that will also improve roadway safety for pedestrians and vehicles.

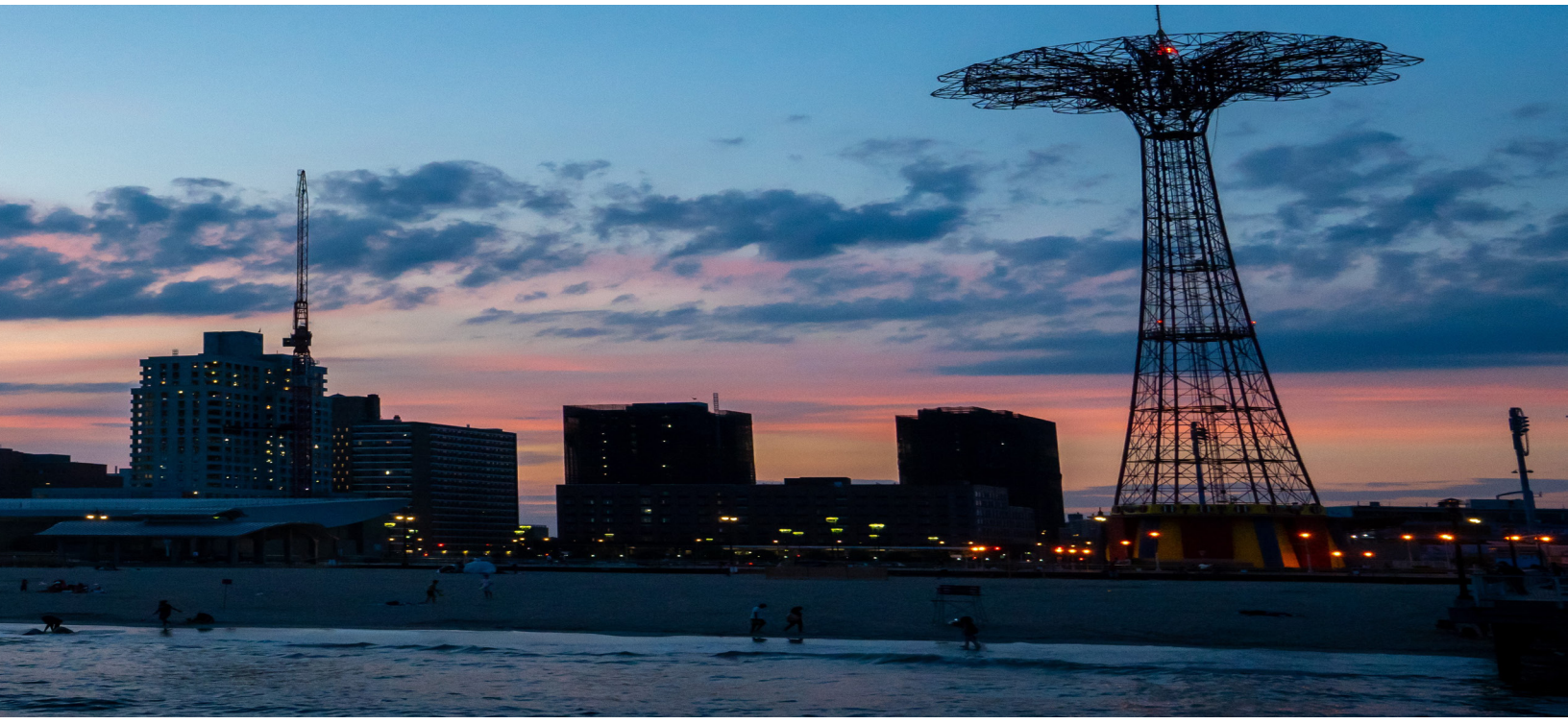
In January 2023, Mayor Eric Adams' administration announced an expansion of the cloudburst program to four new neighborhoods. Supported with $390 million in City capital funds — and in partnership with DEP, DOT, and Parks — these specially designed, built, and engineered infrastructure projects will be an important component of a larger multi-layered strategy to manage extreme rainfall in Corona and Kissena Park, Queens; Parkchester, Bronx; and East New York, Brooklyn. In Fall 2023, DEP kicked off design contracts for these four initial projects. DEP is currently working with the design teams to conduct targeted outreach to inform design, which is anticipated to be completed in late 2025. More than two dozen additional locations are also being evaluated for inclusion. This investment, and continued advocacy for Federal and State funds, cements NYC's status as a global leader in stormwater resilience.

Coney Island Resiliency Study

The Department of City Planning is leading a Coney Island resiliency study with a Community Development Block Grant for Disaster Recovery funded by the U.S. Department of Housing and Urban Development. DCP will catalog current conditions in Coney Island, past/present/future climate change initiatives, and the remaining climate change risks. The purpose of the study is to help city agencies understand the possibilities for and the limits of resiliency efforts in Coney Island and to guide strategies for addressing flooding, stormwater runoff, urban heat, as well as public realm and mobility strategies. In summary, this study seeks to achieve the following goals:

- **Snapshot of existing conditions:** Research and analyze socioeconomic conditions, zoning and land use conditions, urban design and public realm conditions, transportation and mobility conditions, and climate risk conditions.
- **Catalog of past, current, and future initiatives and identification of remaining gaps:** Investigate area-specific precedent and projected public research and planning, investments, and regulations and identify remaining resiliency gaps.
- **Proposal of near-term recommendations.** Identify built and social environment alterations, and quality of life and hazard mitigation improvements to reduce negative impacts from future flooding and urban heat.
- **Early development of a potential long-term land-use, zoning, and planning outlook.** Guide new development and public realm upgrades to maximize community resilience and reduce climate change risks.

As part of the study, DCP will develop an existing conditions analysis as well as near-term recommendations and potential long-term planning outlooks based on public agency input, outreach, and engagement with local stakeholders (including residents, business owners, community organizations, and area workers, local elected officials), and stormwater management best practices.



Coney Island shoreline.

Definitions

Annual Report: The City publishes, by September 30 of each calendar year, a report on SWMP implementation. The report summarizes activities performed throughout the reporting period (January 1 to December 31) by all agencies with obligations under the MS4 Permit; and reports on BMPs, measurable goals and their measures, as detailed in each chapter of the Plan and in Part IV.M of the MS4 Permit.

Applicant: The term "applicant" means the person filing the online application for Stormwater Permitting. This person may be the owner, developer, qualified professional, or other registered user in the online application system.

Best Management Practice (BMP): Schedules, activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements (if determined necessary by DEP), operating procedures, and practices to control runoff, spillage, and leaks; sludge or waste disposal; or drainage from areas that could contribute pollutants to stormwater discharges. BMPs are referred to in EPA fact sheets and other materials. BMPs are also referred to as "activities" or "management practices" throughout the MS4 permit.

Combined Sewer Overflow (CSO): Sometimes, during heavy rain and snowstorms, a combined sewer system receives higher than normal flows. WRRFs are unable to handle flows that are greater than twice their design capacity, and, when such a flow occurs, a mix of excess stormwater and untreated wastewater discharges directly into the City's waterway at certain outfalls to prevent upstream flooding. This discharge is called a combined sewer overflow (CSO).

Combined Sewer System: A sewer system used to convey both wastewater and stormwater in a single pipe to the WRRF. During times of heavy precipitation, the combined sewer system may discharge into surface waters. See also Combined Sewer Overflow.

Covered development project: The term "covered development project" means development activity, private or public, that involves or results in an amount of soil disturbance greater than or equal to 20,000 square feet; or creation of 5,000 square feet or more of impervious surface; or is a covered maintenance activity (roadway maintenance that involves 20,000 square feet or more). Such term includes development activity that is part of a larger common plan of development or sale involving or resulting in soil disturbance area greater than or equal to 20,000 square feet; or creation of 5,000 square feet or more of impervious surface. Such term includes all development activity that requires a SWPPP pursuant to the New York State Department of Environmental Conservation (NYSDEC) construction general permit.

CSO Outfall: The physical point where a municipally owned or operated combined sewer discharges to surface waters of the state.

CSO Regulator: A flow control structure in a combined sewer system that diverts a controlled portion of flow from the collection system to an intercepting sewer and allows the remaining flow to discharge to nearby waters as a combined sewer overflow.

Floatables: Manmade materials, such as plastics, papers, or other products which, when disposed of onto streets or into catch basins, can ultimately find their way to waterbodies and may create nuisance conditions with regard to aesthetics, recreation, navigation, and waterbody ecology.

Green Infrastructure (GI): Green infrastructure infiltrates, evapotranspires, or reuses stormwater, with significant use of soils and vegetation rather than traditional hardscape collection, conveyance, and storage structures. Common green infrastructure approaches include green roofs, trees and tree boxes, rain gardens, vegetated swales, pocket wetlands, infiltration planters, vegetated median strips, reforestation, and protection and enhancement of riparian buffers and floodplains.

Historical MS4 Map: Created prior to issuance of the first NYC MS4 Permit in 2015, the Historical MS4 Map was unrefined and contained some inaccuracies but represented the City's best understanding of the MS4 area at that time. In developing the SWMP, the City relied upon the Historical MS4 Map to define the MS4 area. The Historical MS4 Map also served as a starting point for the process of mapping the City's MS4 drainage areas and MS4 outfalls, as required by the MS4 Permit. The Historical MS4 Map is no longer in use.

Illicit Discharge: Illicit discharge is any discharge to an MS4 that is not composed entirely of stormwater, except allowable discharges pursuant to a SPDES permit and/or to DEP rules. Examples of illicit discharges are unauthorized sanitary sewage, garage drain effluent, and waste motor oil. However, an illicit discharge could be any other unauthorized discharge, which the City or NYSDEC has determined to be a significant contributor of pollutants to the MS4.

Impaired Waters: A water is impaired if it does not meet its designated use(s), as defined by NYSDEC, generally determined by violations of state water quality standards. For purposes of this permit, "impaired" refers to waters for which Total Maximum Daily Loads (TMDLs) have been established, for which existing controls such as permits are expected to resolve the impairment, or for which a TMDL is needed. Impaired water compilations are also sometimes referred to as 303(d) lists; 303(d) lists generally include only waters for which TMDLs have not yet been developed.

Long-Term Control Plan (LTCP): An LTCP identifies appropriate CSO controls to achieve applicable water quality standards consistent with the Federal CSO Policy and Clean Water Act.

Measurable Goals: One or more statements characterizing the goals of the SWMP that reflect the needs and characteristics of the City and the areas served by its MS4. The City identified its goals, both qualitative and quantitative, using an integrated approach that addresses the requirements and intent of the provisions of the MS4 Permit.

Multi-Sector General Permit (MSGP): The Clean Water Act provides that stormwater discharges associated with industrial activity to waters of the United States (including discharges through a municipal separate storm sewer system) are unlawful, unless authorized by a National Pollutant Discharge Elimination System (NPDES) permit. In New York, the EPA-approved State Pollutant Discharge Elimination System (SPDES) program provides that industrial facilities engaged in activities defined in 40 CFR 122.26(b) (14)(i-ix) and (xi) must obtain permit coverage for stormwater discharges to waters of the United States through the SPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP), unless the facilities are individually SPDES-permitted or subject to No Exposure Exclusion (that industrial activities are not exposed to stormwater).

Municipal Operations and Facilities: Any operation or facility serving a New York City governmental purpose and over which New York City has operational control.

Municipal Separate Storm Sewer System (MS4): A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- Owned or operated by a state, city, town, village, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, floatables control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA, that discharges to surface waters of the state;
- Designed or used for collecting or conveying stormwater;
- Which is not a combined sewer; and
- Which is not part of a Publicly Owned Treatment Works as defined at 40 CFR 122.2

MS4 Area: The term "MS4 area" means those portions of the City of New York served by separate storm sewers and separate stormwater outfalls owned or operated by the City of New York or areas served by separate storm sewers owned or operated by the City of New York that connect to combined sewer overflow pipes downstream of the regulator owned or operated by the City of New York, and areas in which municipal operations and facilities drain by overland flow to waters of the state, as determined by DEP and described on maps of the MS4 area set forth in DEP's rules and available on DEP's website.

MS4 Outfall: Defined as any point where a municipally owned or operated separate storm sewer system discharges to either surface waters of the state or to another MS4 (an MS4 owned or operated by another regulated entity). Outfalls include discharges from pipes, ditches, swales, and other points of concentrated flow. However, areas of non- concentrated (sheet) flow which drain to surface waters of the state or to another MS4 (owned or operated by another regulated entity) are not considered outfalls.

MS4 Permit: The New York State Pollutant Discharge Elimination System (SPDES) permit, issued to the City of New York, effective date August 1, 2022, that defined the requirements to discharge stormwater from the City's MS4.

Pollutants: Dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, and agricultural waste discharged into water which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 New York Code of Rules and Regulations (NYCRR) Part 750-1.2a.

Pollutant of Concern (POC): A pollutant causing the impairment of an impaired water segment listed in Appendix 2 of MS4 Permit, including nitrogen, phosphorous,

pathogens, and floatables.

Settleables: Manmade materials that may sink depending on the ambient conditions to which they are subject. Floatables include settleable materials.

Standard Operating Procedure (SOP): A set of instructions for carrying out routine operations to achieve a specific outcome.

Stormwater Construction Permit: The term "stormwater construction permit" means a permit issued by DEP which authorizes development activity on land on which there is a covered development project with an approved SWPPP.

Stormwater Controls Working Group: An interagency group formed in 2013 in accordance with the Mayor's Executive Order Number 429. This group meets quarterly or as needed to discuss all updates involving the MS4 Permit and SWMP implementation.

Total Maximum Daily Load (TMDL): A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. It is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL stipulates waste load allocations for point source discharges, load allocations for nonpoint sources, and a margin of safety.

Acronyms

ASP Alternate Side Parking

BMP Best Management Practice

CGP Construction General Permit

C/PC Construction and Post-Construction

CSO Combined Sewer Overflow

CWA Clean Water Act

GI Green Infrastructure

GIS Geographic Information System

I/C Industrial/Commercial

IDDE Illicit Discharge Detection and Elimination

LTCP Long-Term Control Plan

MS4 Municipal Separate Storm Sewer System

MSGP Multi-Sector General Permit

NNI No Net Increase

NOI Notice of Intent

NYC New York City

NYS New York State

NYSDEC New York State Department of Environmental Conservation

PMU Planned Municipal Upgrade

POC Pollutant of Concern

PP/GH Pollution Prevention/Good Housekeeping

ROW Right of Way

SAFE Solvents, Automotive, Flammables, and Electronics

SCM Stormwater Control Measure

SMP Stormwater Management Practice

SPDES State Pollutant Discharge Elimination System

SWMP Stormwater Management Program

SWPPP Stormwater Pollution Prevention Plan

SWPTS Stormwater Permitting and Tracking System

TMDL Total Maximum Daily Load

USWR Unified Stormwater Rule

WRRF Wastewater Resource Recovery Facility

Appendix 1 – Public Comments on the Draft Annual Report

Appendix 2 – SPDES Outfall Listing

Appendix 3 – Municipal Compliance Certification

Sewer in Times Square.

nyc.gov/dep/ms4