



NYC Municipal Separate Storm Sewer System (MS4) 2024 Annual Report

Report Draft Presentation

June 16, 2025





Agenda

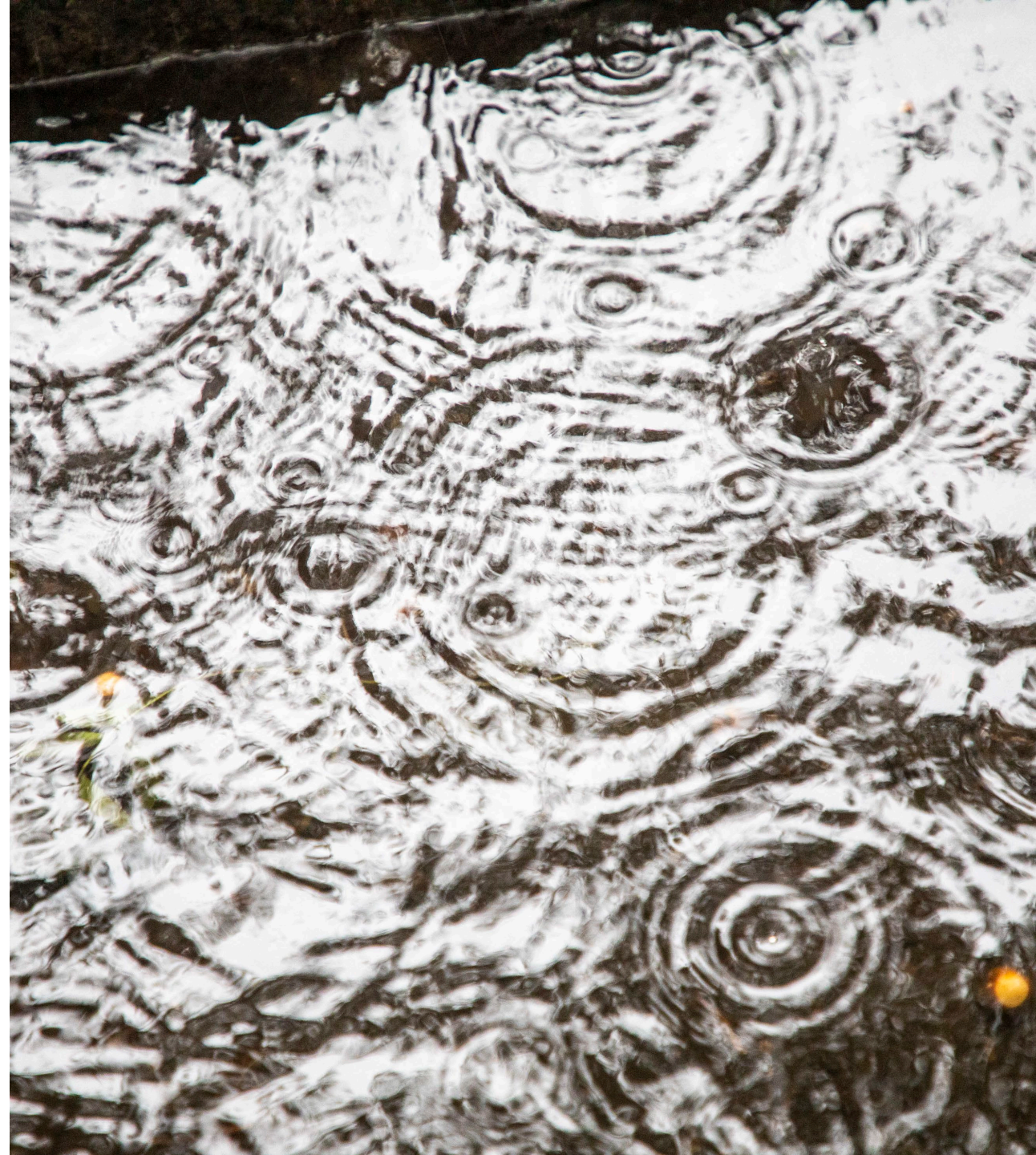
- I. Introduction to the MS4
- II. Administering the MS4:
Program Updates
- III. Related Initiatives
- IV. Resources

INTRODUCTION TO THE MS4



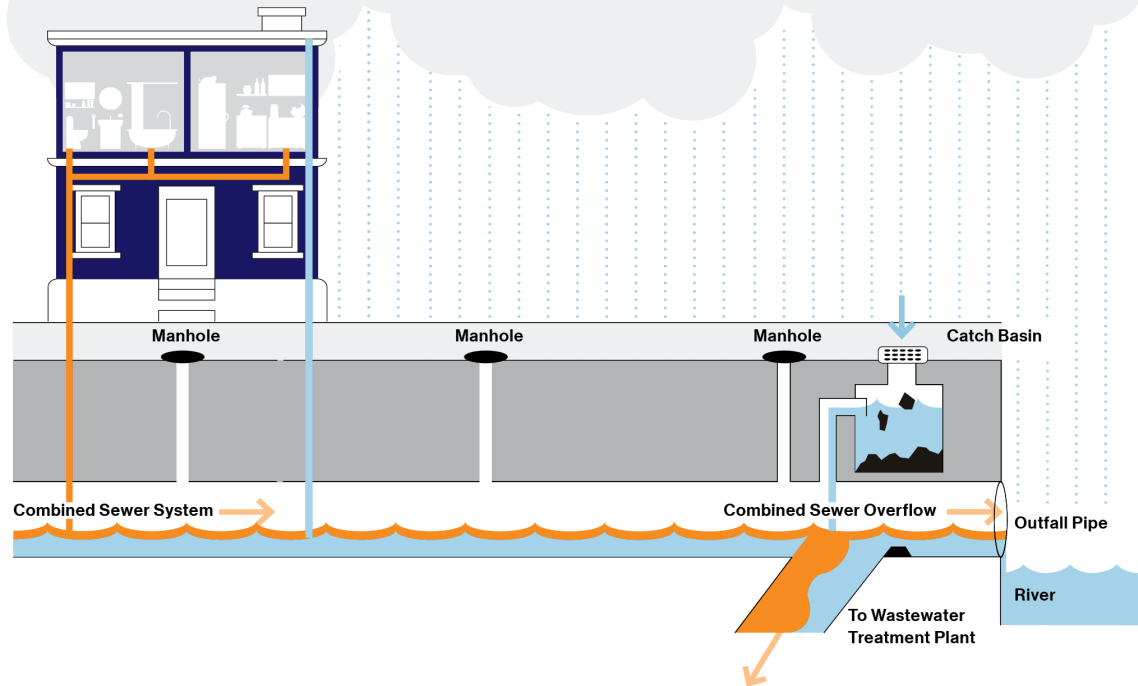
Stormwater in NYC

- Over 70% of NYC is impervious area
- **Impervious surfaces** cannot absorb precipitation naturally, leading to stormwater runoff
- Stormwater runoff may pick up **pollutants** before entering the sewer system
 - Localized flooding
 - Water quality issues

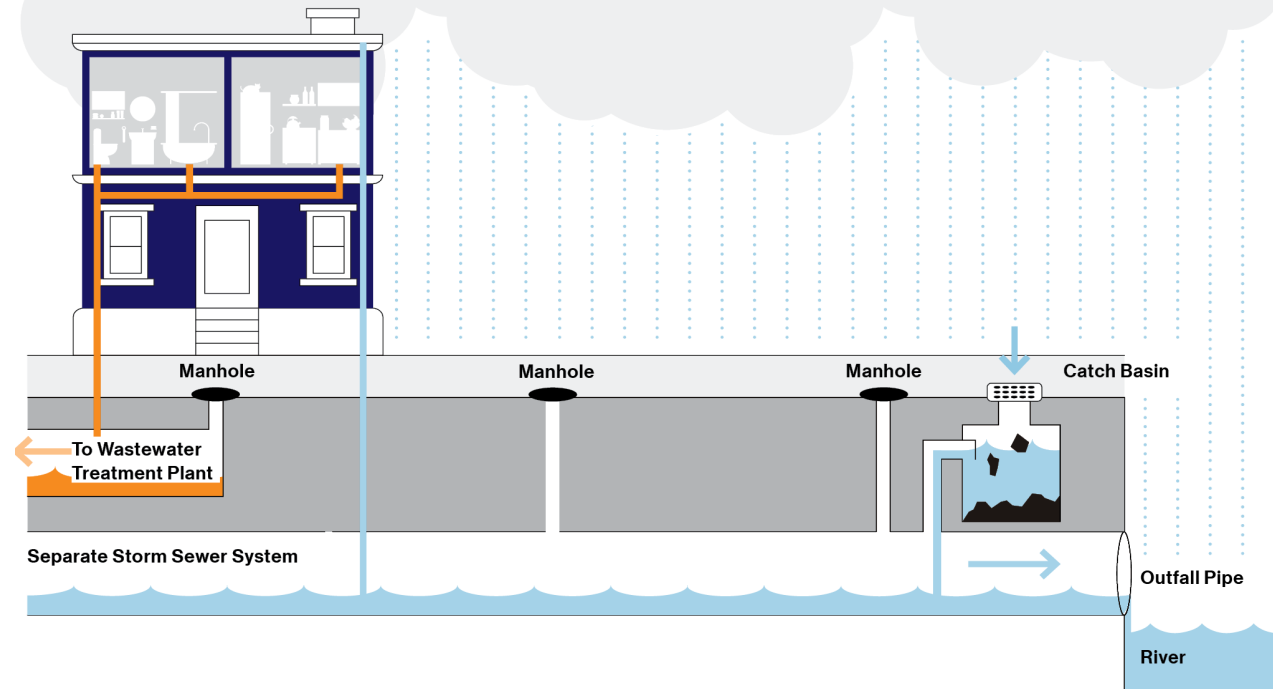


Types of City-Owned Sewer Systems

Combined Sewer System



Municipal Separate Storm Sewer System



Stormwater Management

- Under Clean Water Act (CWA), federal and state authorities regulate stormwater pollution
- CWA requires cities to obtain permit to discharge from their MS4s into local waterbodies
- To reduce potential stormwater pollution, the City developed the **NYC Stormwater Management Program (SWMP) Plan**
- NYC's first MS4 Permit was issued in 2015; permit was renewed in 2022
- Covers 14 City agencies



~30% of NYC is served by the MS4

Large MS4 areas in:

- Staten Island
- South Brooklyn
- Southeast Queens
- City-owned parks

[View the MS4 Map](#)



Stormwater Management Program Areas



Public Education & Outreach



Public Involvement & Participation



Mapping



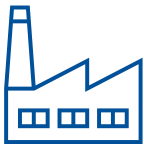
Illicit Discharge Detection & Elimination



Construction and Post-Construction



Pollution Prevention & Good Housekeeping



Industrial and Commercial



Floatables Controls



Monitoring



Special Conditions for Impaired Water

ADMINISTERING THE MS4 PROGRAM UPDATES

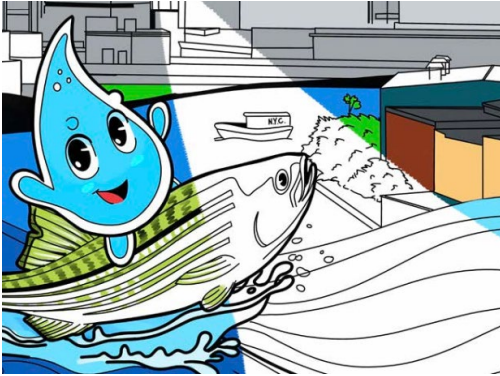


Public Education & Outreach (PEO)

- Covers initiatives to inform the public about the MS4.
- 2024 Highlights:
 - Held more than **2,500 events**
 - Reached **~82,000 participants**
 - Distributed **2,000,000+ materials**



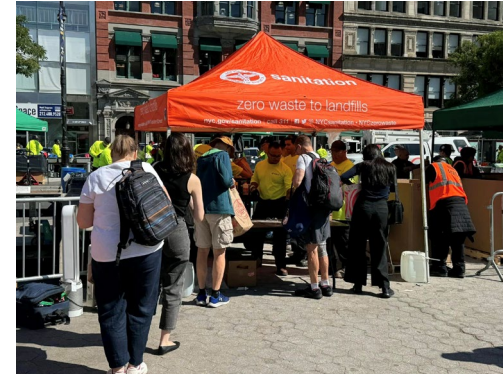
PEO 2024 Program Highlights



Drippy's Water Adventure



Professional Learning Opportunities



SAFE Disposal Events



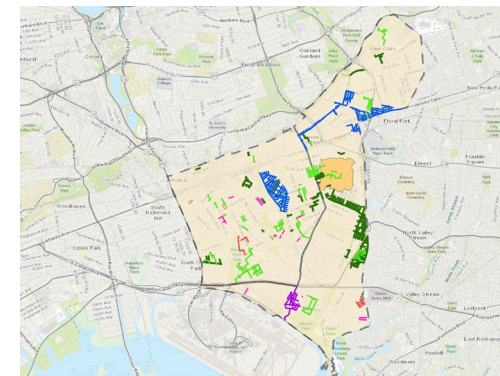
Urban Ranger Programs



Operation P.O.O.P.



Trash It, Don't Flush It



Southeast Queens Outreach

Public Involvement and Participation (PIP)

- Covers initiatives to get the public involved in MS4-related activities.
- 2024 Highlights:
 - Held **554 Park Stewardship events**
 - Held **296 community clean-ups**
 - Held **workshops on SWPPPs**
 - Hosted **monthly stormwater permitting webinars** for the development community



PIP Highlight: Stormwater Permitting Workshops

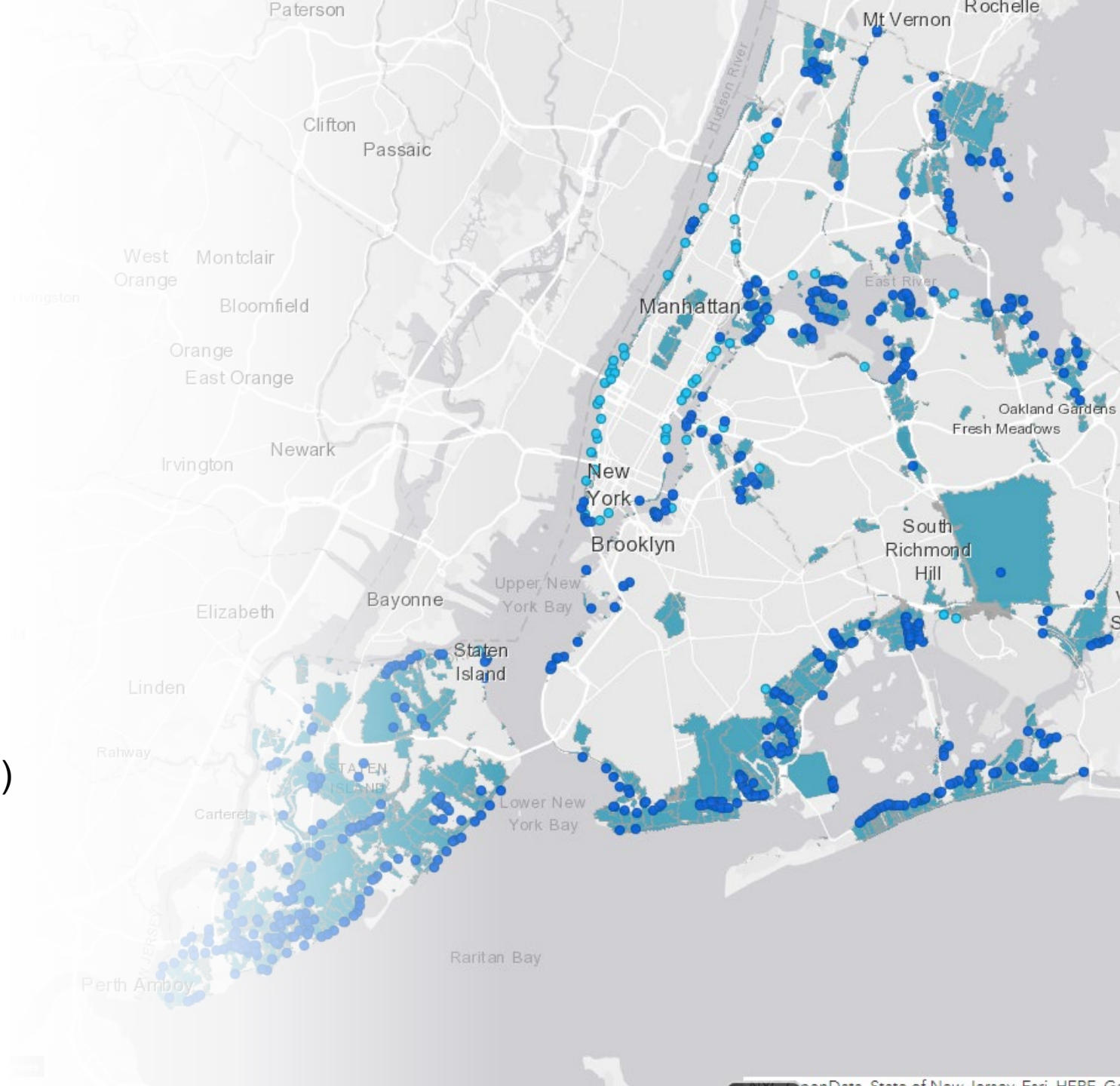
- DEP hosts monthly workshop webinars to guide users through stormwater permitting process
- Find previous presentations:
www.nyc.gov/site/dep/water/stormwater-permits.page
- Sign up for DEP Stormwater newsletter for notifications of upcoming webinars:
www.nyc.gov/site/dep/about/newsletters.page
- Topic survey:
<https://dep.wufoo.com/forms/zr8ip61112p87z>

APPENDIX* NEW YORK CITY STORMWATER MANUAL



Mapping

- Includes identifying and mapping the MS4 outfalls and drainage areas
- View the interactive MS4 Map: www.nyc.gov/dep/ms4map
- Last Update: August 1, 2020
- Includes: 764 outfalls
- Next update due: August 1, 2027 (5 years from effective date of renewed MS4 Permit)



Illicit Discharge Detection and Elimination (IDDE)

- Program includes finding, abating, and preventing illicit discharges.
- 2024 Highlights:
 - DEP issued **9 summonses** and **59 Commissioner's Orders** in MS4 areas
 - DSNY issued **1,200+ summonses** citywide
 - IDDE Cases in 2024: **238 detected, 230 abated**
 - **Inventoried 246 MS4 outfalls**



	Detected	Abated	Pending
Isolated	224	224	
Persistent	14	5	9
Total:	238	229	

Construction & Post-Construction (C/PC)

- Includes managing pollution risks from development and redevelopment projects
- In NYC, C/PC is implemented through the DEP **Stormwater Permitting Program**
 - Reviews/approves **SWPPPs**
 - Inspects construction sites for stormwater impacts and for operation of post-construction stormwater management practices (**SMPs**)



Stormwater Permitting

Unified Stormwater Rule (USWR) 2022

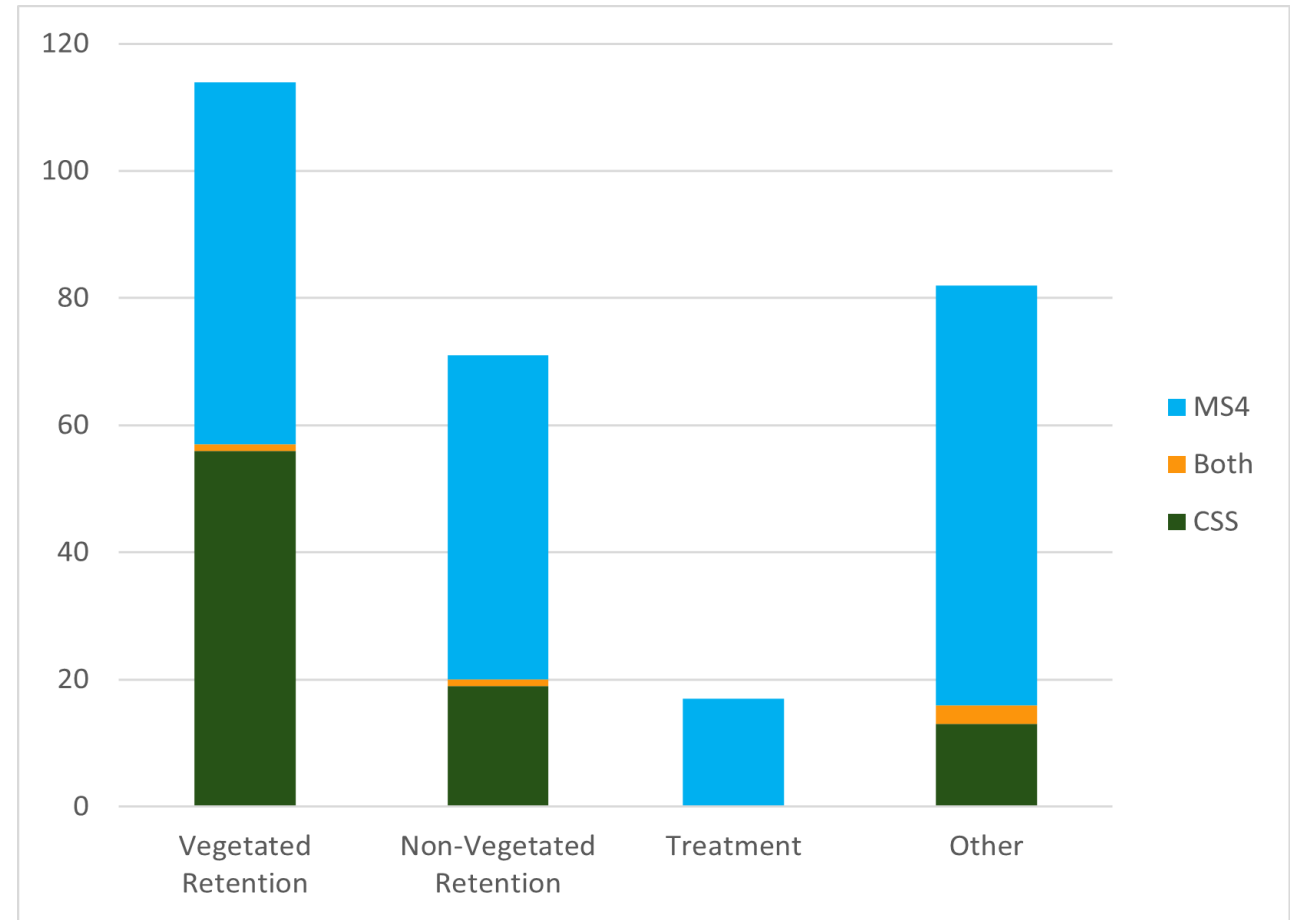
- USWR aligned DEP site connection permitting water quantity/flow requirements with stormwater permitting water quality requirements
- Threshold for stormwater permitting: 20,000 sq. ft. of soil disturbance and/or 5,000 sq. ft. or more of new impervious surface
 - Applies in both MS4 and combined sewer areas
- Emphasizes a retention-first, green infrastructure approach to SMPs
- For more details on the USWR visit:
<https://www1.nyc.gov/site/dep/water/unified-stormwater-rule.page>



Stormwater Permitting

2024 Highlights:

- Reviewed **697 SWPPPs**
 - 290 in the MS4, 36 in MS4/CSS
- Issued **184 Stormwater Construction Permits**
 - 93 in the MS4
- Hosted **monthly workshop webinars** on the SW permitting process
- More than **half of the vegetated SMPs** being constructed are in the MS4 area



Summary of active stormwater construction permit post-construction SMPs in combined sewer system (CSS) and MS4 areas.

Pollution Prevention and Good Housekeeping (PPGH)

- Manages pollution risks at the City's own facilities and operations
- 2024 Highlights:
 - Assessed **108 municipal facilities**
 - Implemented Stormwater Control Measures (SCMs), including **sweeping 906,000+ miles of street** and inspecting **25,000+ catch basins**
 - Trained **9,900+ municipal employees** on PP/GH



Industrial/ Commercial

- Includes managing pollution risks from industrial and commercial facilities that engage in certain activities that may cause stormwater pollution.
- 2024 Highlights:
 - Inspected **30 MSGP-permitted facilities**
 - Assessed **17 unpermitted facilities** (9 referred to NYSDEC for potential SPDES coverage.)

Since the start of the Program,
DEP has assessed 1,451
unpermitted facilities



Control of Floatable and Settleable Trash and Debris

- Includes measures to reduce litter and keep trash and debris from reaching waterbodies
 - Street sweeping, catch basin hooding and maintenance, booming, netting, PEO, etc.
- 2024 Highlights:
 - Swept **906,000+ miles of street**
 - Inspected **25,000+ catch basins**
 - Cleaned **8,300+ catch basins**
 - Continued the **Floatables Loading Rate (FLR) Study**
- FLR Study will be completed by 8/1/2025



Monitoring

- Program provides analyses to help evaluate long-term trends in water quality
- Includes evaluation of **Harbor Survey Data** and development of an **Urban Stormwater Quality (USWQ)** Model
- 2024 Highlights:
 - **Harbor Survey Data Baseline Analysis – Baseline Conditions 2014-2018**
 - **1st USWQ Model Development Interim Report** (Pilot study underway in Tallman Island)
- Second USWQ interim report will be delivered to NYSDEC by August 2025

Harbor Survey Data
Analysis – Baseline
Conditions 2014-2018

New York City Department of
Environmental Protection

July 22, 2024

Prepared by HDR for NYC DEP

Special Conditions for Impaired Waters

- Program covers special conditions for impaired waterbodies with Combined Sewer Overflow Long Term Control Plans (CSO LTCPs) that:
 - a). Do not predict compliance with applicable water quality standards and
 - b). Where stormwater is expected to contribute to the impairment.
- Coney Island Creek, Bergen Basin and Thurston Basin
- Plan and schedule for Thurston and Bergen BMPs in 2025 annual report



Activity: Analyzing Coney Island Harbor Water Quality

4. In your group, discuss the questions below.

- What conditions can affect the Dissolved Oxygen readings?
- Why might some of these data be inconsistent?
- How might taking multiple readings be beneficial to the data?

Special Conditions for Impaired Waters

- 2024 **Coney Island Creek Enhanced BMP Updates** - GI at Four Public Schools:
 - K095: Gravesend: Subsurface retention practice; currently under construction
 - K238: Anne Sullivan: Bioretention practice and subsurface retention practice; construction complete
 - K234: W. A. Cunningham: Subsurface stormwater chamber; construction complete
 - K212 Lady Deborah Moody: Synthetic turf practice with subsurface stone storage; set to start construction Summer/Fall 2025



RELATED EFFORTS



Related Efforts: GI

The NYC Green Infrastructure Program

- Right of Way
- Large-Scale Medians and In-House Design
- Public partnerships
- Private property financial incentives
- Stormwater regulations
- Resiliency and cloudburst management
- Daylighting
- Related efforts
 - MS4 Special Conditions
 - Public property GI opportunity analysis
 - Southeast Queens Investments



Large-Scale Medians & IHD Projects

- Green street median project completed construction in 2024
 - Located in Queens Village MS4 area
- Additional MS4 median expected to begin construction in 2025
 - Located in Queens: Springfield Boulevard between Lucas Street and Merrick Boulevard
 - Funding sources include City and NYS grants
- Gateway to Greenpoint
 - Located in Brooklyn MS4 area
 - Construction scheduled to begin in 2025
 - Funding sources include the City, City Council, and federal government



Hillside Ave Median

Private Property Financial Incentives

Green Infrastructure Grant Program

- Funds the design and construction of green roof retrofits on private property in combined and separately sewered areas
- Over the last decade, the program has committed \$13M to 32 property owners.
- In 2024, DEP updated the Grant Program reimbursement schedule that decreases minimum required green roof area and increased \$/SF to reflect rising construction costs.
- Upcoming 2025 quarterly webinars on how to apply:
 - September 10, 2-3 pm
 - December 10, 2-3 pm

TABLE 1: MAXIMUM REIMBURSEMENT RATES FOR GREEN ROOF PROJECTS BY SOIL DEPTH AND GREEN ROOF AREA (GRA)

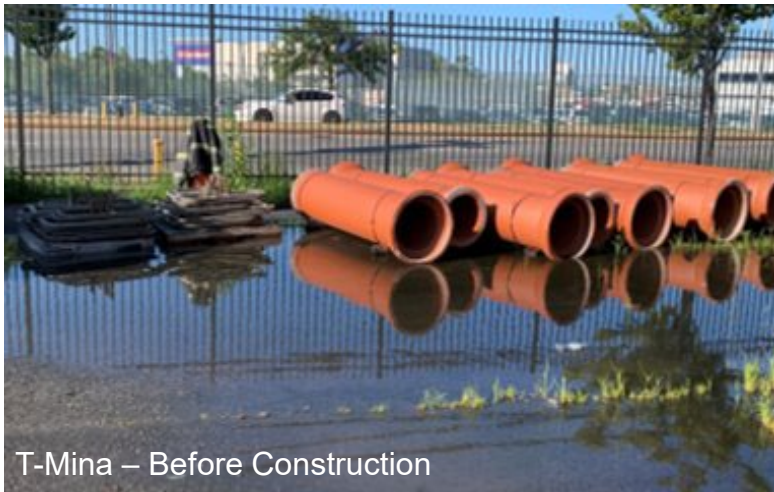
Soil Depth (in)	GRA ≥ 3,500 (SF)
1.5 - 1.99	\$15
2.0 - 2.99	\$20
3.0 - 3.99	\$35
4.0 +	\$40

Private Property Financial Incentives

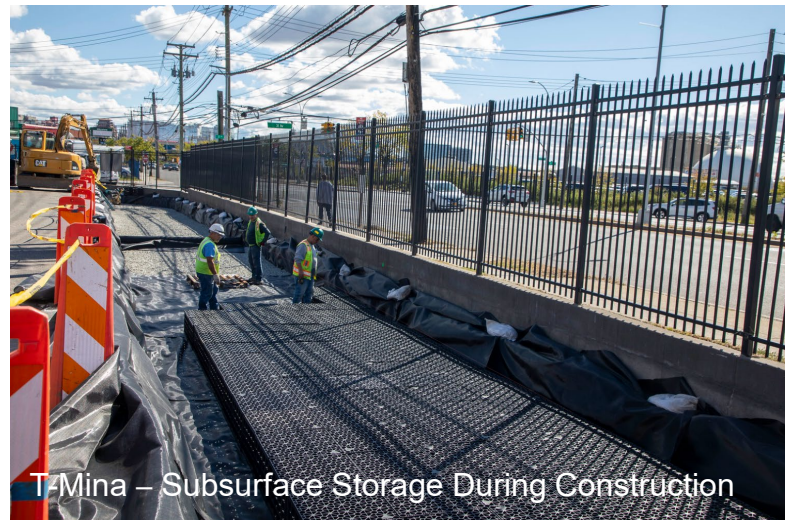
Resilient NYC Partners

Funds the design and construction of site-level green infrastructure practices for properties with >50,000 SF site-level impervious area

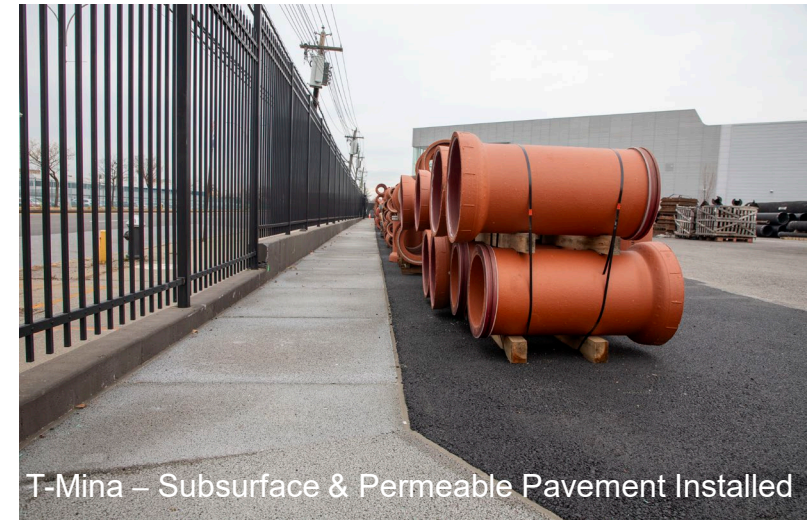
- 10 completed projects total
- 1 in construction
- 3 pending construction
- 3 in design



T-Mina – Before Construction



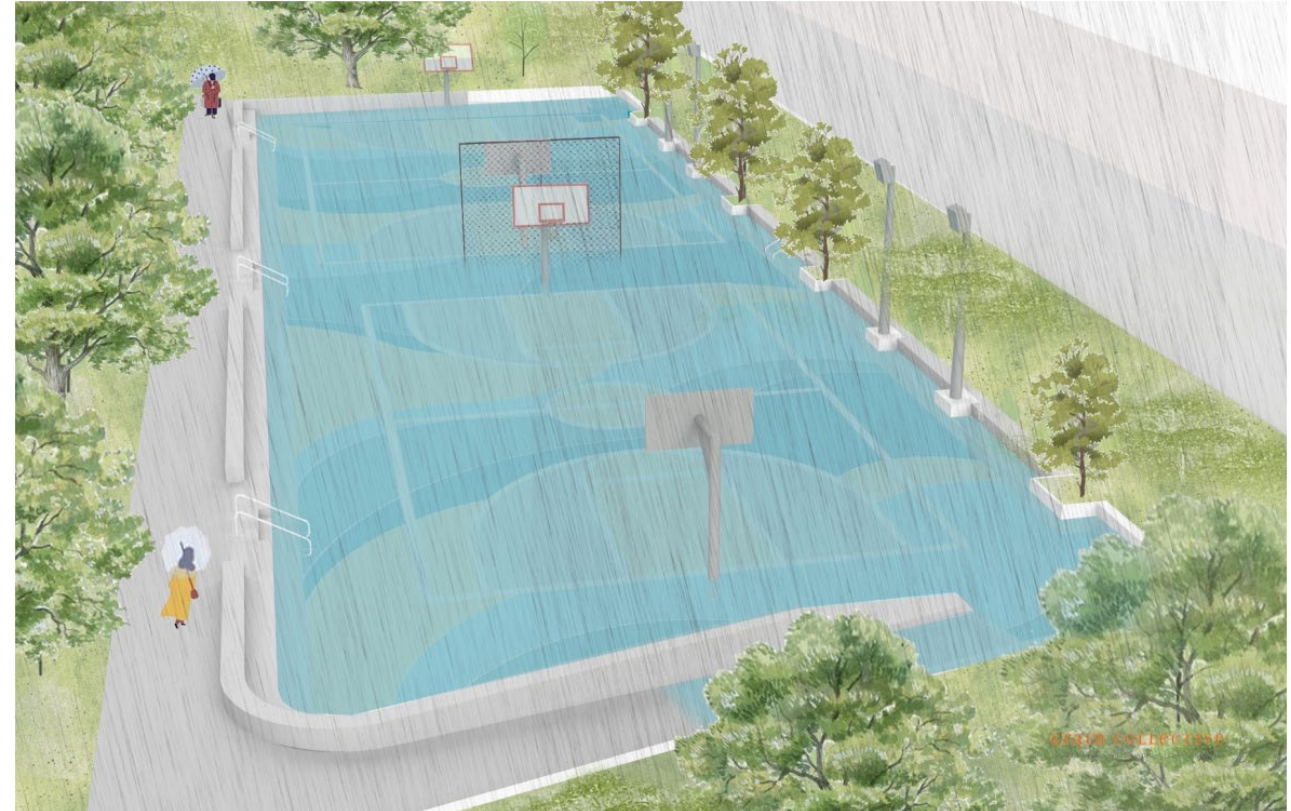
T-Mina – Subsurface Storage During Construction



T-Mina – Subsurface & Permeable Pavement Installed

Cloudburst Projects in MS4 Areas of Southeast Queens

- **DEP and NYCHA partnered on a Cloudburst pilot:**
 - South Jamaica Houses, Queens
- **DEP and Parks expect two Cloudburst projects to begin construction soon:**
 - Rufus King Park, Queens
 - Archie Spigner Park, Queens
- **DEP and DOT are designing a Cloudburst right of way project:**
 - Intersection of 177th St and 112th Ave, Queens
- In Thurston Basin, DEP has identified a potential cloudburst management opportunity in Montbellier.



Rendering of Sunken Basketball Court During a Cloudburst Event at South Jamaica Houses, Queens

Related Efforts: Cloudburst

South Jamaica Houses Cloudburst Project



Completed Construction of Sunken Basketball Court Cloudburst Project at South Jamaica Houses, Queens

Resources

- **MS4 Webpage:** nyc.gov/site/dep/water/municipal-separate-storm-sewer-system.page
 - **2024 Annual Report Draft**
nyc.gov/assets/dep/downloads/pdf/water/stormwater/ms4/nyc-ms4-annual-report-2024.pdf
 - **2023 Annual Report (Final)**
nyc.gov/assets/dep/downloads/pdf/water/stormwater/ms4/nyc-ms4-annual-report-2023.pdf
 - **MS4 Map:** nyc.gov/dep/ms4map
- **Green Infrastructure Webpage:** nyc.gov/dep/greeninfrastructure
- **DEP Newsletter Sign Up:** nyc.gov/site/dep/about/newsletters.page
- **DEP Social Media:** nyc.gov/connect/social-media.page
- **MS4 email:** MS4@dep.gov



**Draft 2024 MS4 Annual Report
available online now**

**Please submit comments to
MS4@dep.nyc.gov
by Friday, July 11, 2025**