PROGRESS REPORT 2017

NYC MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) - STORMWATER MANAGEMENT PROGRAM PLAN

NYC Environmental Protection

BILL DE BLASIO MAYOR - VINCENT SAPIENZA, P.E. ACTING COMMISSIONER

A NOTE FROM THE DESK OF VINCENT SAPIENZA, P.E. ACTING COMMISSIONER

Dear Friends:

On behalf of my colleagues across the New York City Department of Environmental Protection (DEP) and partnering New York City agencies, I am pleased to present the 2017 Progress Report on the NYC Municipal Separate Storm Sewer System, or MS4, Program.

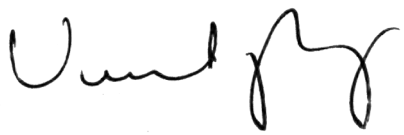
The City of New York has long been at the cutting-edge of innovative stormwater management practices, including upgrades at our wastewater treatment plants, construction of the award-winning Staten Island Bluebelts, and a $1.5 billion commitment to construct green infrastructure that naturally collects stormwater across our urban landscape. As a testament to DEP's substantial investments over the last four decades, New York City's waterways are cleaner than they have been in more than a century of testing.

The City remains committed to protecting the overall health of our harbor while working to improve conditions in impaired waterways. Nearly 40% of the City is served by separate storm sewers, which carry stormwater runoff directly to a local waterway. In a dense, urban environment, stormwater runoff can absorb and convey pollutants such as trash, pathogens, oil, and grease.

In August 2015, the City received its first MS4 Permit, issued by the New York State Department of Environmental Conservation (DEC), to further manage urban sources of stormwater runoff and reduce pollution to our vital rivers, creeks, and bays. Since that time, the City has been developing a comprehensive Stormwater Management Program, which will be submitted to DEC on August 1, 2018.

The programs and proposals discussed in this report represent the next frontier of stormwater management for the City of New York, and the unprecedented scale and scope of the MS4 Program builds upon the significant success of past and current water quality investments. This work cannot be done alone, and all New Yorkers who live, work, and play in MS4 areas or on these waterways have an important role in the development and implementation of these programs. By working together, we can continue to improve water quality in New York harbor for generations to come.

Sincerely,



Vincent Sapienza, P.E.
Acting Commissioner

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LIST OF ACRONYMS

BMP	Best Management Practice
CSO	Combined Sewer Overflow
CSOLTCP	Combined Sewer Overflow Long Term Control Plan
DEC	New York State Department of Environmental Conservation
DEP	New York City Department of Environmental Protection
DOB	New York City Department of Buildings
DOE	New York City Department of Education
DOT	New York City Department of Transportation
DPR	New York City Department of Parks and Recreation
GI	Green Infrastructure
GIS	Geographic Information System
IDDE	Illicit Discharge Detection and Elimination
LTCP	Long Term Control Plan
MGD	Million Gallons per Day
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System
MSGP	Multi-Sector General Permit
NOI	Notice of Intent
NOT	Notice of Termination
POC	Pollutant of Concern
PPGH	Pollution Prevention and Good Housekeeping
QA	Quality Assurance
RFP	Request for Proposal
SAG	Stormwater Advisory Group
SCM	Stormwater Control Measure
SPDES	State Pollutant Discharge Elimination System
SWMP	Stormwater Management Program
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
WWTP	Wastewater Treatment Plant

MS4 PROGRESS REPORT 2017

NYC Environmental Protection

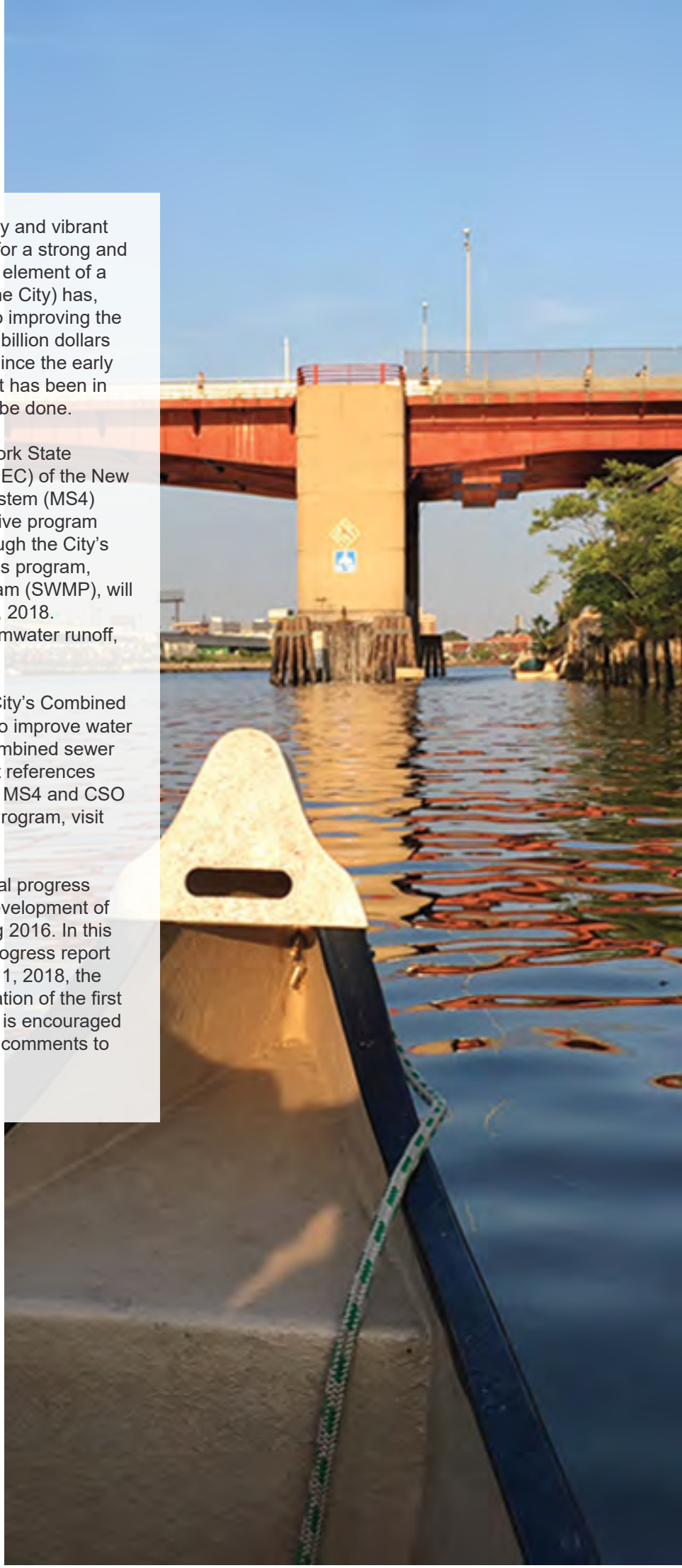
INTRODUCTION

Clean water is a critical component of a healthy and vibrant community. OneNYC, Mayor de Blasio's plan for a strong and just city, recognizes clean waterways as a key element of a sustainable large city. The City of New York (the City) has, therefore, dedicated considerable resources to improving the water quality in the New York Harbor. Over 10 billion dollars have been spent, by DEP alone, on this goal since the early 2000s. As a result, the Harbor is the cleanest it has been in over 100 years. However, there is still work to be done.

Upon the August 2015 issuance by the New York State Department of Environmental Conservation (DEC) of the New York City Municipal Separate Storm Sewer System (MS4) Permit, the City began creating a comprehensive program to tackle pollutants carried by stormwater through the City's separate storm sewers to local waterways. This program, known as the Stormwater Management Program (SWMP), will be submitted to DEC for approval by August 1, 2018. The SWMP will manage urban sources of stormwater runoff, and protect and improve overall water quality.

The SWMP will also work in concert with the City's Combined Sewer Overflow (CSO) Program, which aims to improve water quality through the control and reduction of combined sewer overflows. At times, this 2017 Progress Report references progress and achievements that relate to both MS4 and CSO programs. For more information on the CSO Program, visit www.nyc.gov/dep/ltcp.

In June 2016, the city presented the first annual progress report, which detailed the work done on the development of the SWMP from August 1, 2015 through spring 2016. In this report, which is the second and final annual progress report before the SWMP will be submitted on August 1, 2018, the city presents the work done since the presentation of the first progress report through April 2017. The public is encouraged to review the report and submit questions and comments to MS4@dep.nyc.gov.



MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) IN NEW YORK CITY

ABOUT

A municipal separate storm sewer system (MS4) is a conveyance or system of conveyances, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains, that:

- is owned or operated by a state, city, town, village, or other public entity that discharges to waters of the United States;
- is designed or used to collect or convey stormwater;
- is not a combined sewer; and
- is not part of a publicly owned wastewater treatment plant (WWTP).

Discharges from MS4s are regulated under the Clean Water Act, which was passed by Congress in 1972 to protect and restore the health of the waters of the United States. The 1987 amendments to the Act established the regulatory framework for MS4s, requiring municipalities to implement controls to reduce the discharge of pollutants from MS4s to the "maximum extent practicable (MEP)."

WHAT DOES MAXIMUM EXTENT PRACTICABLE MEAN?

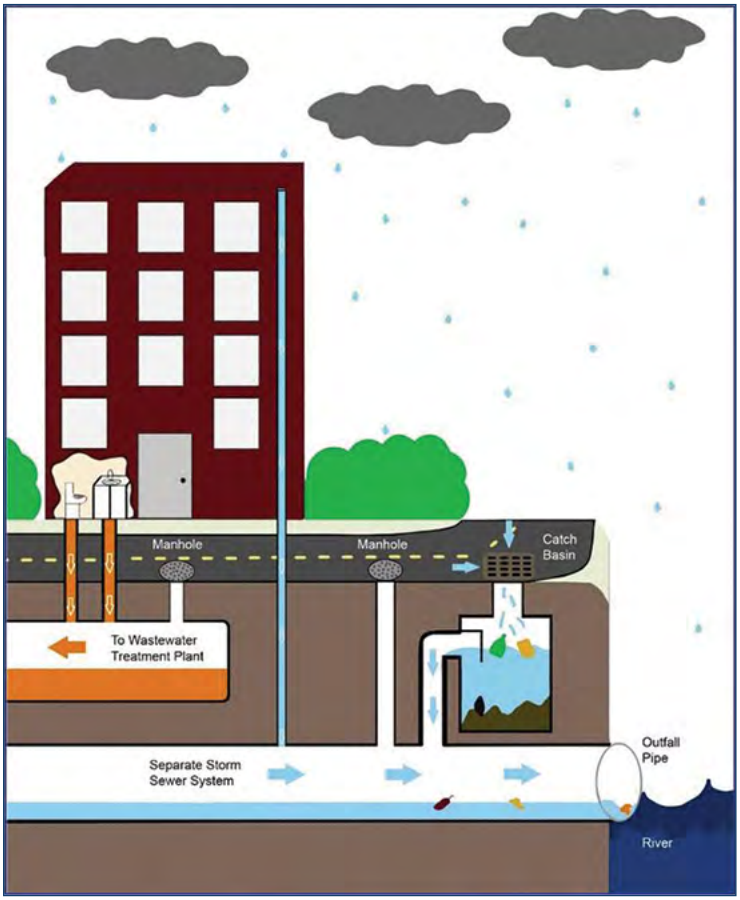
Maximum Extent Practicable (MEP) is a technology based standard established by Congress in Section 402(p)(3)(B)(iii) of the Clean Water Act. This term allows permittees flexibility to develop stormwater management programs tailored to local or regional circumstances. The term recognizes that what is "practicable" for a regulated MS4 will change dynamically over time as stormwater infrastructure is created and modified, and as the science, underlying stormwater pollution control evolves.

MEP requires the Permittee to choose effective Best Management Practices (BMPs), and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive.

Since the 1990s, DEC has regulated stormwater discharges from separate storm sewer systems owned by the New York City Department of Environmental Protection (DEP) by incorporating some stormwater-specific requirements into the individual permits for DEP's 14 WWTPs.

COMBINED SEWER SYSTEM

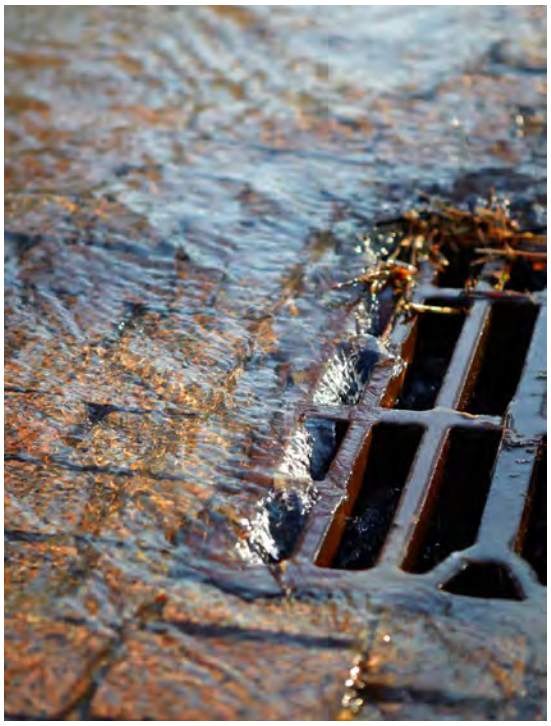
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)



STORMWATER MANAGEMENT PROGRAM (SWMP) DEVELOPMENT

ABOUT

The City's MS4 Permit requires the development of a SWMP by August 1, 2018, the goal of which will be to reduce pollution that reaches waterbodies through the MS4 using Best Management Practices (BMPs) and other controls. Development of the SWMP requires robust and collaborative efforts by numerous City agencies to build upon and augment existing programs and practices to meet the permit requirements.



WHAT ARE BEST MANAGEMENT PRACTICES?

Best Management Practices (BMPs) are activities, maintenance procedures, prohibitions of practices, schedules, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements (if determined necessary by the Permittee), 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.

THIS PLAN WILL DESCRIBE HOW THE CITY WILL MEET EACH OF THE PROVISIONS OF THE MS4 PERMIT, INCLUDING

- Legal Authority and Stormwater Program Administration
- Public Education and Outreach
- Public Involvement/Participation
- Mapping
- Illicit Discharge Detection and Elimination (IDDE)
- Construction Site Stormwater Runoff Control
- Post-Construction Stormwater Management
- Pollution Prevention/Good Housekeeping for Municipal Operations and Facilities (PPGH)
- Industrial and Commercial Stormwater Sources
- Control of Floatable and Settleable Trash and Debris
- Monitoring and Assessment of Controls
- Special Conditions for Impaired Waters

The City expects to make a draft version of the SWMP available for public comment in spring 2018. Prior to the release of the draft SWMP, the public will have had the opportunity to learn about provisions of the City's plan in depth through public meetings. For details on past and future public meetings related to the MS4 permit and SWMP development, please visit www.nyc.gov/dep/ms4.

ANNUAL REPORTING

Prior to the completion of the SWMP, the City must provide progress reports, which are due at the end of each of the first two years following issuance of the permit. The City's first progress report was submitted on August 1, 2016 and can be viewed at http://www.nyc.gov/html/dep/pdf/water_sewer/ms4-progress-report.pdf.

Following the submission of the SWMP Plan, due August 1, 2018, the City will report annually on the implementation of the SWMP. The annual report will summarize the activities performed throughout the calendar year, including reporting requirements laid out by the permit. The public will be given the opportunity to review and comment on the annual report.

LEGAL AUTHORITY AND STORMWATER PROGRAM ADMINISTRATION

ABOUT

The MS4 Permit requires the City to demonstrate it has both the legal authority and the resources needed to implement and enforce the SWMP. In its February 2016 description of legal authority, the City determined that the structure of government established in the New York City Charter provides adequate legal authority to the Mayor and Mayoral agencies to manage the City's operations and facilities, and to ensure coordination and sharing of information for the City's compliance with permit requirements. At that time, the City identified the need for new local legislation to allow the City to design a comprehensive regulatory program tailored to meet its regulatory obligations under the MS4 Permit.

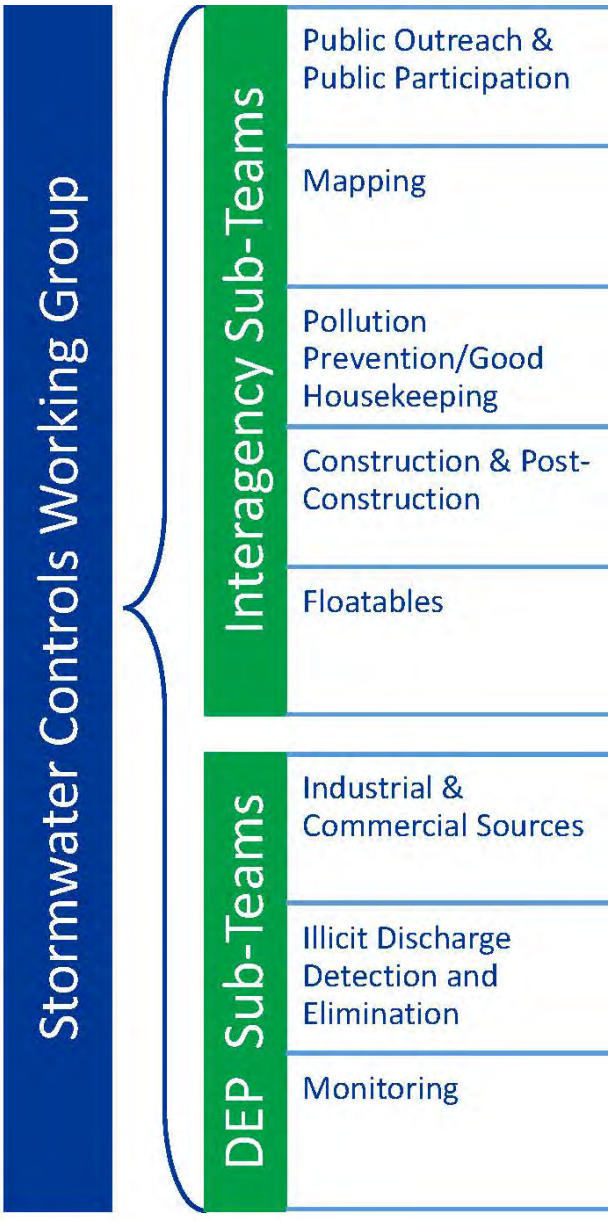
The Mayor proposed such legislation to the New York City Council, which introduced the legislation, as *Intro 1346-2016* on November 16, 2016. The Council passed an amended version of the legislation on May 10, 2017, and the Mayor signed it into law on May 30, 2017. Local Law 97 of 2017 can be viewed at https://goo.gl/yYmlds.

MANAGEMENT OF CITY OPERATIONS AND FACILITIES

To develop and implement an effective SWMP, the City needed an interagency coordination process. In anticipation of the MS4 Permit issuance, on October 15, 2013, the Mayor signed Executive Order No. 429, "Coordination Implementation of Matters Pertaining to Stormwater Controls and Municipal Separate Storm Sewer Permit Requirement." Local Law 97 of 2017 codifies these principles by amending the New York City Charter to clarify DEP's role with respect to stormwater runoff and provide DEP the power to coordinate the actions of City agencies with respect to compliance with the MS4 Permit.

In 2015, a **Stormwater Controls Working Group** was established that includes representatives from each of the 14 agencies with operational, regulatory, or oversight obligations under the MS4 Permit. This coordination process, which began under Executive Order No. 429, continues under Local Law 97. The group meets regularly to discuss permit-relevant information and SWMP development tasks. Furthermore, the City formed subject-specific technical sub-teams comprised of agency representatives with expertise needed to address specific MS4 Permit provisions.

The Stormwater Controls Working Group meets regularly as the City works to develop the SWMP. For details about the Stormwater Controls Working Group meetings, see Appendix A. Obligated agencies are also formalizing their responsibilities related to the MS4 Permit and the SWMP in Interagency Memoranda of Understanding (MOUs). Additionally, to help develop an effective SWMP, the City meets regularly with DEC.



AGENCIES IN THE STORMWATER CONTROLS WORKING GROUP

DEVELOPMENT OF STORMWATER REGULATORY PROGRAMS

In addition to the Charter amendments, Local Law 97 of 2017 provides legal authority for the City to administer three regulatory programs governing activities with the potential to contribute pollutants to stormwater runoff. In particular:

- Local Law 97 clarifies and supplements DEP's robust existing Illicit Discharge Detection and Elimination (IDDE) program, which applies citywide.
- Local Law 97 authorizes DEP to establish a new program to administer and enforce the existing State permit program for stormwater discharges from construction activities, and allows DEP to set lower thresholds than those in the State program. The NYC Stormwater Law also includes conforming provisions relating to this program in several portions of the New York City administrative code and the plumbing and building codes.
- Local Law 97 authorizes DEP to establish a new program to inspect commercial and industrial sites and to enforce the State Multi-Sector General Permit stormwater discharges from certain industrial activities.

The legislation authorizes DEP and other City agencies to amend and adopt rules as necessary to implement these regulatory programs.

ACHIEVEMENTS

- Stormwater Controls Working Group met 5 times to discuss various elements of SWMP development
- Met with DEC 7 times to discuss various elements of SWMP development and progress for their feedback and direction
- Executed 2 additional interagency MOUs, for a total of 5 completed MOUs
- Introduced and facilitated enactment of legislation, Local Law 97 of 2017, which consolidates, clarifies, and supplements existing legal authority, to enable the City to act in a regulatory capacity to control pollutant discharges into and from its MS4

NEXT STEPS

- Finalize and execute remaining MOUs
- Update Illicit Discharge Detection and Elimination rules
- Develop and promulgate rules for the Construction/Post-Construction Stormwater Management and Industrial/ Commercial Stormwater Sources Programs, pursuant to the comprehensive stormwater legislation

PUBLIC EDUCATION AND OUTREACH

ABOUT

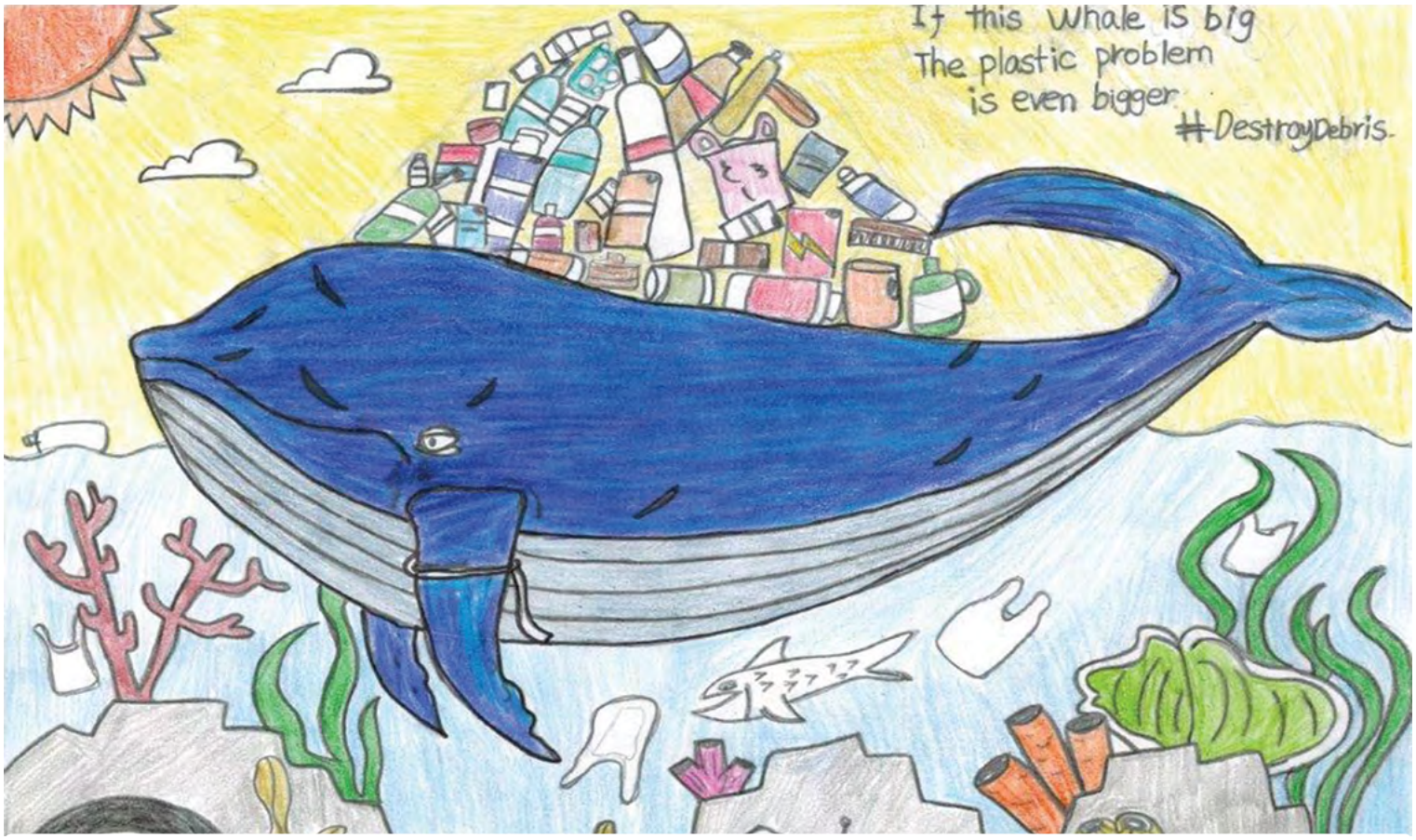
The goal of the Public Education and Outreach Program is to raise New Yorkers' awareness of water quality impacts associated with discharges from the MS4 and empower the public to be better stewards of our waterways. Because the City already has a robust environmental education program, it has worked to supplement various programs, events and printed material with MS4-specific information. In addition, City agencies continue to work collaboratively to incorporate stormwater education into their ongoing education and outreach efforts.

ACHIEVEMENTS

- Maintained an inventory of existing programs appropriate for incorporating MS4 materials (refer to Appendix B)
- Completed several MS4-related publications for distribution at various events
- Introduced stormwater management issues to relevant public education and outreach staff at multiple agencies including teachers and other school staff
- Presented information about MS4 and SWMP development at multiple conferences, teacher professional development workshops, and interagency meetings
- Continued to implement existing environmental education programs
- Incorporated MS4-related themes in DEP's 31st Annual Art and Poetry Contest
- Developed a "Don't Trash Our Waters:" Media Campaign
- Publicly presented on the development of public education and outreach program - presentation available at http://nyc.gov/dep/ms4

NEXT STEPS

- Continue to present information about MS4 and SWMP development at multiple conferences, teacher professional development workshops, and interagency meetings
- Continue to attend various programs and community events
- Host additional professional workshops about MS4 for formal and non-formal educators
- Continue to work collaboratively by incorporating MS4 topics and resources into ongoing education programs
- Finalize and implement Coney Island Creek MS4 Outfall Sign Pilot
- Finalize and implement Pet Waste Pilots in Queens and Brooklyn
- Create MS4 Exhibit at Newtown Creek Visitor Center



Artwork by Brian, 6th grade student at the Bay Academy I.S. 98, Brooklyn, for DEP's 31st Annual Water Resources Art & Poetry Contest

PUBLIC INVOLVEMENT/PARTICIPATION

ABOUT

The Public Involvement/Participation provision of the permit seeks to ensure that the public is involved in the development, implementation and revision of the SWMP. In 2015, the City first identified key stakeholders and groups (both private and public) who are not only affected by, but also interested in the SWMP. From 2016 to 2017, the City maintained its commitments to:

- Continue to identify and include interested stakeholders
- Keep stakeholders informed and updated on SWMP development
- Work with stakeholders to develop public programs and events
- Listen to public input, acknowledge concerns and aspirations, and provide feedback on how public input has influenced City policy
- Seek feedback on relevant drafts and proposals
- Formulate solutions that incorporate stakeholder advice and recommendations to the maximum extent possible

NYC meets with the engineering design, construction management, and real estate development communities.

In order to meet these commitments, the City has held many meetings with stakeholders on the development of the SWMP. Key meetings are highlighted below. For a complete list of meetings relevant to SWMP development, please see Appendix A.

ANNUAL PROGRESS REPORT MEETINGS

On June 22, 2016, the City held the first Annual Progress Meeting to present the 2016 Progress Report to the public. The public was also given an opportunity to provide written comments on the report. The City's written response to comments is available in Appendix C. The 2017 Progress Report was published online and distributed by email to known interested stakeholders on May 08, 2017. The public was invited to attend the second Annual Progress Meeting to learn more about the draft 2017 Progress Report and to submit comments by June 5, 2017. This 2017 Progress report and the City's written response to comments will be available online at: www. nyc.gov/dep/ms4.

STORMWATER ADVISORY GROUP (SAG)

During the question and answer session of the first Annual Progress Report Meeting, several audience members suggested that the City hold meetings more frequently than once a year. On July 20, 2016, the City announced the formation of a "Stormwater Advisory Group" (SAG) that was to allow stakeholders the opportunity to provide more substantive feedback on each provision of the SWMP. Open to the public, the SAG met four times between fall 2016 and spring 2017. At each meeting, the City first provided a general update on the legal authority development and stakeholder engagement as it pertained to the individual permit provisions, and then an in-depth look into the development of specific programs for the Stormwater Management Program. These focused meetings created a space for participants to "dive deep" into the latest planning and analysis completed by the City. Comments received during the meetings were addressed at the time and/or incorporated into the SWMP development. To view the presentations from the SAG meetings visit: www.nyc.gov/dep/ms4.

SWIM COALITION BRIEFINGS

Each quarter, the City met with the Stormwater Infrastructure Matters (SWIM) Coalition on specific permit provisions. Comprised of environmental stakeholders, SWIM is "a coalition dedicated to ensuring swimmable waters around New York City through natural, sustainable stormwater management practices in our neighborhoods." These smaller meetings gave the City an opportunity to receive detailed feedback from environmental advocates who organize around stormwater management and water quality issues.

CONSTRUCTION AND POST-CONSTRUCTION FEEDBACK SESSIONS

For the Construction and Post-Construction provisions of the SWMP, the City conducted specific engagement with the engineering, design, construction management, and real estate development communities. This engagement began in the spring of 2016 with targeted outreach on the Lot Size Soil Disturbance Threshold Study (refer to Appendix D) where industry professionals were invited to a meeting to learn about the scope of work for the study. Professionals then had the opportunity to provide comments on the scope and give early input based on their industry knowledge and design experience. In the fall of 2016, the City kicked off a partnership with the Urban Green Council (UGC) and the Real Estate Board of New York (REBNY) to bring together an even broader audience of professionals who will be impacted by the Construction and Post-Construction provisions. UGC and REBNY have been leading feedback sessions with the development community and technical experts.

SESSION 1 December 2, 2016 January 6, 2017	Presentation of stormwater management programs and requirements from other urban municipalities; proposed construction and post-construction Stormwater Management Practices (SMPs), conceptual designs, and preliminary cost estimates; Lot size analyses for various thresholds, which DEP conducted for NYC MS4 areas. Feedback from experts on costs and feasibility of techniques, including suggested prioritization under different conditions. Feedback is also needed to select 3-4 threshold sizes for further cost benefit analysis.
SESSION 2 March 23, 2017	Joint session with developers and technical experts for feedback on draft permitting workflow and preliminary results of the cost-benefit analysis.
SESSION 3 June 2017	Joint session with developers and technical experts for feedback on final results of threshold analysis.

TRASH FREE NYC WATERS

On September 27, 2016, the City held a public meeting on the Control of Floatable and Settleable Trash and Debris provision of the permit and introduced Trash Free NYC Waters, a behavior-change media campaign led by the City to encourage New Yorkers to stop littering in order to reduce floatables in New York harbor. At the meeting, the City provided data on the history of floatables reduction in the City and described the scope and goals of the media campaign. On April 19, 2017, the City held a second meeting on the topic of Control of Floatable and Settleable Trash and Debris, coupled with the Stormwater Advisory Group Meeting on Public Education and Outreach. Both presentations can be viewed at: http://nyc.gov/dep/ms4.

MS4 LEGAL AUTHORITY

On November 16, 2016, the New York City Council introduced *Intro. 1346-2016* to provide the City authority to act in a regulatory capacity to oversee and/or enforce requirements regarding activities that have the potential to contribute pollutants to stormwater runoff and the waterbodies surrounding the City. After the legislation was introduced, the City held 2 public briefings on November 29 and 30 of 2016 for environmental stakeholders and industry professionals, respectively. During these briefings, City representatives explained the details of the legislation and responded to questions and concerns. On December 13, 2016, DEP's Acting Commissioner Vincent Sapienza testified at a hearing before the City Council Committee on Environmental Protection. The Committee heard testimony from several other stakeholders as well. The Committee amended the legislation, which was ultimately passed by the full Council as Intro 1346-A on May 10, 2017. The legislation, which was signed by the Mayor on May 30, 2017 as Local Law 97 of 2017, can be viewed at: https://goo.gl/uhdh6s.

MAPPING

ABOUT

The mapping provision of the permit requires the creation and maintenance of a Geographic Information System (GIS)-based map of the MS4 outfalls and drainage areas. The map will also provide information such as zoning districts, related land uses, and locations of major structural controls for stormwater discharge.

Historical data indicate that the MS4 permit covers approximately 30 to 40 percent of the City's land area, as shown in the Preliminary Map of Areas Covered by the MS4 Permit (pg. 9). While these historical data provide a general understanding of the MS4 drainage areas, a thorough analysis known as drainage area delineation is required to refine the boundaries of the MS4. DEP has made significant progress delineating its infrastructure, which makes up the majority of the MS4.

Several other City agencies also own or operate portions of the MS4. DEP is coordinating with these agencies to incorporate their outfalls and drainage areas into the citywide MS4 map. A preliminary map depicting the information completed to date will be included with the submission of the SWMP in August 2018. In August 2020, the City will submit the final map to DEC.

WHAT IS AN MS4 DRAINAGE AREA?

- An area where stormwater drains to separate storm sewers owned or operated by NYC that discharge to waters of New York State through MS4 outfalls or that connect to combined sewer overflow pipes downstream of a regulator
- An area where stormwater drains to high level storm sewers and bluebelts that ultimately discharge to waters of New York State through MS4 outfalls
- NYC municipal operations and facilities where stormwater drains by overland flow to waters of New York State

WHAT IS AN MS4 OUTFALL?

An outfall is defined as any point where a separate storm sewer system discharges to either the waters of the United States or to another MS4. Outfalls include discharges from pipes, ditches, swales, and other points of concentrated flow.

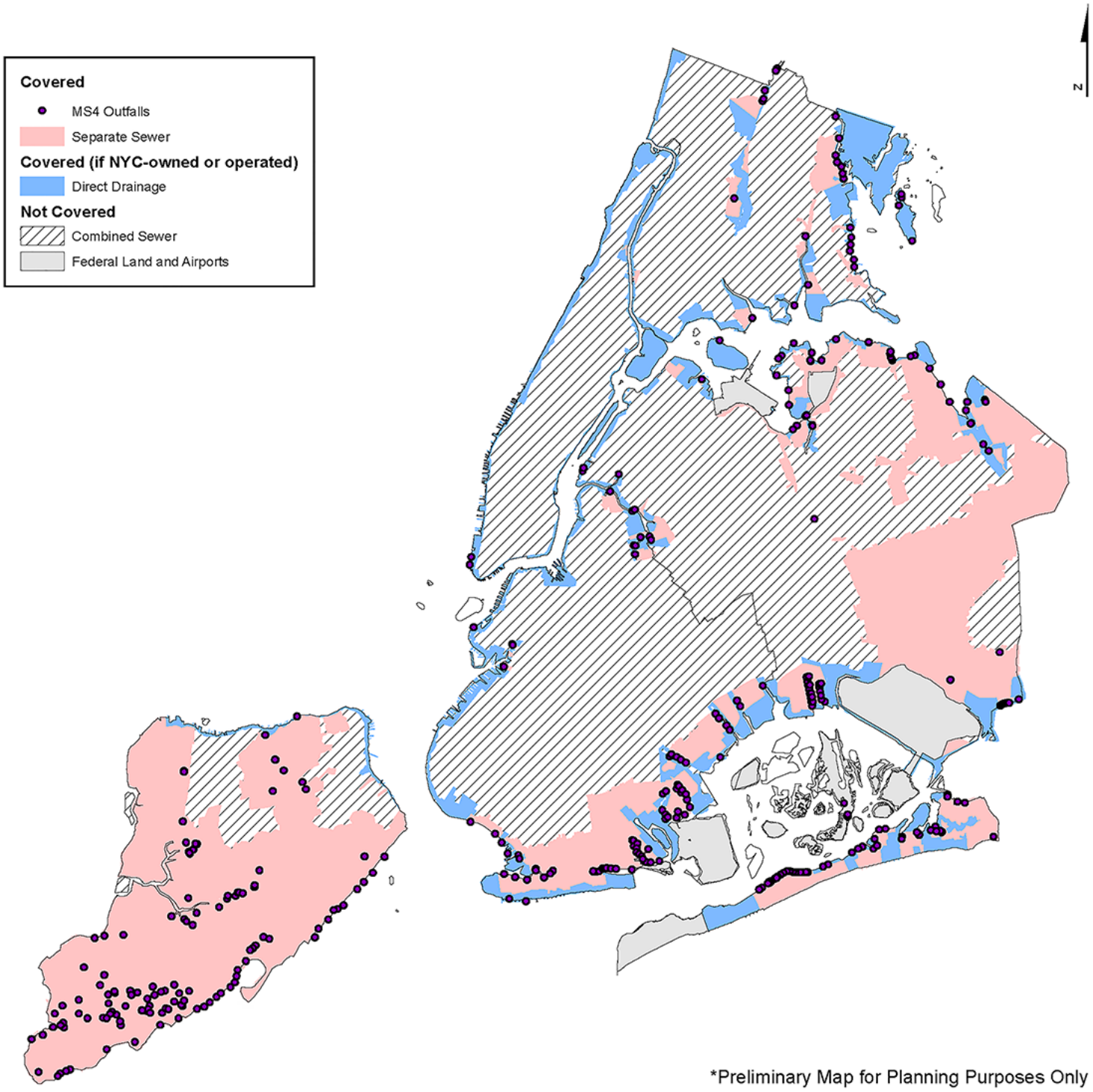
ACHIEVEMENTS

- Completed delineation of areas draining to 199 DEP owned MS4 outfalls in the Bronx, Brooklyn, Manhattan, and Queens
- Developed a methodology for mapping drainage areas and outfalls in Staten Island for Bluebelts and areas without storm sewers
- Completed delineation of 24 areas draining to combined sewer overflow pipes downstream of a regulator
- Presented publicly on the topic of mapping – presentation available at http://nyc.gov/dep/ms4
- Developed outline for a Mapping Guidance Document to share with other agencies for mapping non-DEP drainage areas and outfalls

NEXT STEPS

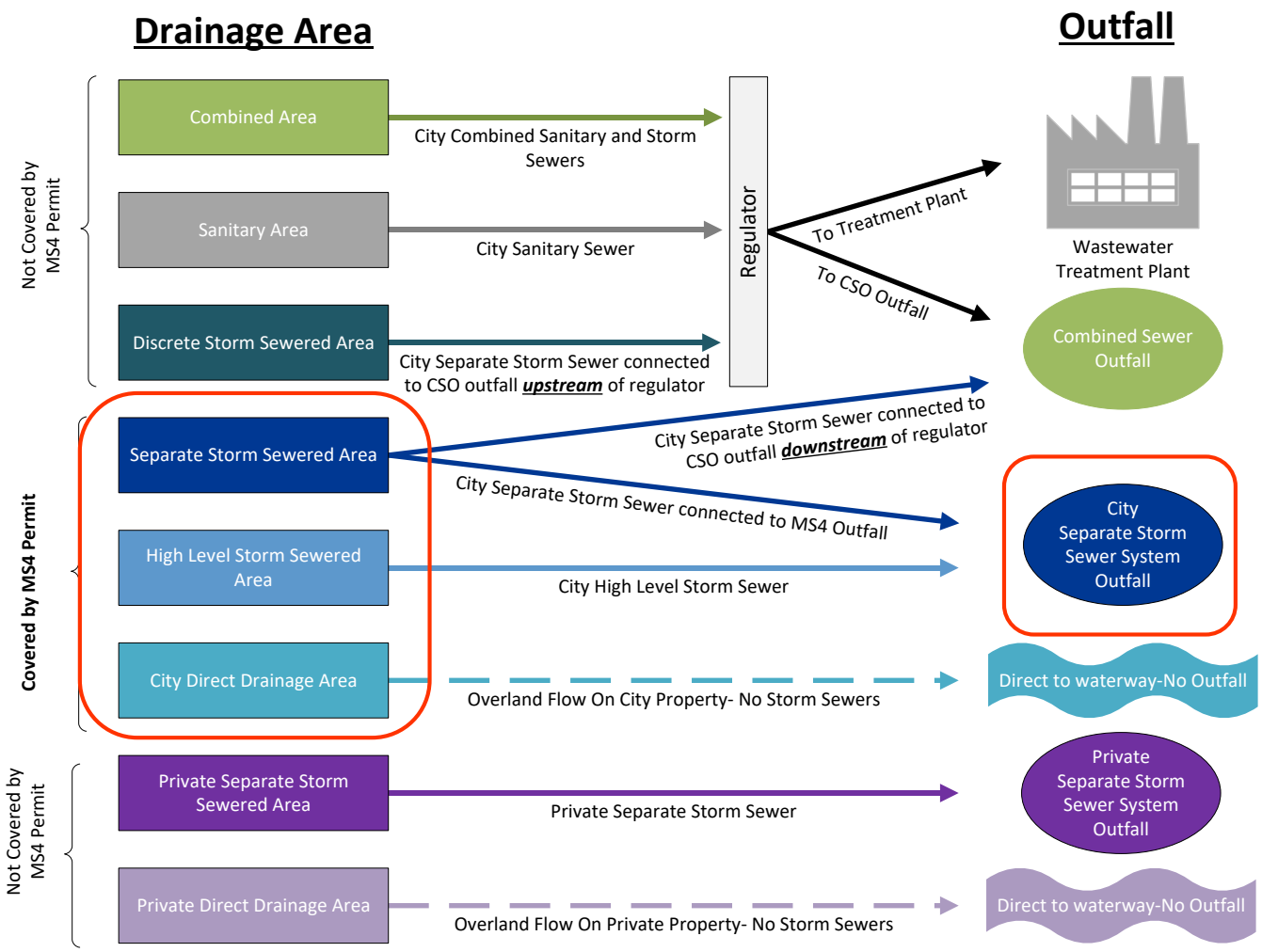
- Identify GIS data discrepancies and conduct engineering analysis or field investigation when needed
- Continue mapping DEP MS4 outfalls and drainage areas in Staten Island
- Initiate mapping of non-DEP MS4 drainage areas and outfalls
- Prepare Preliminary Map for submission with SWMP
- Prepare Mapping Guidance Document to share with other agencies

PRELIMINARY MAP OF AREAS COVERED BY THE MS4 PERMIT



DRAINAGE AREAS TO BE MAPPED UNDER MS4 PERMIT

DEP is compiling a comprehensive Geographic Information System (GIS) based map in coordination with City agencies with obligations under the MS4 permit. The Diagram of Drainage Areas to be Mapped below summarizes the stormwater drainage areas that will be mapped under the MS4 permit.



ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)

ABOUT

Under the MS4 permit, the City must develop, implement, and enforce a program to detect and eliminate illicit discharges to the MS4. This includes discharges to an MS4 that are not composed entirely of stormwater except permitted (authorized) discharges such as firefighting related discharges. DEP has a well-developed Illicit Discharge Detection and Elimination (IDDE) program. As part of the existing IDDE program, DEP conducts a Shoreline Survey in order to identify and characterize shoreline outfalls. If a dry weather discharge is observed from a DEP-owned outfall during the survey, an intense investigation is performed to confirm the source of the discharge and to eliminate it. Illicit discharges from non-DEP-owned outfalls are reported and referred to NYSDEC. Through the Shoreline Survey, 4,406 outfalls have been identified between 1998 and 2015, including 365 DEP-owned MS4 outfalls.

As an enhancement to the Shoreline Survey, the DEP Sentinel Monitoring Program collects quarterly samples at 80 specific locations in waterbodies throughout NYC to test for fecal coliform, as shown on the Map of Sentinel Monitoring Stations (pg. 13). If samples from the Sentinel Monitoring Program are above 200 FC/100 ml, a baseline trigger established by DEC, then an intense mini-shoreline investigation is performed to track the source of the fecal coliform pathogens and ultimately eliminate the discharge. More information about the Sentinel Monitoring Program is available at: https://goo.gl/PGmvXc.

In addition to the above programs, the City has Emergency Response Units within FDNY and DEP that respond to spills throughout the City, as well as DEP units that respond to 311 complaints related to IDDE.

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 by:

- Visiting 311 Online; http://www1.nyc.gov/311/
- calling 311 or (212) NEW-YORK, (212) 639-9675, from outside New York City;
- texting 311-692;
- or downloading the mobile app.

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 public as open data online.

Currently, the public is able to 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
- Dry Weather Sewage Discharge Complaint - Report of 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
- Catch Basin Complaint - Report a storm drain that is missing its cover, clogged, sunken, raised, damaged, or defective

HOW TO REPORT A POTENTIAL ILLICIT DISCHARGE

Dry weather discharges, defined as flow from an outfall after a minimum dry weather period of 48 hours, may be a potential illicit discharge. At this time, it is best to report potential illicit discharges by calling 311 or going to the Environment section of the 311 website.

- To report a potential illicit discharge from a labeled combined sewer outfall, do so as a Dry Weather Sewage Discharge Complaint. Use the outfall ID number, located on a sign near the outfall, to provide the location of the complaint.
- To report a potential illicit discharge from an unlabeled storm outfall, do so as a Waterway Complaint. A storm outfall location must be provided as either a street address, intersection, or block. More detailed information, including GPS coordinates and an outfall description can be recorded with the 311 complaint and is useful to responders.

Between 1998 and 2016, the Citywide IDDE Program has identified 393 contaminated discharges, representing 4.37 million gallons per day (MGD) of flow. Of the contaminated discharges identified in that timeframe, 386 discharges or 4.34 MGD have been abated, with 5 discharges or 0.03 MGD currently under continued investigation. The City will continue to implement its well-developed IDDE program while exploring additional actions to prevent, detect, and eliminate illicit discharges to all City agencies' storm sewers.

ACHIEVEMENTS

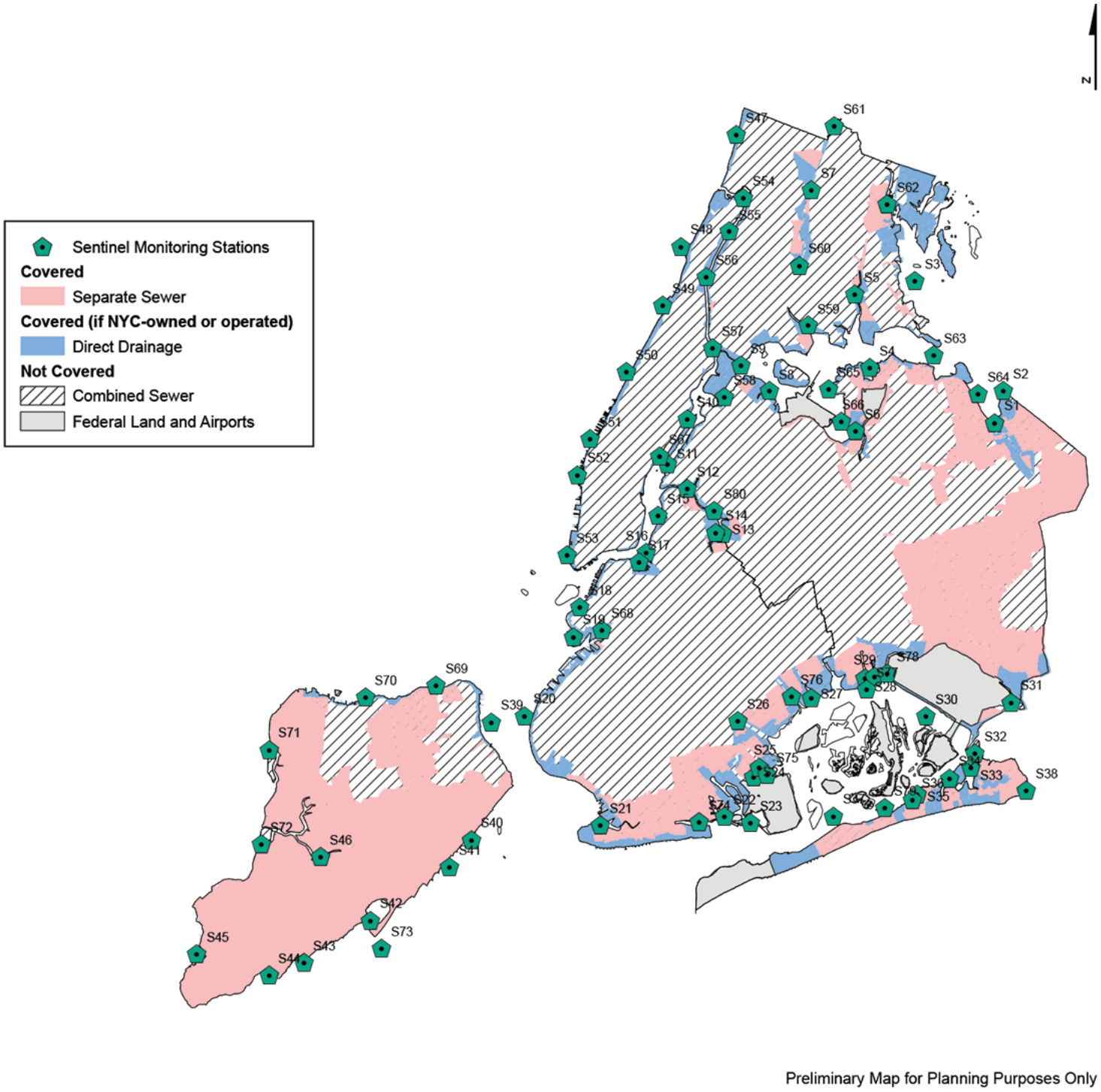
- Submitted annual updated list of outfalls to DEC in April 2017
- Continued Sentinel Monitoring Program
- In 2016, only 12.5% of the Sentinel Monitoring stations were above the baseline trigger and required a prioritized shoreline investigation
- In Coney Island Creek – inspected 53 properties, found 23 illegal connections that were abated
- Outlined a guidance manual for other City agencies to detect and eliminate illicit discharges discovered on their properties during regular operational activities
- Included clarifying language expressly prohibiting non-stormwater discharges to the MS4, other than allowable runoff, in Local Law 97 of 2017 - https://goo.gl/GEpRqk
- Presented publicly on the topic of IDDE – presentation available at http://nyc.gov/dep/ms4

NEXT STEPS

- Develop program enhancements for Priority MS4 Waterbodies with illicit discharge issues
- Finalize IDDE Guidance Manual for City agencies
- Update IDDE rules
- Finalize and implement Coney Island Creek MS4 Outfall Sign Pilot

Woodrow Bluebelt in Staten Island

MAP OF SENTINEL MONITORING STATIONS



Preliminary Map for Planning Purposes Only

CONSTRUCTION SITE STORMWATER RUNOFF CONTROL AND POST-CONSTRUCTION STORMWATER MANAGEMENT

ABOUT

The Construction Runoff Control Program is related to an existing federal and State program that aims to reduce pollutants in stormwater runoff from construction activities citywide that involve land disturbance of one acre or more. Under existing law, such construction activities are required to implement erosion and sediment control measures as well as pollution prevention practices. The Construction Runoff Control Program that will be implemented by the City under the MS4 permit will focus on construction projects located in the MS4 areas of the City and will include review of stormwater pollution prevention plans (SWPPP), site inspections by the City, and enforcement actions in instances when a construction project is found to be in non-compliance.

The City will also develop a Post-Construction Stormwater Management Program, similarly related to an existing federal and State program designed to reduce pollutants in stormwater runoff. Consistent with State law, the final site plans for new development and redevelopment projects involving land disturbance of one acre or more must incorporate stormwater controls in accordance with the New York State Stormwater Management Design Manual. Under the existing program, stormwater controls must be inspected and maintained by trained personnel.

AS PART OF THE MS4 PROGRAM FOR CONSTRUCTION AND POST-CONSTRUCTION STORMWATER MANAGEMENT, THE CITY WILL:

- Conduct Stormwater Pollution Prevention Plan (SWPPP) reviews
- Develop an inspection and enforcement program for active construction sites and post-construction stormwater management practices
- Require training for individuals performing SWPPP reviews/inspections, construction management/site operation, and long-term operation and maintenance of stormwater management practices

WHAT IS A SWPPP?

A Stormwater Pollution Prevention Plan (SWPPP) is a document that:

- Identifies the potential sources of stormwater pollution from a site during and after construction;
- Includes management practices and a schedule to implement and avoid pollution during construction;
- All SWPPPs have erosion and sediment controls but only some have post-construction controls;
- Includes structural and nonstructural management practices to reduce the potential increase in pollutants after construction is completed.

In addition, the City is conducting a study to determine the appropriate reduction in the soil disturbance threshold at which new development and redevelopment sites must implement erosion and sediment control measures during construction and are subject to post-construction stormwater management requirements. The study will also identify which management practices are acceptable, as well as consider water quality improvements, compliance costs, local site conditions, numbers of affected public and private properties, types of development/zoning, total land area managed, impervious coverage and other relevant factors. In conducting this study, the City is seeking input from the construction community, environmental organizations and other interested stakeholders, as described in detail in the Public Involvement and Participation portion of this report. Refer to Appendix D for more information.

ACHIEVEMENTS

- Completed literature and public utility survey to investigate construction and post-construction program components and requirements including retention/treatment requirements, erosion and sediment controls/SWPPP requirements, and staffing resources to implement the program
- Conducted threshold analysis based on lot space/soil constraints, building types/sizes, and number of SWPPP reviews/resource needs for permitting and inspections
- Finalized conceptual designs and life cycle cost analyses for stormwater control measures - conceptual designs and costs were developed for representative lots based on historical lot size distribution, land use, and zoning designation
- Met with technical experts and owners/developers to discuss components of the threshold study. Participants provided feedback through open discussions and by completing a survey on potential added costs of compliance
- Performed cost-benefit and water quality analyses and prepared cost/benefit curves
- Visited construction sites to assess stormwater management practices and current inspection practices
- Successfully sought new MS4 legislation, which was enacted by the City Council and signed by the Mayor which will enable DEP to develop and implement the new Construction/Post-Construction Program. The legislation also amends the Building Code to account for the new DEP program, and authorizes other City agencies to amend rules as necessary to provide for coordination
- Hired an MS4 Permitting Program Director
- Presented publicly on the development of the construction/post-construction program – presentation available at http://nyc.gov/dep/ms4

NEXT STEPS

- Recommend an appropriate reduction in the lot size soil disturbance threshold
- Finalize SWPPP review and permitting process based on stakeholder feedback
- Draft rules to implement the Construction/Post-Construction Program
- Continue to build technical team for implementation of program
- Build the online SWPPP intake and review system
- Continue to work with the regulated community and interested parties in developing the review, inspection and enforcement program

Green roof on new construction to manage stormwater

PERMITTING PROCESS

Comparison of the Current and Future Construction and Post-Construction Permitting Process

CURRENT PERMITTING PROCESS

SWPPP PREPARATION
Develop a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the requirements in the General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002)

NOI
Submit a completed notice of Intent (NOI) to DEC; Submit Initial Authorization fee to DEC

CONSTRUCTION
Follow and update SWPPP as required by GP-0-15-002; Perform inspection/maintenance as required by GP-0-15-002; Submit annual fee to DEC

NOT
Achieve final stabilization; remove all temporary, structural erosion and sediment control measures; and confirm all post-construction stormwater management practices have been constructed in conformance with the SWPPP, are operational, and an appropriate long-term operation and maintenance plan is in place; Submit a completed Notice of Termination (NOT) to DEC

POST-CONSTRUCTION
Implement long-term operation and maintenance requirements

FUTURE PERMITTING PROCESS

SWPPP PREPARATION
Develop a Stormwater Pollution Prevention (SWPPP) in accordance with the requirements in the General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002)

NYC-MS4 ACCEPTANCE
Submit SWPPP permit application with post-construction maintenance easement to NYC for review along with any required fees and NYC stormwater permit application; Receive signed MS4 SWPPP Acceptance Form

NOI
Submit a completed Notice of Intent (NOI) to DEC along with signed MS4 SWPPP Acceptance Form; Submit Initial Authorization fee to DEC

CONSTRUCTION
Follow and update SWPPP as required by GP-0-15-002; Perform inspection/maintenance as required by GP-0-15-002; Site is subject to NYC inspection and enforcement program as developed under NYC SMWP; Submit annual fee to DEC and any applicable NYC fees as determined by DEP's rules. Receive NYC SWPP construction permit

NYC-MS4 NOT ACCEPTANCE
Achieve final stabilization; remove all temporary, structural erosion and sediment control measures; and confirm all post-construction stormwater management practices have been constructed in conformance with SWPPP, are operational, and appropriate long-term operation and maintenance plan is in place; NYC MS4 Official or Duly Authorized Representative signs Notice of Termination (NOT) and issues any required NYC post-construction maintenance permit

NOT
Submit completed NOT to DEC

POST-CONSTRUCTION
Implement long-term operation and maintenance requirements
Site is subject to NYC inspection and enforcement program and any required NYC post construction operation maintenance permit as developed under NYC SWMP

YELLOW TEXT REPRESENTS NEW REQUIREMENTS BEING DEVELOPED UNDER THE SWMP

POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS AND FACILITIES

ABOUT

The City is developing a Pollution Prevention/Good Housekeeping (PPGH) Program to address municipal operations and facilities in the MS4 drainage area that may contribute pollutants to the MS4 in stormwater runoff, and subsequently to the waters of the State. Under the MS4 permit, the City is compiling, and will maintain, an inventory of municipal facilities and operations located in MS4 and direct drainage areas. These facilities and operations will be prioritized into high, medium, and low categories based on their potential to impact water quality, and assessed to identify appropriate stormwater control measures (SCMs). Each facility will implement selected SCMs as well as policies and procedures to reduce or prevent the discharge of pollutants. In the future, facilities will conduct regular self assessments to evaluate the effectiveness of the practices implemented. In addition, the program will require the City to consider and incorporate, when feasible and cost effective, runoff reduction techniques and green infrastructure (GI) during planned municipal upgrade and retrofit projects, including municipal rights of way.

ACHIEVEMENTS

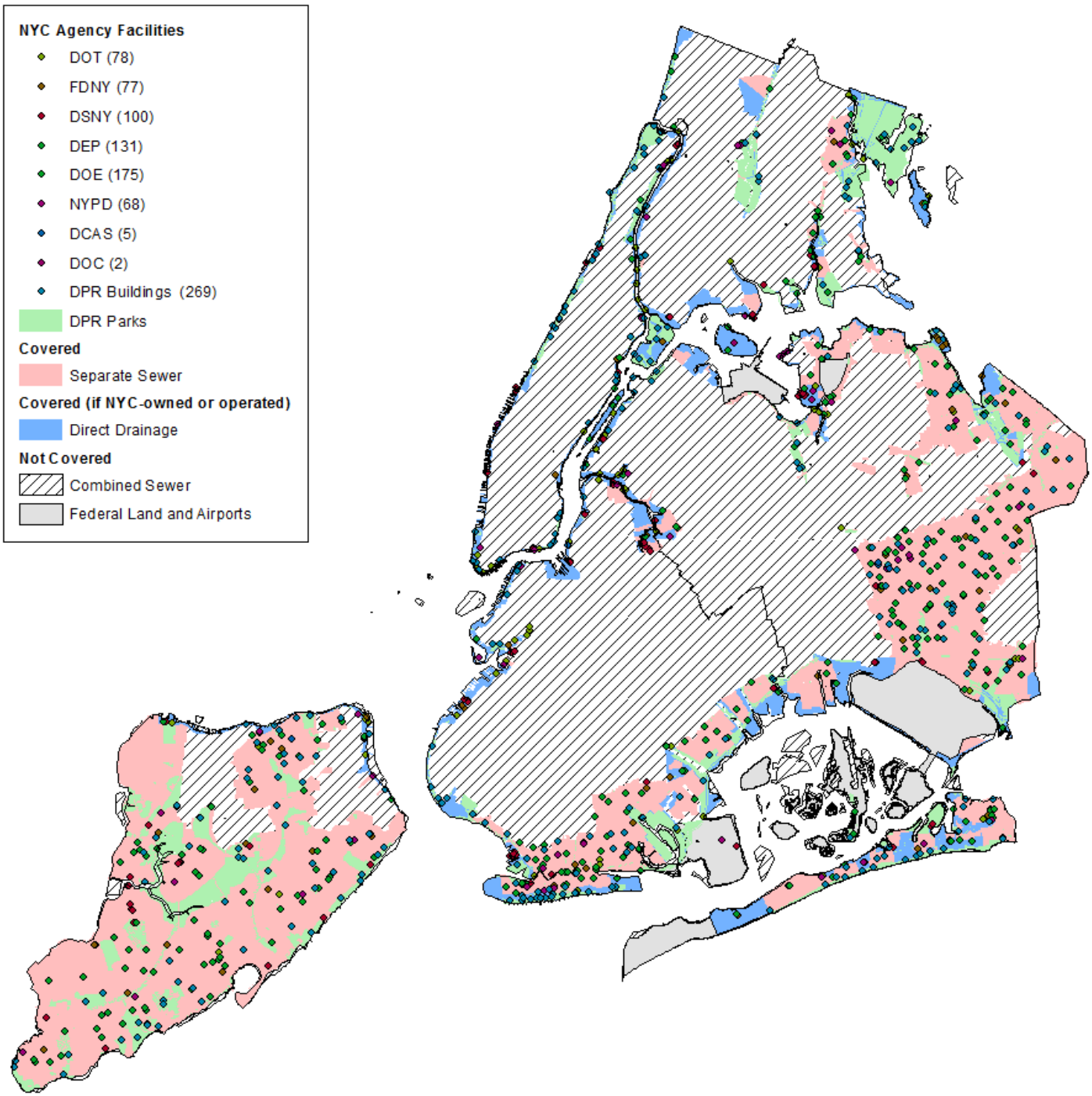
- Developed prioritization procedures for municipal facilities and operations
- Performed preliminary prioritization of municipal facilities and operations into high, medium, and low priority categories
- Developed SCM guidance documents specific to municipal operations pertaining to
    - Stormwater Collection System Maintenance
    - Paved Surface Maintenance
    - Landscaping and Open Space Maintenance
    - Building Maintenance and Repair
    - Vehicle/Equipment Operations
    - Material Storage Facilities
    - Waste Management Facilities
- Drafted standard operating procedures (SOPs) for the assessment of municipal facilities and operations
- Procured and awarded contract to conduct initial facility assessments and to develop and implement a training program for municipal employees
- Began assessments of high priority sites, as well as pilot sites that are representative of facilities or operations categorized as medium and low priority
- Developed measurable goals and program assessment matrices in collaboration with the many city agencies that manage facilities subject to the PPGH Program
- Presented publicly on the topic of PPGH – presentation available at http://nyc.gov/dep/ms4

NEXT STEPS

- Revise assessment protocols/SCMs based on results from high priority and pilot site assessments
- Complete assessment of high priority facilities by August 1, 2018
- Begin assessments of medium and low priority sites at each agency, with an estimated completion date of January 2021
- Develop training program for municipal employees
- Hold meetings among operating agencies to gather additional data for facility prioritization, protocol development and training requirements

Example of a municipal operation and facility

PRELIMINARY MAP OF NYC MUNICIPAL FACILITIES AND OPERATIONS IN THE MS4 AND DIRECT DRAINAGE AREAS, AS OF 5/1/2017



INDUSTRIAL & COMMERCIAL STORMWATER SOURCES

ABOUT

Under the Industrial and Commercial Stormwater Sources Program, the City will prepare and maintain an inventory of public and private industrial and commercial facilities that are possible sources of pollution to the MS4. In addition, the City is developing an inspection plan to assess whether unpermitted industrial and commercial facilities require State Pollutant Discharge Elimination System (SPDES) Multi-Sector General Permit (MSGP) coverage from DEC. The City will also conduct inspections and appropriate enforcement of covered MSGP facilities to ensure they are complying with their SWPPPs. The SWMP will include a prioritization schedule for these facility inspections.

ACHIEVEMENTS

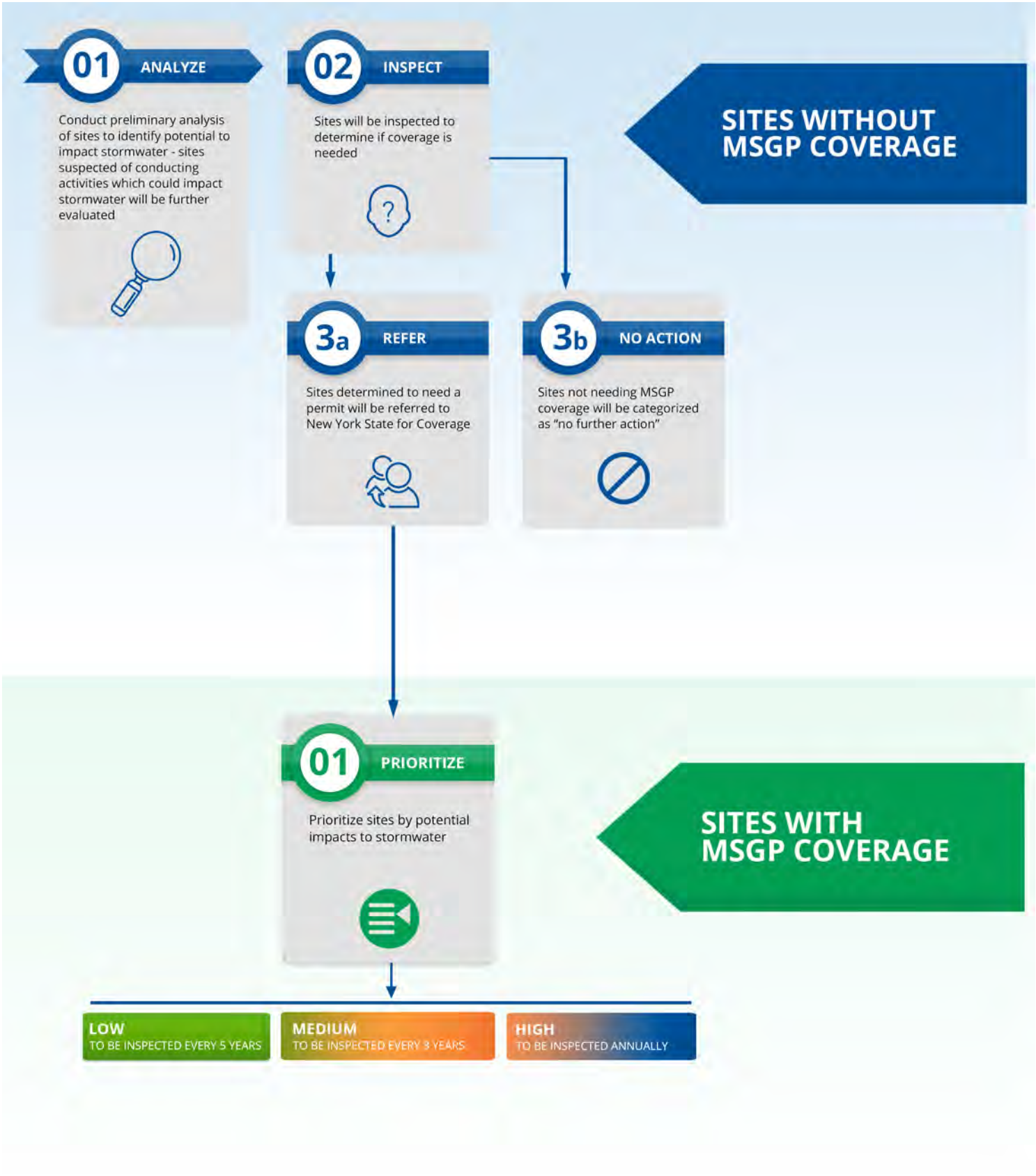
- Developed screening procedure and screened facilities located in industrial and commercial zonings throughout the City
- Completed preliminary facility inventory of approximately 1,300 sites
- Delineated jurisdiction and responsibilities between the City and DEC related to MSGP and established data sharing mechanisms
- Worked with DEC to prioritize existing MSGP sites into high, medium and low priority categories for initial inspection
- Drafted procedures to update priority categories for existing permitted MSGP sites based on DEC's prioritization categories and the result of the initial inspection
- Drafted standard operating procedures (SOPs) to inspect currently permitted MSGP sites
- Drafted SOPs to inspect currently unpermitted sites and protocols to refer unpermitted sites to DEC if identified as significant contributors of POCs to impaired waters
- Drafted RFP to be issued in 2017, to conduct third party inspections of industrial and commercial facilities, and to provide training to DEP employees who will administer the program
- Drafted framework to track facility inspections
- Created an outreach strategy to notify facility owners that may be impacted by the program, which will go into effect once the MS4 legislation has been approved
- Included authorizing language in the MS4 legislation signed into law in May 2017 that will enable DEP to develop and implement the new Industrial/ Commercial Program

Example industrial facility

NEXT STEPS

- Finalize facility inventory
- Finalize tracking system for inspections
- Procure contract to conduct third party inspections of industrial and commercial facilities, and to provide training to DEP employees who will be administering the program
- Finalize SOPs to inspect currently permitted MSGP facilities and unpermitted facilities
- Draft rules to implement the Industrial/Commercial Program

INDUSTRIAL AND COMMERCIAL PROGRAM UNDER MS4 PERMIT



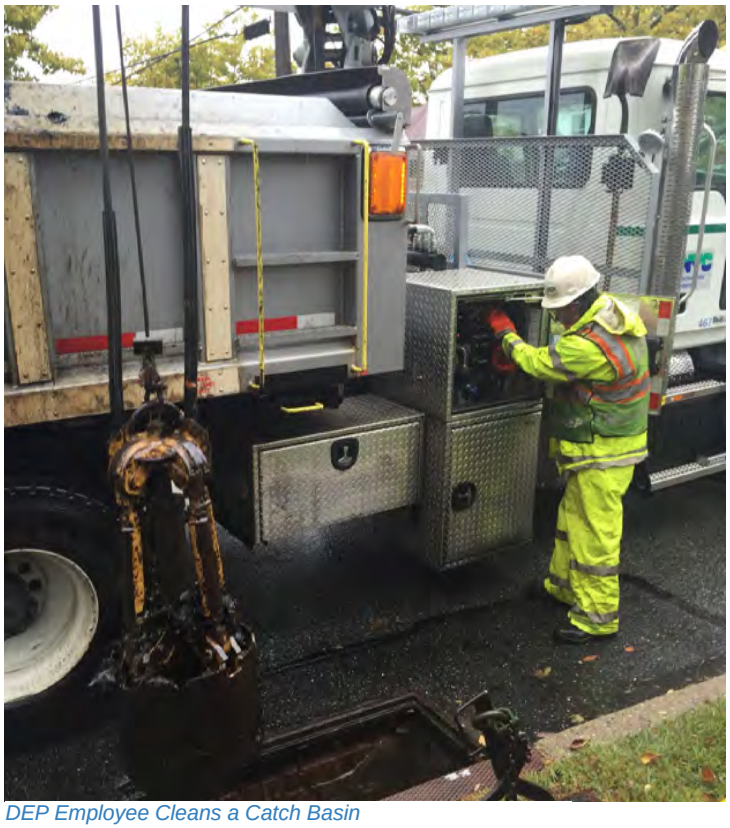
CONTROL OF FLOATABLE & SETTLEABLE TRASH & DEBRIS

ABOUT

The City already has a variety of strategies and techniques to control floatable and settleable trash and debris within separately-sewered areas of the City. To better understand and therefore manage trash and debris, the City will create a work plan to determine the loading rate of floatable and settleable trash and debris discharged from the MS4 to waterbodies impaired by floatables. The City will also evaluate the effectiveness of current control practices, identify the best available control technologies, and conduct a media campaign to educate New Yorkers on the issues.

ACHIEVEMENTS

- Continued implementing existing controls, including street sweeping and catch basin inspection
- Developed a new media campaign and slogan "Don't Trash Our Waters" to encourage New Yorkers not to litter and organized a kick-off event in partnership with the Wildlife Conservation Society at Coney Island Aquarium
- Supported cleanup events
- Initiated a program to challenge retailers to reduce plastic bag use
- Collected and analyzed data on street litter quantity
- Continued programs such as Adopt-a-Basket, Adopt-a-Highway/Greenway to help prevent and remove trash and debris
- Continued programs such as Water-on-the-Go, water fountain installation and repair, and the B.Y.O. Campaign that help reduce the use of single-use water bottles
- In July 2016, DEP began inspecting catch basins on an annual basis, consistent with Local Law 48 of 2015 - the law sunsets after three years to allow DEP to work with the City Council to determine the effectiveness of this more frequent inspection cycle
- Presented publicly on the topic of Trash Free NYC Waters – presentation available at http://nyc.gov/dep/ms4
- Surveyed other municipalities to identify additional control strategies



DEP Employee Cleans a Catch Basin

NEXT STEPS

- Continue implementing existing controls to reduce floatables while exploring possible improvements
- Continue implementing new media campaign
- Continue to organize and support cleanup events
- Prepare draft work plan to determine the loading rate of floatable and settleable trash and debris discharged from the MS4 to impaired waterbodies by August 1, 2017

MONITORING AND ASSESSMENT OF CONTROLS

ABOUT

Within three years, the City will have a consolidated tracking system framework, enabling the City to track the information required by the permit, including the information that must be in the Annual Report. The City will also develop a Monitoring and Assessment Program that monitors stormwater discharges and reports results to DEC. One goal of the monitoring program is to measure the effectiveness of the SWMP. In developing the Monitoring and Assessment Program, the City will review its existing monitoring programs (e.g., shoreline survey, harbor survey, sentinel monitoring and beach sampling) to determine how data can be utilized to characterize receiving water quality and stormwater discharged from MS4 outfalls.

ACHIEVEMENTS

- Conducted surveys with 34 peer municipalities on their stormwater monitoring and assessment programs
- Reviewed the City's existing monitoring programs
- Developed approach for landside (outfall/manhole) and receiving waterbody (tributaries and harbor) water quality and flow sampling. Sampling includes a two-tiered approach to assess the pollutant contribution from stormwater

  Tier 1: Land use-based monitoring
  - Six outfalls selected to represent six land use types (Low Density Residential, High Density Residential, Open Space, Industrial, Mix Residential/Commercial, and Highway)
  - Sampling during three qualifying storm events
  - Land use-based monitoring will be conducted through the first permit cycle to identify relationships between land use and pollutants and verify stormwater runoff coefficients

  Tier 2: Targeted monitoring
  - Long term monitoring to measure improvements in water quality
  - Focused on MS4 outfalls with largest potential pollutant load contribution to Priority MS4 Waterbodies

- Identified pollutants of concern (POCs) to be tested from sampling under land use-based, targeted and receiving waterbodies monitoring approaches
- Reviewed existing web and software-based reporting products to determine applicability to program requirements and feasibility of use
- Presented Monitoring and Assessment Plan publicly - presentation available at http://nyc.gov/dep/ms4

DEP Employee Samples Harbor Water

NEXT STEPS

- Conduct field reconnaissance to ensure selected outfalls/manholes are not impacted by tide, have no dry weather flows, and are safe and accessible by sampling field crews
- Finalize Monitoring and Assessment Program plan for inclusion in the SWMP Plan

SPECIAL CONDITIONS FOR IMPAIRED WATERS

ABOUT

New York City waterways that are already impaired by pollutants are subject to additional permit requirements. For impaired waterways without an assigned Total Maximum Daily Load (TMDL), the City must ensure that any non-negligible changes in land use or stormwater management practices within the MS4 areas draining to the impaired waters result in no net increase in the pollutant of concern (POC) causing the impairment.

Additionally, an impaired waterway will be designated as a "Priority MS4 Waterbody" if it has an approved Combined Sewer Overflow Long Term Control Plan (CSO LTCP) that indicates the waterway is unable to comply with applicable water quality standards, and identifies stormwater from the MS4 as a significant contributor to the water quality impairment. For Priority MS4 Waterbodies, the City will explore additional or customized non-structural BMPs and opportunities to implement green infrastructure (GI) pilot projects and other structural retrofits.

Of eight LTCPs submitted to the New York State Department of Environmental Conservation (DEC), six have been approved including Alley Creek/Little Neck Bay, Flushing Creek, Flushing Bay, Hutchinson River, Bronx River, and Gowanus Canal and none meet the criteria to be designated a Priority MS4 Waterbody at this time.

However, the Bronx River remains a priority for DEP, which is investigating GI opportunities in partnerships with other City agencies. DEC approved the Bronx River LTCP on March 7, 2017. While Bronx River does not meet its water quality standards for primary contact water quality target of 200 cfu/100 ml fecal coliform, the top contributor of the impairment (other than CSO overflows) is the load that already exists in the river entering NYC from Westchester County. This upstream load was established using Westchester County's EPA Stormwater Management Model (SWMM) to simulate the flow and load crossing the City line. The City's MS4 contributes less than 1% of the fecal loading in the waterway. Therefore, this waterway does not meet the criteria to be classified as a Priority MS4 Waterbody.

DEC has not yet approved the Coney Island Creek LTCP, but the information and analysis included in the LTCP indicates it will likely be designated a Priority MS4 Waterbody once approved.

ACHIEVEMENTS

- Focused efforts on GI pilot project opportunities and additional or customized BMPs in the Bronx River and Coney Island Creek watersheds, as the City previously anticipated these waterbodies would qualify as Priority MS4 Waterbodies
- Finalized a set of standard engineering designs for enhanced bio-retention practices for GI pilot projects that aim to reduce pollutants in stormwater runoff and will pilot the designs at Southeastern Queens
- Drafted a work plan for identifying waterbody-specific enhanced non-structural BMPs, GI pilots, and other structural retrofit opportunities that target possible sources of the impairment POCs
- Initiated development of a private property GI retrofit program
- Initiated coordination efforts for evaluating and implementing non-structural BMPs for Bronx River and Coney Island Creek
- Held a community workshop with Coney Island Creek residents to identify problem areas and possible program enhancements in that sewershed (refer to Appendix F) for a summary of the community's comments

NEXT STEPS

- Designate Priority MS4 Waterbodies as LTCPs are approved by DEC
- Identify and prioritize for Priority MS4 Waterbodies additional or customized non-structural BMPs, GI pilots and other structural retrofit project opportunities that are cost-effective and feasible
- Install and monitor the pilot standard designs for enhanced bioretention practices
- When available, review updates to the State General Construction Permit and coordinate with DEC to develop an approach to analyzing post-construction BMP selection that will meet the requirement for no-net increase of POCs

THE ROAD AHEAD

Over the last two years, the City has made significant progress in the development of its upcoming Stormwater Management Program. In the coming year, the City will continue to hold public meetings on SWMP development with the intention of publicly releasing the draft SWMP Plan in Spring 2018. The public is encouraged to review this progress report, attend public meetings, and submit questions and comments to MS4@dep.nyc.gov. The City would like to thank the stakeholders that have been involved in the development of the SWMP to date as we work together to protect the waters of New York City.

Upcoming MS4 Permit Deliverables

PERMIT SECTION	DELIVERABLE	SCHEDULE	DUE DATE
II.B Impaired Waters	Development of draft of land use coefficients and pollutant removal efficiencies for practices required for developers as part of pollutant load analysis (Part II.B.1.d)	2 ½ years after EDP	February 1, 2018
III.B Legal Authority	Development of written certification statement (Part III.B.1.b)	2 years after EDP	August 1, 2017
IV. Stormwater Management Program Plan	Submission of the complete draft SWMP Plan, including all components identified in Parts II.B, III.A through D, and IV. Introduction and IV.A through J (Part IV. Introduction)	3 years after EDP	August 1, 2018
IV.C MS4 Drainage Map	Preliminary map with information completed to date (Part IV.C.2)	3 years after EDP	August 1, 2018
IV.D Illicit Discharge Detection and Elimination	Report of the location and ownership of illicit discharges to the MS4 where the MS4 discharges to waterbodies that are shown to have over 200 colonies/100 ml of fecal coliform and a schedule to eliminate those discharges (Part IV.D.5)	3 years after EDP and every year thereafter	August 1, 2018
IV.D Illicit Discharge Detection and Elimination	Report on the unauthorized non-stormwater discharges to NYC's MS4 or CSO outfalls downstream of the regulator (Part IV.D.5)	3 years after EDP and every year thereafter	August 1, 2018
IV.F Post-Construction Stormwater Management	Establish and annually update an inventory of postconstruction stormwater management practices within the MS4 storm sewershed area (Part IV.F.1.e)	3 years after EDP and every year thereafter	August 1, 2018
IV.G Municipal Operations & Facilities Pollution Prevention	Perform an initial self-assessment of highest priority municipal operations and facilities (Part IV.G.1.d.i)	3 years after EDP	August 1, 2018
IV.H Industrial and Commercial Stormwater Sources (Attached as appendix)	Develop interim reports on the development of the SPDES MSGP inspection program (Part IV.H.3.a.i)	1 and 2 years after EDP	August 1, 2016 August 1, 2017
IV.I Floatable and Settleable Trash and Debris Control	Submit draft work plan for determining the amount of floatable and settleable trash and debris discharged from the MS4 to floatables impaired waterbodies (Part IV.I.3)	2 years after EDP	August 1, 2017

APPENDIX A - MS4 MEETING LOG

DATE	MEETING NAME	TOPICS	INTERNAL/ PUBLIC
4/19/2017	Stormwater Advisory Group Meeting - Manhattan	IV.A, IV.I	Stakeholder
4/14/2017	Quarterly Updates with SWIM Coalition	IV.A, IV.I	Stakeholder
4/5/2017	MS4 Quarterly Check-in with NYSDEC	IV.A, IV.I	Regulator
3/29/2017	Interagency Quarterly Meeting	IV.A, IV.I	Intragovernment
3/23/2017	Session 2: Construction/Post-Construction Lot-Size Threshold Study	IV.E, IV.F	Stakeholder
2/22/2017	Stormwater Advisory Group Meeting - Brooklyn	IV.C, IV.D, IV.J	Stakeholder
2/15/2017	Quarterly Meeting with SWIM: SWMP Updates	IV.C, IV.D, IV.J	Stakeholder
2/4/2017	Coney Island Creek Community Meeting	IV.D, General	Public
2/3/2017	MS4 Quarterly Check-in with NYSDEC	IV.C, IV.D, IV.J	Regulator
2/1/2017	MS4 Briefing Request	IV.E, IV.F	Intragovernment
1/30/2017	Coney Island Creek - Community Board 13	General	Stakeholder
1/26/2017	Lot Size Threshold Study Briefing	IV.F	Intragovernment
1/19/2017	Interagency Quarterly Meeting	IV.C, IV.J	Intragovernment
1/6/2017	Session 1: Construction/Post-Construction Lot-Size Threshold Study	IV.F	Stakeholder
12/13/2016	Stormwater Advisory Group Meeting #2	IV.E, IV.F.	Stakeholder
12/8/2016	Quarterly Meeting with SWIM: SWMP Updates	IV.E, IV.F	Stakeholder
12/2/2016	DEP MS4 Meeting: Construction/Post-Construction Lot Size Threshold Study	IV.E, IV.F.	Stakeholder
12/1/2016	MS4 Quarterly Check-in with NYSDEC	IV.E, IV.F.	Regulator
11/30/2016	Stakeholder Briefing: Webinar	IV.E, IV.F	Stakeholder
11/29/2016	Stakeholder Briefing: Webinar	IV.E, IV.F	Stakeholder
10/20/2016	Harlem River Community Meeting	General	Stakeholder
10/20/2016	Interagency Quarterly Meeting	General	Intragovernment
9/27/2016	Stormwater Advisory Group Meeting	IV.G	Public
9/27/2016	Trash Free NYC Waters Working Group	IV.I	Public
9/23/2016	MS4 Permit Overview	General	Intragovernment
9/13/2016	SWMP Updates with SWIM Coalition	IV.G	Stakeholder
9/8/2016	MS4 Quarterly Check-in with NYSDEC	IV.D, IV.E, IV.F, IV.G	Regulator
8/5/2016	MS4/CSO Briefing with HEP	General	Stakeholder
7/28/2016	MS4 Permit Briefing with Parks-Capital Projects	General	Intragovernment
7/27/2016	Public Education/Outreach and Public Involvement/Participation Sub-team Meeting	IV.A, IV.B	Intragovernment
7/21/2016	Legal Authority Discussion with DEC	III	Regulator
7/21/2016	Interagency Quarterly Meeting	General	Intragovernment
7/21/2016	MS4 Quarterly Check-in with NYSDEC	General	Regulator
6/22/2016	Queens & Bronx Association - MS4 Update	IV.E, IV.F	Stakeholder
6/22/2016	Public Meeting on the MS4 Progress Report	General	Public
6/7/2016	MS4 Permit- DOC Pollution Prevention Meeting	IV.G	Intragovernment
5/23/2016	MS4 Mapping Sub-Team Kickoff	IV.C	Intragovernment
5/18/2016	The Bronx Community Board 8 - Environmental and Sanitation Committee Meeting	General	Stakeholder
5/4/2016	Quarterly Meeting with SWIM: SWMP Updates	General	Stakeholder
5/4/2016	MS4 Permit Briefing at DCAS	General	Intragovernment
5/4/2016	MS4 Briefing to Staten Island Borough Board Meeting	General	Intragovernment
4/26/2016	MS4 Pollution Prevention / Good Housekeeping Meeting	IV.G	Intragovernment
4/21/2016	Interagency Quarterly Meeting	General	Intragovernment
4/18/2016	MS4 Quarterly Check-in with NYSDEC	General	Regulator
4/4/2016	Lot-Size Soil Disturbance Threshold Study/Scope Review - Conference Call with SWIM	IV.E, IV.F	Stakeholder

APPENDIX B - INVENTORY OF EXISTING EDUCATION AND OUTREACH PROGRAMS

The City has several distinct programs that are relevant to the issues of stormwater, water quality, pollution sources, and pollution prevention. These programs are detailed below.

PROGRAM NAME	RESPONSIBLE AGENCY	DESCRIPTION
Environmental Education	DEP	A vast array of education resources are available to teachers, students, parents, curriculum specialists, administrators and parents to learn – and teach – about New York City's water resources. Resources include class lessons with inquiry-based activities, professional development opportunities, funding, student research and curriculum development assistance, Visitor Center at Newtown Creek presentations and tours, online education modules and print materials, annual art and poetry contest, theatrical performances and more.
Annual Art and Poetry Contest	DEP	Second through twelfth grade students in New York City and East and West of Hudson Watersheds are invited to create original art and poetry that reflects an appreciation for our water resources. Highlighted themes vary but often include water quality, stormwater, and pollution. Participants are honored with a celebration showcasing notable entries.
Adopt-a-Bluebelt	DEP	Local community groups, companies and individuals are invited to enhance Staten Island's open spaces by acting as Sponsors who adopt parts of the Bluebelt.
Adopt-a-Catch Basin	DEP	Local organizations are invited to keep their catch basins clear of trash and debris. This helps reduce localized flooding and keep trash and debris out of waterways.
Shoreline and Bluebelt Cleanups	DEP	DEP organizes, supports, and sponsors various shoreline cleanup events throughout the City.
Clean Streets=Clean Beaches	DEP & DSNY	This annual educational initiative aims to improve cleanliness and aesthetics of City beaches by reducing littering on streets and in parks.
The Natural Classroom	DPR	Teachers are invited to use New York City parks as outdoor classrooms. The Urban Park Rangers support and facilitate this by offering programs on climate change adaptation, urban forestry, water quality testing, conservation, ecology, and ichthyology, among others.
Weekend, Pop-up, and Custom Adventures	DPR	Residents are invited to participate in programs that connect and educate them about nature. Example programs include canoeing, fishing, and opportunities to contribute to conservation, restoration and stewardship of local parks and waters.
Adopt-a-Tree	DPR	Residents, community groups and companies are invited to adopt and care for local trees. Volunteers receive training on MS4 related topics such as managing waste and litter, soil management, and watering.
Park Stewardship	DPR	DPR organizes, supports, and sponsors various events and activities that enable volunteers to help restore natural areas, care for trees, clean and beautify parks, and monitor wildlife.
Adopt-a-Highway/ Greenway	DOT	Sponsors are invited to adopt highway or greenway segments and perform litter removal and beautification.
Adopt-a-Basket	DSNY	Local businesses or community groups are invited to monitor local litter baskets. When the baskets are three-quarters full, adopters remove plastic liners, tie them, leave them next to the basket and insert a new liner. This helps prevent trash from spilling onto sidewalks.
SAFE Disposal Events	DSNY	To help residents dispose of harmful household products safely, DSNY hosts and promotes SAFE (Solvents, Automotive, Flammables, and Electronics) Disposal Events throughout the year in all five boroughs.
Community Cleanups	DSNY	DSNY supports local community groups and block associations in their volunteer efforts to keep their neighborhoods clean through local block and street area clean-ups by offering free loans of clean-up tools and equipment.
donateNYC	DSNY	This program helps New Yorkers give goods, find goods, and do good, with tools that make it easy to donate or find used and surplus items.
e-cycleNYC	DSNY	To help residents properly dispose of electronic waste, DSNY enables NYC apartment buildings with 10 or more units to sign up with e-cycleNYC for free and convenient recycling collection service.
re-fashioNYC	DSNY	In partnership with the New York City nonprofit Housing Works, re-fashioNYC makes donating clothing easy through its convenient building bin service. Residents living in a building with a re-fashioNYC bin can donate their unwanted clothing in their own building and receive a tax donation for their contribution.
Zero Waste Schools	DSNY	The Department of Sanitation is working with the NYC Department of Education and GrowNYC's Recycling Champions Program to implement an ambitious Zero Waste Schools pilot program. Approximately 100 schools will be set up as model recycling and organics schools, and their waste will be monitored to capture data on the amount of material being generated and separated. The goal is to identify best practices that can be expanded citywide.
School Sustainability Coordinator Trainings	DOE	The DOE Office of Sustainability hosts borough-based trainings annually for school Sustainability Coordinators, teachers, and other school staff. Workshops surround an array of topics such as waste reduction/recycling, energy conservation, green space and infrastructure, water quality and current issues, environmental education, and stewardship in partnership with City agencies and nonprofit organizations. These trainings provide an opportunity to promote educational resources/programs to educators.

2016 NYC Municipal Separate Storm Sewer Permit Progress Report: Public Comments and Responses

SPDES Permit No. NY-0287890

Effective Date of Permit: August 1, 2015

November 25, 2016

Background:

On August 1, 2015, the Department of Environmental Conversation (DEC) issued a new comprehensive permit to the City. The permit includes robust requirements that significantly expand the City's obligations to reduce pollutants discharging to the Municipal Separate Storm Sewer System (MS4). There are 14 City agencies with substantial obligations under the new MS4 permit, and the Department of Environmental Protection (DEP) is responsible for coordinating the efforts of those agencies with respect to all matters relating to the permit's requirements. The City's MS4 permit requires the development by August 1, 2018 of a Stormwater Management Program (SWMP) Plan, the goal of which will be to reduce pollution that reaches waterbodies through the MS4.

As required by the MS4 permit, the 2016 Progress Report on the development of the SWMP was presented to the public on June 22, 2016. This meeting included various stakeholders and everyone was informed that the Progress Report would be posted in July on the City's MS4 webpage: http://www.nyc.gov/html/dep/html/stormwater/ms4.shtml. The 2016 Progress Report was open for comments through August 26, 2016. The comments received on each Progress Report presented and published will be used to inform development of the SWMP Plan. The following comments were received and responses were provided by the City.

City Responses to Comments on the MS4 Progress Report submitted August 24, 2016 by Riverkeeper representing comments from multiple organizations[1]

Comment 1: Is the DEP including in its review of agency authorities and obligations any of the work (completed or ongoing) by the Department of City Planning that pertains to pollution sources and vulnerabilities in MS4 areas, for example the reports on Industrial Resilience or Open Industrial Uses?

Response 1: Yes

Comment 2: Does the DEP believe, at this stage, that any new legislation will be required to implement the MS4 permit? If so, can the DEP share these plans with the public? Can the DEP also share the review of existing legal authority to control discharges into and from the MS4 and its proposed schedule for the adoption of comprehensive legal authority which was submitted to the DEC?

Response 2: The MS4 legislation was transmitted by the Mayor to the City Council on November 16, 2016 and is available on the Council's website.
http://legistar.council.nyc.gov/LegislationDetail.aspx?ID=2884636&GUID=C605C2B3-29BA-4D7A-83D8-392CD45C7093&Options=ID|Text|&Search=ms4

Comment 3: Can the DEP share the interagency MOUs with the public (by distributing to the MS4 public mailing list and by posting online)?

Response 3: MOUs between agencies are currently being drafted and progress will be shared publicly as they are finalized.

Comment 4: What interaction has the DEP had so far with New York City Council, and what will be the Council's role in overseeing DEP's actions under this permit?

Response 4: The Council's role is solely as the legislature, in adopting legislation. Preliminary outreach about proposed legislation has occurred. DEP will be hosting webinars on November 29th and November 30th from 3-5 pm to walk stakeholders and public through the proposed legislation.

Comment 5: Does the DEP believe that new offices, programs, branches (or similar substructures) will need to be established in any of the MS4 Permit-covered agencies? If so, what programs, and for which agencies?

Response 5: All operating agencies will have resources to implement and track their efforts in Mapping, Illicit Discharge Detection and Elimination (IDDE), and Pollution Prevention and Good Housekeeping (PP/GH). Those with existing related Public Education/Outreach programs will incorporate MS4 messaging where appropriate.

Some of the programs will be implemented or coordinated by DEP. DEP is in the process of establishing several new programs such as the Construction and Post-Construction program, which includes Stormwater Pollution Prevention Plan reviews, inspections and enforcement; and the Industrial/Commercial program, which includes inspections and enforcement. In addition, DEP is coordinating the PP/GH program among the city agencies. Other existing DEP programs will be enhanced to comply with MS4 requirements including IDDE and Monitoring.

[1] Note: these responses to comments are based on progress as of the 2016 MS4 Progress Report and do not reflect progress made after August 2016.

Comment 6: Will the DEP release the “inventory” of existing programs referenced in the Progress Report? Similarly, will the DEP release its target list of citywide events where the agency plans to deploy public education and outreach assets in the coming 6-12 months?

Response 6: Information on existing Public Education and Outreach programs is currently available to the public on NYC agency websites. Additional information is available in DEP's Annual Report on Best Management Practices required by SPDES Permits for the City’s 14 Wastewater Treatment Plants. A list of current programs will be provided in the Stormwater Management Program (SWMP). Examples of existing programs include and are not limited to:

- **DEP Art and Poetry Contest**
- **DEP Resources and Training for Educators**
- **DEP Adopt-a-Bluebelt**
- **DPR Natural Classroom and Urban Park Ranger Programs**
- **DOT Adopt-a-Highway/Greenway**
- **DSNY Adopt-a-Basket**
- **DSNY SAFE Disposal Program**

Sponsorship of and participation at citywide events is dependent on the availability of staff and resources and is subject to change. Example events include but are not limited to SAFE Disposal Events, the DEC Annual Hudson River Fact Finding Day, and Summer Streets.

Comment 7: While we appreciate the DEP’s presence at conferences and festivals, table-side materials are not the only way – nor indeed the best way – to reach the average New Yorker. What is the DEP’s plan for reaching families, businesses, industries, and tourists throughout the MS4 area?

Response 7: The City intends to use a variety of tools and strategies to reach New Yorkers. While full details on public outreach will be presented in the Stormwater Management Program (SWMP) Plan, example outreach activities may include meetings and workshops on specific permit provisions with the affected stakeholders, mailings to businesses, outreach to schools and educators, and paid advertisements.

Comment 8: At the public meeting for this annual permit update, it was suggested by a member of the public that the DEP should hold meetings individually tailored to each permit program area. As an example, even a discussion on something as discrete as the DEP’s plans for fulfilling its mapping requirement can take well over an hour. Will the DEP consider this level of transparency?

Response 8: In response to the Public Meeting held June 22, 2016, DEP established a Stormwater Advisory Group (SAG) for the City and members of the public to convene quarterly throughout Stormwater Management Program (SWMP) development. The intent of the SAG meetings is for the City to share more detailed information on each permit provision and receive feedback and questions from the public.

The first SAG meeting held on September 27, 2016 covered portions of the Pollution Prevention/Good Housekeeping Program (PP/GH) for Municipal Operations and Facilities. The next SAG meeting on December 13, 2016 will focus on the Construction and Post-

Construction Program development and initial results of the Lot Size Threshold Study. The public is notified of SAG meetings in advance via email. If you are interested in attending future SAG meetings, please email the MS4 Team at ms4@dep.nyc.gov.

Additional outreach with relevant stakeholders will occur for some subjects. For example, webinars on November 29th and 30th from 3-5 pm will inform two separate stakeholder groups about proposed legislation.

Comment 9: On the issue of technology, a proposal was made at the same public meeting that the DEP should explore ways to have citizens, businesses, and communities help the DEP with enforcement through technology. Does the DEP plan on generating any 21st Century solutions to the problem of enforcing a permit that covers thousands of facilities, even more outfalls, and incalculable direct-discharge spots across New York City?

Response 9: The City's 311 system is the most streamlined and effective method for the public to report Illicit Discharge Detection and Elimination (IDDE) issues, as it is centrally collected and tracked to meet multiple reporting needs. Currently, residents are encouraged to report all issues affecting City waterways by calling 311 or by visiting www1.nyc.gov/311. The request for technology that facilitates public reporting of stormwater issues has been noted and will be considered as program development progresses.

Comment 10: The DEP has previously mentioned that it plans to expand "311" support for MS4-type issues. Does this plan include expansion of the 311 phone app? If so, how? Does the DEP have information it can share on the reports already coming in to the 311 system about MS4-related issues, and examples of how the DEP generates solutions now?

Response 10: The 311 system already accommodates complaints that are relevant to the MS4 permit. This includes complaints of general water quality issues in City waterways, illegal dumping into catch basins, illicit discharges of sewage or industrial waste, dry weather discharges, leaking fire hydrants, and other sources of pollution leaking onto streets or sidewalks. All 311 service requests since 2010 are available to the public through NYC Open Data.

Comment 11: At what point, and in what form, will the DEP release the Permit-required map? For example, will the drainage map only become available with the final SWMP, will the DEP release GIS files of the map, and/or will the agency include in the map detailed information of all City-agency owned and controlled outfalls or simply pinpoint the location of unidentified outfalls?

Response 11: The map will be released in accordance with the content and schedule required by the permit. Currently, DEP is coordinating with other agencies to determine the appropriate format and level of detail to share publicly for the preliminary and final maps, the feasibility of various formats and public accessibility/interactivity, and whether any portions can be shared in advance of the Stormwater Management Program (SMWP) Plan submission.

Comment 12: We are significantly concerned with private connections into the MS4 system. We understand the DEP as having concluded it is not responsible for mapping these connections unless there is evidence of a dry weather discharge that can be tracked to a specific location. Is this the case? If this is not precisely accurate, how would, in your own words, the DEP describe action it will be taking with respect to mapping and monitoring past, present, and future private connections to MS4 systems?

Response 12: Dry weather discharges are the best indication of an illicit connection to the MS4. Once they are identified they will be abated, and the number detected and eliminated will be included in each annual report, so there is no need to maintain a map of these sites. Individual private connections are not mapped, but are reviewed and inspected through the existing sewer connection permit process.

Comment 13: Are all New York City owned and operated MS4 outfalls being pinpointed by the DEP under this permit, or just the outfalls from the specific “covered” agencies?

Response 13: As required by the MS4 permit, only outfalls owned and operated by agencies with obligations under the permit will be mapped.

Comment 14: Are street-ends and other known/discrete direct drainage, discharge, or conveyance points (i.e., not piped outfalls) that are owned or operated by City agencies being mapped as well? For example, waterfront stretches of City parks, DOT-controlled street-ends, or DEP wastewater treatment facility docks?

Response 14: Properties owned or operated by City agencies that drain via overland flow rather than through a piped outfall are being mapped as overland flow areas.

Comment 15: Most importantly, how does the DEP plan to discover and stop illicit discharges that are not occurring during dry weather? Certainly, sites with illicit or illegal connections, during storms, will have polluted runoff entering the City’s MS4 system that may be entirely untreated and uncontrolled. We call for a plan to address these illicit and illegal connections in all weather conditions.

Response 15: The permit defines an illicit discharge as set forth in 40 CFR 122.26(b)(2): any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities. As such, normal stormwater discharge is not considered an illicit discharge. It is important to note that dry weather provides the appropriate conditions to detect illicit discharges that can be diluted and difficult to track down during wet weather. Accordingly, DEP has been implementing a comprehensive Sentinel Monitoring Program to identify illicit discharges in conjunction with the Shoreline Survey Program. Wet weather monitoring as required by the MS4 permit will complement the dry weather sampling performed in the Illicit Discharge Detection and Elimination (IDDE) program. In addition, the City continues to rely on public reporting of illicit discharges at all times, to enhance the regular monitoring programs.

Comment 16: Does the DEP have any plans to expand the role of the public in IDDE enforcement work? As with the comment above relating to technology’s role in public involvement, use here for enforcement would seem to be a logical place to start. Beyond 311-type interactions with the public for IDDE purposes, does the DEP have a plan to streamline how it receives tips (about issues like dry weather discharges) from the public, and, perhaps most importantly, responds to those tips?

Response 16: Please refer to the responses to comments 9 and 10 regarding 311 and the efforts toward enhanced reporting.

Additionally, the DEP Emergency Response Unit responds to reports of illicit discharges that enter the sewer system. Plans to engage the public will be detailed in the Stormwater Management Program (SWMP) Plan.

DSNY responds to 311 complaints and citizen tips regarding illegal dumping on public and private property. DSNY also issues violations for illegal dumping through its own investigations.

Comment 17: Does the DEP plan on sharing the records and procedures of the IDDE program with the public during the SWMP development (e.g., outcomes of recent enforcement actions, information on internal processes for handling reports of dry weather discharges, etc.)? This would allow much more informed comments when the 2017 progress report is issued, and would go far toward educating the public as to how the DEP's IDDE program works, and how it could be improved.

Response 17: The current Illicit Discharge Detection and Elimination (IDDE) program manages citywide issues of illicit discharge. The program is based on the SPDES permits for the fourteen NYC wastewater treatment plants which include, among other requirements, records requirements and dry weather discharge procedures, which DEP is implementing.

Comment 18: Regarding inspection and enforcement, what new staff does the DEP, specifically, require over the coming years (either filled since the permit issuance or planned to be filled)?

Response 18: DEP is currently developing the review, inspection, and enforcement aspects of new programs, which includes assessing personnel needs and developing a staffing plan.

Comment 19: Does the DEP plan to work with other City agencies to help alleviate the inspection and enforcement burden? If so, which agencies, and has the DEP secured such collaboration for the duration of the permit's lifespan? What is the proposed annual workload (sites visited, for example) for each proposed enforcement agent?

Response 19: The review, inspection and enforcement will not be a shared responsibility with other Agencies. DEP is undertaking the responsibility to manage two new programs: review, inspection and enforcement aspects of Construction/Post-Construction, and inspection and enforcement aspects of Industrial/Commercial stormwater management. As noted in the response to comment 18, DEP is currently developing these new programs, which includes assessing personnel needs, developing a staffing plan, and coordinating with other agencies on the process.

Comment 20: Does the DEP foresee any budget or legislative work with the City Council to help it fulfill this aspect of the MS4 permit?

Response 20: As noted in the February 1, 2016 submission, DEP is currently working with the New York City Law Department to pursue legislation in connection with certain elements of the permit. Reference the response to comment 4 regarding City Council's involvement.

Comment 21: Is the DEP's lot size study examining only MS4 areas, or does it include CSO areas? Also, is DEP's lot size study examining what stormwater performance standard should be applied to properties smaller than one acre (which are not subject to DEC's Construction General Permit)?

Response 21: DEP's threshold study quantitative water quality modeling is focusing on MS4 areas consistent with the permit. However, DEP also included citywide DOB permit data in the initial lot analysis to assess the approximate number of sites that could be affected citywide. The threshold study is assessing the criteria and requirements for stormwater management practices to be applied to sites that create less than one acre of soil

disturbance, such as the water quality volume to be managed and the specific types of practices allowed.

Comment 22: Does the DEP plan to make its final list of municipal facilities and operations in MS4 areas publicly available in the final SWMP? If not, why not?

Response 22: The list of MS4 municipal facilities and operations will be provided, except for those omitted for security concerns.

Comment 23: The DEP mentions that it plans to prioritize facilities into “High, Medium, and Low” grades based on their potential to impact water quality; can you be more specific? Does the DEP plan to look at potential impact to only those water quality characteristics for which a receiving waterbody (from each individual facility or operation) is impaired, or will the DEP take into consideration any potential impact – present and future – into consideration?

Response 23: Presentations describing the prioritization process were provided both at the Stormwater Infrastructure Matters (SWIM) Coalition Meeting on September 13th and September 27th Stormwater Advisory Group (SAG) meeting. The presentation is available at DEP's MS4 website: http://www.nyc.gov/html/dep/pdf/water_sewer/stormwater-advisory-group-092716.pdf

All potential discharges of Pollutants of Concern (POCs) will be taken into account for the prioritization/ranking. Sites with POCs for which the receiving water body is impaired will carry a higher-weighted risk (i.e., may rank higher) than sites for which the surface water impairments are different from the on-site POCs. The potential risk to water quality is assessed using several criteria such as discharges of POCs to impaired waters, pollutant sources on site, proximity to a waterbody and history of problems that would impact water quality of the facility.

Comment 24: Will toxics, wastes, oils, sediments, and hazardous substances be included in the DEP’s setting of facility and operation classifications? What about plastics, pharmaceuticals, and personal care products?

Response 24: Facilities and operations will be prioritized in accordance with the prioritization protocol (see response to comment 23). The permit defines Pollutants of Concern (POCs) as a pollutant that might reasonably be expected to be present in stormwater in quantities that may cause or contribute to a water quality violation in waters of the State. All potential discharges of POCs will be taken into account for the prioritization/ranking.

Comment 25: The DEP’s progress report notes that protocols and procedures have been established for this listing process, as well as training systems; can you share that information with the public? It should be made available for public comment.

Response 25: These protocols, procedures, and associated training are currently under development. DEP intends to provide a presentation summarizing these documents at the Stormwater Advisory Group (SAG) meetings to gather early feedback during Stormwater Management Program (SWMP) development. Final documents will be included in the SWMP Plan, for additional public review and comment.

Comment 26: The DEP states that it will be requiring these facilities and operations to “reduce or prevent” discharge of pollutants. How does the DEP plan on determining which facilities will only be required to reduce (not prevent) discharges? Why does the DEP not intend to set a goal of pollution prevention for these citywide facilities and operations?

Response 26: Stormwater Control Measures (SCMs) will be developed and implemented for operations conducted at facilities and off-site locations. These are pollution prevention measures that are intended to control impacts to stormwater runoff to the maximum extent practicable. The overall aim is to prevent, but in certain cases reduction may be the only achievable goal. The self-assessment program will help determine the effectiveness of the SCMs, and may result in revisions or development of new SCMs.

Comment 27: Facilities and operations, under the DEP’s plan, will be conducting periodic self reporting; less often for “low” priority facilities and operations, more frequent for the “high” priority facilities and operations. What are these timetables, and does the DEP reserve the right to require more frequent self-assessments in the event of any external (e.g., water quality standard changes) or internal (e.g., facility leadership changes or repeated violations) factors?

Response 27: The facility self-assessments are a permit requirement applicable to all agencies affected by the permit, and each agency is responsible for its own compliance. The schedule and prioritization will be established in the Citywide Stormwater Management Program (SWMP). High ranking facilities will be assessed more frequently than lower ranking facilities. However, each time a scheduled self-assessment is conducted, the facility/ operation ranking will be re-evaluated to account for any changed conditions at the site (e.g., if the site now has different uses or operations, or has implemented Stormwater Control Measures
(SCMs) to prevent or reduce Pollutants of Concern (POC) discharges). The prioritization criteria and protocol will be consistent among all sites and instances of evaluation.

Comment 28: For facility and operation self-assessments, what level of oversight does the DEP plan on establishing? Will the DEP demand approval authority over self-assessment procedures for each agency, facility, or operation? Will the DEP be investigating, auditing, or inspecting these facilities on a random basis, and, if so, what percentage of these facilities and operations does the City plan to audit or inspect each calendar year?

Response 28: The facility self-assessments are a permit requirement applicable to all agencies affected by the permit, and each agency is responsible for its own compliance. In accordance with permit requirements (Permit Part IV.G.1.d), the Pollution Prevention and Good Housekeeping (PP/GH) program shall provide recommendations and time frames for modification when PP/GH practices are determined to be inadequate, and include provisions for follow-up to ensure recommendations are implemented within the specified time frames.

Comment 29: Will the DEP be allowing other “covered” agencies to conduct these self-assessments on a citywide basis, or require such assessments be tailored and conducted at each individual facility or operation? We recommend the latter.

Response 29: Each agency provided a self-prioritized list of operations and facilities, which served to estimate the quantity and types of facilities requiring assessment. To ensure consistency across all involved municipal facilities and operations, a third-party contractor

is developing prioritization and self-assessment protocols, and performing the preliminary prioritization. A separate third-party contractor will perform on-site assessments to confirm, revise and add to the information used in the preliminary prioritization for the initial self-assessment. This contractor will also provide training to the municipal staff responsible for conducting self-assessments thereafter. Each agency will then be responsible for conducting and reporting on future self-assessments.

Comment 30: What records will be made available to the public of these self-assessments? Will there be recordkeeping requirements, and, if so, for how long will the DEP require city agencies maintain records of these internal assessments? Will these assessments be sent to the State for review on an annual basis?

Response 30: Summary of the self-assessments for high priority facilities will be included as part of the Stormwater Management Program (SWMP) Plan. Each agency is required to maintain the records and documentation that are necessary to the aspects of permit implementation and compliance for which they are responsible. In accordance with the permit requirements, records must be kept for at least 5 years after they are generated.

Comment 31: This initial inventory of facilities and operations, as we understand it, has been reported to DEP by the "covered" agencies. What measures has the DEP taken to determine if this is a full and complete list?

Response 31: Existing data and information from multiple sources was used to identify City-owned properties and compared with agency-provided lists. Ongoing coordination among agencies will increase comprehensiveness and accuracy. Additionally, DEP is in the process of executing MOUs with each affected agency to memorialize mutually understood divisions of responsibility. Obligations of other agencies include providing DEP with all support and information necessary to develop the Stormwater Management Program (SWMP). Agencies are responsible for ensuring the data submitted is complete and accurate for permit compliance.

Comment 32: The permit also includes a requirement to "Consider and if feasible and cost-effective incorporate, runoff reduction techniques and green infrastructure during planned municipal upgrades including municipal rights of way." The annual report should explain the City's actions to date to implement this requirement across all city agencies, as well as next steps to further advance implementation

Response 32: DEP is currently working with the other affected agencies to gather information about the types of projects best suited for this type of work, and the associated funding sources. The Stormwater Management Program (SWMP) will include the procedures/ criteria regarding the types of upgrades or work that qualify, and how feasibility and cost-effectiveness will be evaluated.

Comment 33: First, once the DEP has created its inventory of industrial and commercial sites, will it make that inventory publicly accessible? If not, why not?

Response 33: NY State DEC maintains the inventory of permitted industrial and commercial sites. Multi-Sector General Permits (MSGPs) are available to the public by a link at DEC's website (bottom of web page): http://www.dec.ny.gov/chemical/41392.html

Other aspects of creating and maintaining an inventory are still in development, and will be coordinated with DEC.

Comment 34: In developing this inventory of sites, the DEP notes that “facilities which are possible sources of pollution to the MS4” will be included for City oversight. What are the specifics of the DEP’s system of review for determining whether a facility is a possible source of pollution to an MS4? Are these investigations tabletop exercises, or is the DEP investigating sites in person?

Response 34: The initial inventory of facilities was compiled from multiple data sources that include the particular Standard Industrial Classification (SIC) code a site is registered under. However, these SIC code registrations alone do not indicate whether the site is subject to SPDES Multi-Sector General Permit (MSGP). DEP is conducting a web-based screening of the inventory to eliminate those that don't pose a risk to stormwater. For example, a limousine service owner using their home as their office headquarters may be registered under a 'transportation' SIC code, yet the owner might simply be parking a vehicle in their driveway. This is not an industrial site/activity that poses a risk to stormwater, and as such this business would be removed from the inventory or classified as "no further analysis". Businesses requiring further analysis will remain on the list to be inspected physically for permit applicability.

Comment 35: For sites on the inventory, the DEP states that it has developed an inspection plan to determine if a site needs a SPDES permit. What is this plan, and when will the public be provided an opportunity to comment on the plan?

Response 35: The progress report states that the City will develop an inspection plan as part of this program. The inspection protocol for unpermitted facilities is still in development. The protocol will determine if the site requires coverage under the MSGP, needs to apply for no-stormwater exposure certification, or is not subject to SPDES. DEP intends to provide a comprehensive overview of the Industrial and Commercial Stormwater Sources section of the Stormwater Management Program (SWMP) at a Stormwater Advisory Group (SAG) meeting to gather feedback from public. The final plan will be made available as part of the SWMP Plan for additional public review and input.

Comment 36: According to our understanding of the State SPDES databases, there are many sites in the City’s MS4 area which had permits in the past, but no longer have coverage. We suggest that the DEP take a hard look at these facilities in the first year after it has been transferred enforcement jurisdiction.

Response 36: Comment noted.

Comment 37: The DEP progress report states that it plans to conduct inspections and enforcement at MSGP facilities (“to ensure they’re complying with their SWPPPs”). Does this mean the DEP will not be inspecting sites that need a SPDES permit but do not have one? If so, why? We suggest clarifying this language to state that any sites in violation of the stormwater sections of the Clean Water Act and applicable State law will be subject to DEP jurisdiction for enforcement purposes.

Response 37: As required by the permit, unpermitted facilities will be inspected and assessed to determine if they generate significant contributions of Pollutants of Concern (POCs) to impaired waters, and if so, will be referred to DEC for permitting.

Comment 38: We notice reference in the DEP progress report to “no further action” sites. Can you please give more detail about such sites; for example, whether this is an enforcement-related designation, whether findings that sites require “no further action” will be posted as final agency actions and available to the public, and what these sites will be exempted from?

Response 38: Please see response to comment 34 regarding inventory analyses.

Comment 39: You stated that surveys were conducted with peer cities. Can you please share the results and responses to those surveys?

Response 39: Once the surveys are complete and we compile the information, we will make it available.

Comment 40: According to the 2016 progress report, the DEP is "evaluating the effectiveness of current control practices." With as much detail and specificity as possible, can the DEP provide the public with a list of those current practices?

Response 40: Detailed information on current control practices and their effectiveness was presented to the public at the Trash Free NYC Waters meeting on September 27, 2016. This presentation is available on the DEP website. Additional information is available to the public in the Annual Report on Best Management Practices required by SPDES Permits for the City's 14 Wastewater Treatment Plants. The Stormwater Management Program (SWMP) Plan will include a description of these programs, and will be provided to the public for review in advance of submission to the State.

Comment 41: The DEP is planning to develop a list of best available control technologies and systems. How will the DEP be defining "best available" for the SWMP? We are concerned that the high variability of NYC stormwater issues requires more than the best one-size-fits-all approach, city-wide, to debris and trash collection. Moreover, there can be many best approaches, depending on program aspects (e.g., there are best available ways to target educational facilities, different approaches for events and large event venues, and different best ideas for sidewalk garbage bins and street cleaning; no one approach is better than the others).

Response 41: The MS4 Permit stipulates that the program to control floatable and settleable trash and debris included in the Stormwater Management Program (SWMP) Plan be designed to identify technological advancements and best available technologies employed in other municipalities and assess their applicability to New York City. The City plans to accomplish this through a study. Referred to as the 'work plan' in the MS4 Permit, this study will determine the loading rate of floatable and settleable trash and debris from the MS4 to waterbodies listed as impaired for floatables. The results of this study will inform decisions about best controls for different areas within the MS4.

Comment 42: Where do street-ends (and the management of debris and garbage that accumulates there) factor into this permit provision and progress report?

Response 42: The City is currently developing a methodology to determine the loading rate of floatable and settleable trash and debris from the MS4, including land-based sources, as required by the Permit. If the public has information on street ends where garbage and debris accumulation is noted, the City can consider that information as it continues to develop a Floatables Control Program for the MS4.

Comment 43: What work does DEP anticipate conducting with the Departments of Transportation and Sanitation? Specifically, how will the management of garbage on streets and at the curb be changed in NYC? Will any solutions generated here (e.g., better trash bin designs, street-end cleanups, etc.) be applied citywide? If not, why not?

Response 43: The MS4 Permit is issued to the City and requires implementation by affected agencies including the Departments of Transportation and Sanitation. Coordination with these agencies is already underway. As the work plan and studies are not yet complete, the City cannot at this time identify what controls will be implemented where, though both structural and nonstructural controls will be considered.

Comment 44: Will any of the programs developed here as "best available" plans for debris, trash, and floatable pollution prevention be applied by any other agencies or authorities that are not covered by this permit? Has the DEP asked the Mayor's Office whether it can negotiate with any such agencies (e.g., NYC Housing Authority, Port Authority, state and federal highways, etc.) to try and improve floatables control on parcels they control?

Response 44: The City welcomes agencies and authorities without obligations to this permit to adopt best management practices to reduce their contribution to floatable and settleable trash and debris, including those that will be developed under the MS4 permit. To date there have been no formal discussions on this topic, and the MS4 Permit does not require these agencies/authorities to implement the Stormwater Management Program (SWMP). These entities are subject to their own MS4 obligations, separate from the City's MS4 Permit.

Comment 45: We notice reference of initiating a pilot "Adopt-a-Catch-Basin" program. Can DEP share the extent and results or status of this pilot program? Does DEP plan to implement a broader Adopt-a-Catch-Basin program? Why or why not?

Response 45: The Adopt-a-Catch Basin program launched in April 2016. A joint effort between DEP and Brooklyn Borough President, this pilot program formed partnerships with block associations, business improvement districts, and other community-based organizations to remove debris that blocks storm drains. The effort is intended to curb localized flooding after heavy rainstorms and help prevent floatables such as bottles and other debris from entering into waterways. DEP provides training, gloves and garbage bags to participating organizations that agree to maintain storm drains in their neighborhoods. DEP also enrolls participants in an early alert system to inform them of upcoming weather events that may cause flooding. The pilot phase included sections of Brooklyn, and DEP would consider expanding the program to include other boroughs.

Comment 46: We ask that the DEP include a monitoring plan and protocol for discharges from street ends, and include a system for public reporting of both discharges and clean-up need. With this MS4 permit, accumulated trash at a street end represents just as real of a potential water pollution risk as a waste oil leak or a combined sewer outfall. Discharges from street-ends should be monitored, reported annually, and, individually, assessed on an annual basis.

Response 46: Refer to the response to comment 42 regarding trash at street ends. 311 is currently the appropriate means for public reporting of discharges and clean-up needs.

Comment 47: The DEP notes the presence of a series of "initial MS4 outfalls" for monitoring. For these, does the agency plan to monitor the outfalls and their drainage areas (to assess more specifically where the sources of pollution are coming from, rather than just the presence or absence of pollution), or just the outfalls? If just the outfalls, why?

Response 47: DEP is still developing a multi-purpose monitoring and assessment program and intends to share the details in a Stormwater Advisory Group (SAG) meeting to receive feedback.

Comment 48: We fully support DEP's efforts to include worker safety in MS4 permit protocols and procedures. That said, "safety of sampling crew" is listed as a measure for determining sample sites – what did the DEP look at for this metric? How does DEP think this decision (to exclude otherwise appropriate sampling sites because of worker safety) will affect monitoring and assessment program effectiveness? Were any solutions developed or discussed for this concern (e.g., sampling at the MS4 outfall instead of within the manhole for any identified site) that might minimize worker safety concerns in order to develop a more appropriate set of monitoring sites? Will the DEP share information on the sites that would have been selected but for the safety concerns? If not, why not?

Response 48: The selected set of MS4 sampling locations will achieve all MS4 monitoring program objectives required by Permit Part IV.J.2. The Monitoring and Assessment Plan will describe why the location is selected, frequency of sampling, parameters to be sampled and description of sampling equipment. The City's Environmental Health and Safety (EHS) rules will be taken into account for an additional consideration to not pose a threat to worker safety.

Comment 49: The DEP cites "sister-city" data on monitoring and assessment plans. Can the DEP share that information with the public? If not, why not?

Response 49: DEP is collecting information on other peer municipalities' MS4 Programs including Monitoring and Assessment. We will do an analysis of information learned and publish a report on the findings.

Comment 50: Please ensure that the "Deliverables Schedule and Status" list includes all obligations under the permit. For example, the requirement to complete a lot size study is not listed under the post-construction section.

Response 50: The deliverables schedule and status list matches Table 2 in the MS4 permit. The Lot Size Soil Disturbance Threshold Study is not a deliverable, but will inform the Stormwater Management Program (SWMP). In accordance with permit requirements, the study recommendations on the appropriate threshold will be submitted as part of the SWMP.

Comment 51: Does the DEP plan to make the initial MS4 sampling stations permanent? If not, what will be the level of permanence of any future-designated sampling stations? Surely, as work progresses on green and grey solutions to stormwater pollution, the representative monitoring sites may need to be amended. What is DEP's process for any such necessary amendments? Has the DEP considered building infrastructure into MS4 drainage areas for ease of regular testing (like, for example, drinking water testing sites or leachate wells)?

Response 51: DEP is still developing a multi-purpose monitoring and assessment program and intends to share the details in a Stormwater Advisory Group (SAG) meeting to receive feedback.

Comment 52: Clearly we're commenting on an annual report already submitted to the State. We expect responses to these comments will be included (to the extent our suggestions or concerns shape the next year's report) in 2017's annual report. We are concerned that this will mean that our comments on the

next (2nd) annual report will be reviewed after that report's submission, again, and be too late to shape the final SWMP to be submitted in 2018. Will the DEP provide the public with an opportunity before final submission to the State in 2017?

Response 52: DEP's Stormwater Management Program (SWMP) development schedule includes a lengthy, multi-stakeholder review process to allow sufficient time to receive, respond to, and incorporate comments on the SWMP Plan prior to submitting to the State by August 1, 2018. Public meetings such as the quarterly Stormwater Advisory Group (SAG) and other targeted stakeholder meetings will provide more detailed information on each SWMP component throughout program development, to receive comments in advance of issuing the full SWMP Plan for public review.

Comment 53: Does the DEP have in its possession the state's 2016 list of impaired waterways, such that it can site to those waterways in responses to comments? If so, please make that available to the public. If not, when does the DEP expect to see a final 2016 impaired waterways list?

Response 53: DEC will publish the final list when it is ready.

Comment 54: According to this progress report, the DEP is required to consider further cost-effective and feasible stormwater control measures, including green infrastructure (GI), structural retrofits, and non-structural controls in the drainage areas for these Priority MS4 Waterbodies. How will the City involve the public in determining where, and to what extent, such control measures are required?

Response 54: The Stormwater Management Program (SWMP) will include procedures/ criteria for determining feasibility and cost-effectiveness for consistency in evaluation. DEP will continue to present updates and seek feedback on program development through public meetings.

Comment 55: Prioritization of waterbodies, as described by the DEP, happens only when a waterbody has a DEP-completed Long Term Control Plan (LTCP) for Combined Sewer System pollution control and the MS4 pollution in such an LTCP is a "significant contributor of impairment." Will the DEP consider working to identify priority waterbodies for this MS4 program outside of and independent of the LTCP program? If not, why not?

Response 55: Not all impaired waterways can be designated as a Priority MS4 Waterbody, which is a permit-defined term. Please refer to the response to comment 56 (definition provided in Permit Part VI.B). The MS4 Stormwater Management Program (SWMP) will comprehensively apply to all MS4 areas, and additional measures will be taken in MS4 areas draining to Priority MS4 Waterbodies.

Comment 56: In the case of future LTCPs, the DEP here states that new priority waterbodies will be developed "as LTCPs are approved by [the state]." Why is the DEP waiting for state approval of LTCPs before listing new prioritized MS4 areas? Neither currently considered priority areas (Coney Island Creek and Bronx River) has an LTCP which has been approved by the state, yet they apparently qualify as prioritization-acceptable. Why is the DEP raising the bar for future MS4 problem areas?

Response 56: The permit defines Priority MS4 Waterbodies as those water bodies for which an approved Combined Sewer Overflows Long-Term Control Plan (CSO LTCP) does not predict compliance with applicable water quality standards and where stormwater contributions from the MS4 are expected to be a significant contributor of the impairment

identified in the CSO LTCP. The designation of Coney Island Creek and Bronx River is preliminary, taking into account the information in the submitted LTCPs.

Comment 57: How will nitrogen and nutrient pollution concerns in the East River and Long Island Sound affect the impaired-waters work this MS4 permit will require?

Response 57: As required by the permit:

For impaired waters without Total Maximum Daily Loads (TMDLs), in addition to the minimum control measures described in Parts IV.A through IV.J, the Stormwater Management Program (SWMP) will include procedures/control measures for no net increase in the Pollutants of Concern (POC) causing an impairment.

For Priority MS4 Waterbodies, the City will identify additional or customized non-structural BMPs for each control measure described in Parts IV.A through IV.I to address the POCs causing the Combined Sewer Overflows Long-Term Control Plan (CSO LTCP)-identified impairment.

We are currently developing our approach to these requirements.

Comment 58: How would the required actions in this MS4 permit change were the waters of NYC subject to water quality standards based on the 2012 EPA Recreational Water Quality Criteria?

Response 58: The Stormwater Management Program (SWMP) is being developed in accordance with the requirements of the MS4 permit. If water quality standards or permit requirements change in the future, the SWMP would be revised to address those changes.

Comment 59: Why have Flushing Creek and Westchester Creek not been considered as priority waterbodies under this permit?

Response 59: Please refer to the responses to comments 55 and 56.

Comment 60: Most of Staten Island is an MS4 watershed, and the waterways around it are impaired for a variety of criteria. Yet, because Staten Island will not have its own LTCP, it appears as if it will be procedurally barred from consideration for Priority Waterbody status. Is this the case? If not, why not? Will the DEP consider listing the Kills around Staten Island as priorities?

Response 60: Please refer to the responses to comments 55 and 56.

Comment 61: Does the answer [to the question, “Will the City address industrial sites that send polluted stormwater into waterways by overland flow?”], where the DEP states the City is “only responsible for industrial and commercial sites that have the potential to discharge polluted stormwater to the MS4,” mean that no existing (as opposed to potential) connections to the MS4 will be under the City’s authority?

Response 61: Multi-Sector General Permit (MSGP)-permitted sites that have existing connections to the MS4 will be subject to the inspection and enforcement program developed under the Stormwater Management Program (SWMP). Additional industrial/ commercial sites as described in Permit Part IV.H.1 that have existing connections to the MS4 will be subject to the unpermitted facility inspection program described under Permit Part IV.H.2.

Comment 62: For industrial and commercial sites that are connected to the MS4 system, if there is a violation that is the result of a discharge “directly to waterways … by overland flow,” will the DEP have enforcement authority, or the State??

Response 62: Enforcement authority would likely rest with the state, but DEP may report the violation if discovered during the course of their inspection or the Illicit Discharge Detection and Elimination (IDDE) program.

Comment 63: The DEP focused its response [to the question, “Will there be a comprehensive plan to implement Green Infrastructure citywide?”] on the GI programs in place in CSO areas. There were only vague references to GI plans for priority waterbodies and other MS4 areas. Can the DEP be more specific about its plans for GI in the city-wide MS4 areas? What, if anything, does the agency plan for GI in non-priority MS4 waterbodies?

Response 63: There are two GI requirements in the MS4 Permit. One is in the Pollution Prevention and Good Housekeeping (PP/GH) section (Permit Part IV.G.2), applicable to planned municipal upgrades in MS4 areas. The other is in the special conditions for impaired waters (Permit Part II.B.2.a.iv), applicable to MS4 areas draining to Priority MS4 Waterbodies. We are currently developing our approach to these requirements and will continue to present updates and seek feedback on program development through public/stakeholder meetings.

Comment 64: Request that DEP work to make DSNY & DOT available for a floatables public meeting where the agencies can provide updates and take feedback on trash and debris control strategies.

Response 64: Coordination with DSNY and DOT on the issue of floatable and settleable trash and debris is already underway. Both agencies were present at the MS4 Annual Progress Meeting and participated in the breakout session regarding the control of floatable and settleable trash and debris. Agencies with obligations under the permit are encouraged to attend relevant public meetings, including Stormwater Advisory Group (SAG) and Trash Free NYC Waters meetings, in addition to the annual progress meetings.

City Responses to Comments on the MS4 Progress Report submitted August 26, 2016 by Bronx Council for Environmental Quality (BCEQ)

Comment 65: The Mapping Task described in the Progress Report missed the point of the Clean Water Act in that there should be no direct discharge into the Waters of the United States. Not only does this include much of the coastal areas of the city, but it also includes areas that are not draining to a CSO or a Publicly Owned Treatment Works (POTW) – which includes most, large parks. Neither of these areas are among the first steps; why?

Response 65: The MS4 permit authorizes discharge of stormwater from the MS4 system. As part of its requirements, the City must develop a GIS-based map of its MS4 drainage areas and MS4 outfalls. The GIS map will include all detected MS4 drainage areas and outfalls owned by the City. The City's MS4, which includes some City-owned park lands, does not drain to a CSO or a Publicly Owned Treatment Works (POTW), and will be subject to the control measures defined in the MS4 Stormwater Management Program (SWMP). Privately owned sites that drain stormwater runoff directly to open waters are not subject to the MS4 because they are not connected to City-owned storm sewers, but may require their own discharge permits.

The first steps in the MS4 mapping effort focus on mapping MS4 areas for which data is readily available, such as tributary areas to the DEP storm sewer system. Drainage system data for other City-owned or operated sites first needs to be identified, collected, compiled, digitized, and/or created, and will be refined for greater accuracy throughout SWMP development and implementation.

Comment 66: What exactly were the Mapping Requirements presented to the Stormwater Controls Working Group? Which three waterbodies are being delineated to test the tool and QA accuracy? If these were part of the previous SPDES permit, why do you need to test the QA accuracy?"

Response 66: The MS4 map requirements were additionally presented by DEP at the Interagency Mapping Sub-Team meeting, held in May 2016. This presentation described agencies' responsibility to map agency owned/operated MS4 outfalls, agency owned direct drainage areas, agency operated facilities/operations in direct drainage areas (termed "overland flow" areas), and agency owned infrastructure that connects to DEP's storm sewer system.

The Quality Assurance (QA) protocol applies to DEP's process for mapping its own MS4 outfalls and drainage areas. Different QA protocols were employed for previous SPDES mapping of combined sewer outfall tributary areas. The first three MS4 areas DEP mapped were the Coney Island, Bowery Bay, and Hunts Point wastewater treatment plant drainage areas. The QA protocol was first applied to the mapping of these three areas and the accuracy of the protocol was assessed.

Comment 67: The 2016 Progress Report explains that the MS4 program does not include mapping the City or Private Direct Drainage Areas. The chart states that these areas will continue direct drainage to waterways, despite the City's own admission in 2014 that "flowing directly into surrounding waterways through the City's MS4." This is confusing and clearly does not meet the requirements of the CWA. Can you explain this flaw?

Response 67: The 2016 NYC MS4 Progress Report explains that the MS4 program includes mapping of City-owned drainage areas, including City direct drainage areas (see page 7). The Progress Report also states that the MS4 program does not include mapping of private direct drainage areas, since these areas are not regulated by NYC's MS4 permit.

Comment 68: Riverside (west of HHP) private sewer areas and Fieldston (east of HHP) private sewer area are mostly single family homes that have severe flooding and could be used as GI sites.

Response 68: Other than City-owned direct drainage areas along the waterfront, these areas are in DEP's combined sewer area, and are not subject to the MS4 permit, but could apply for Green Infrastructure (GI) grants under DEP's Combined Sewer Overflow (CSO) program.

To augment its current efforts in stormwater management on private property, DEP is developing a new private property GI retrofit initiative. DEP released a Request for Information in October 2016 to receive feedback from public and interested stakeholders in formulation of the new GI Private Incentive program that is scalable.

Comment 69: Is the area along the edge of the Hudson River from Edsall Ave to W 263rd Street and along the edge of the Harlem River from Bailey to Edsall Ave in the CSO area?

Response 69: The shoreline areas directly along the Hudson or Harlem Rivers are not included in our current map of the combined sewer area, and will be included in the MS4 mapping effort if they are city owned or operated. However, most areas further inland from the shoreline or not directly adjacent to the Hudson or Harlem Rivers are shown as part of the combined sewer area in our current map.

Comment 70: The abandoned CSX and proposed parkland south of Van Cortlandt Park and all of VCP except by the weir are not in the combined system, and just like the Bronx River, it should have been on the MS4 map.

Response 70: Mapping of City-owned or operated sites (such as Parks) will be refined to increase accuracy as part of the MS4 mapping effort.

Comment 71: Private properties that are part of the City's MS4 will be subject to the Construction/Post-Construction and Industrial/Commercial requirements of the MS4 permit. Will you require a Stormwater Management Program (SWMP) to meet the MS4 requirements for private properties?

Response 71: The MS4 Permit requires the City to submit a Stormwater Management Program (SWMP) Plan to DEC for approval. Private properties in the MS4 area that are subject to the Construction and Post-Construction portions of the SWMP will be required to prepare, implement, and maintain a Stormwater Pollution Prevention Plan (SWPPP) on site as described in the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity, and submit the SWPPP for DEP review and acceptance prior to commencing construction. Industrial properties in the MS4 area covered by the NYSDEC SPDES Multi-Sector General Permit (MSGP) and inspected under the Industrial/Commercial portion of the SWMP will be required to create, implement, and maintain a SWPPP on site as described in the MSGP.

APPENDIX D - SCOPE OF WORK FOR THRESHOLD STUDY

Work Plan for NYC MS4 Lot Size Soil Disturbance Threshold Study

Introduction

A Municipal Separate Storm Sewer System (MS4) Permit issued to the City of New York on August 1, 2015 requires the City to develop a Stormwater Management Program (SWMP) in order to manage urban sources of stormwater runoff. Two of the required SMWP elements include Construction Site Stormwater Runoff Control and Post-Construction Stormwater Management, which apply to construction activities that result in a land disturbance of greater than or equal to one acre, or construction activity disturbing less than one acre if the construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

The permit also requires the City to conduct a study to determine the appropriate reduction in lot size soil disturbance threshold for triggering the applicability of construction and post-construction stormwater management requirements at new development and redevelopment sites, taking into consideration water quality improvements, compliance costs, local site conditions, number of affected public and private properties, type of development/zoning, total area managed, impervious surface coverage and any other relevant factors. The study recommendations on the appropriate lot size soil disturbance threshold for the City's construction and post-construction stormwater management requirements shall be submitted as part of the SWMP plan by August 1, 2018. The SWMP plan will also include a plan for developing adequate legal authority to implement any recommended revisions to the lot size soil disturbance threshold for triggering the applicability of construction and post-construction stormwater management requirements at new development and redevelopment sites, and identify any feasible steps that could be implemented during the remainder of the permit term.

To address the lot size soil disturbance threshold study portion of this process (also referred to here as study or lot size study), the Consultant team (Arcadis) used the initial scope of work put together by the DEP Bureau of Environmental Planning and Analysis (BEPA) as the foundation for this work plan. To inform the scope of the study, BEPA has been developing an inventory of construction and post-construction requirements implemented in other Municipal Separate Storm Sewer System (MS4) Phase I and Phase II municipalities. This inventory will be used as guidance on the types of alternatives to be considered in the study and evaluated for implementation in New York City. Application of different threshold sizes to assess the potential benefits and constraints in the City will be evaluated to guide the development of a new stormwater rule for MS4 areas. The benefits and costs associated with these threshold sizes, along with the technical and administrative considerations, will also be evaluated in this project. Descriptions of these tasks are provided below.

3/7/2016

Task 1 - DEP Lead with Arcadis Support- Literature Survey on Stormwater Regulatory Requirements in Other Cities

BEPA's preliminary inventory of stormwater requirements from major urban cities (including both Phase I and Phase II MS4s) includes land disturbance thresholds for new development and redevelopment, stormwater treatment / retention / detention criteria, green infrastructure (GI) or stormwater best management practices (BMP) approaches, allowable structural controls, performance criteria, and banking and credit systems, as applicable. Alternative proprietary practices for stormwater management currently allowed for redevelopment under the New York State Stormwater Management Design Manual (NYS SWMDM) along with their performance criteria, design and sizing requirements, manufacturer information, and type(s) of evaluation system approval are also compiled.

Arcadis will build upon this inventory and add additional major urban cities on their stormwater requirements for construction and post construction stormwater management both for public and private onsite projects. This inventory will also include the number of staff performing reviews and inspections, their workload in terms of the number of reviews and inspections performed per year, and the fees charged to developers for stormwater management applications, reviews, and/or inspections.

Deliverables:

- Draft Inventory on Major City Stormwater Requirements (BEPA)
- Final Inventory of stormwater management requirements and alternative treatment strategies (such as volume or flow based stormwater management BMPs recommended in other urban and ultra-urban cities) in a database and a white paper summarizing relevance to the NYC program (Arcadis)

Task 2- DEP Lead – Assess a range of different lot size soil disturbance thresholds for construction and post-construction requirements for each tributary drainage area discharging to NYC's waterbodies, to guide informed decision-making on a stormwater rule for separate stormwater sewer system drainage areas

Based on 15 years of NYC Department of Buildings (DOB) development and redevelopment data (2000-2014), and the available Department of City Planning (DCP) Pluto land use data, this task will identify lot size thresholds (as proxy for land disturbance at which the citywide stormwater rule will trigger) potentially applicable to NYC-specific conditions. The use of lot sizes is appropriate for this analysis, because in the most developed parts of the city, development or redevelopment activities typically involve the disturbance of entire lots. The lot sizes assessed will range between 5,000 square feet (sq. ft.) and one (1) acre, and for the purpose of this analysis, multiple bins of lot sizes will be evaluated to organize the pertinent information. Bin sizes to be evaluated include: 5,000-10,000, 10,001-15,000, 15,001-20,000, 20,001-25,000, 25,001-30,000, 30,001-35,000, 35,001-40,000, and 40,001-43,560 sq. ft. This helps in organizing the lot information and performing statistical analyses on different hydrology and hydraulics

- Summary tables and/or graphs including watershed constraints (high groundwater, bedrock, etc.) for each bin as well as other metrics listed above (percentage of constructed impervious vs. pervious coverage; types of development/zoning; and existing drainage system and type)

Task 3- ARCADIS LEAD - Perform cost-benefit and water quality analyses of different construction and post-construction stormwater management requirements and selected disturbance thresholds for both water quality treatment and volume reduction (retention) standards

Based on the assessment above, a targeted subset of the most appropriate lot size thresholds (and the properties thereby affected) will be selected to assess the pollutant loading impacts from historical rainfall data for the post-construction stormwater management requirements (i.e., retention and treatment-based BMPs). Out of the eight thresholds evaluated in Task 2, it is anticipated that up to four thresholds will be selected for detailed analyses to be performed here. The analyses will attempt to identify the "knee-of-the-curve" for costs of controls and water quality improvements (pollutant load reductions for pathogens, total suspended solids (TSS), total nitrogen (TN), and total phosphorous (TP)) in relation to the lot size soil disturbance thresholds. The analyses need to be robust enough so that those can then be repeated for construction runoff control requirements as described in NYC's MS4 Permit. In order to maintain consistency with DEP's ongoing LTCP efforts, the most recently updated InfoWorks models provided by DEP will be used with 2008 John F. Kennedy International Airport rainfall and corresponding tide data for developing flows and pollutant loads described herein.

We propose to use a source loading concept (runoff generated at a lot-scale multiplied by the pollutant concentration, which can be an event mean concentration (EMC) or a maximum likelihood estimated [MLE] value based on the specific pollutant of concern) at the scale of subcatchments already included in DEP's InfoWorks models. This is being proposed to efficiently evaluate the retention-treatment GI benefits in terms of stormwater volume and pollutant load reductions at end-of-pipe. Outcome from this analysis will inform the appropriate inclusion of retention and treatment targets that may be used in the development of a stormwater rule.

Based on the lot size thresholds chosen, the number of properties (developed from the analysis of DOB data on new and redevelopment) potentially subjected to stormwater management BMP requirement in each lot size thresholds will be clustered using GIS at the subcatchment scale, so that the reductions in pollutant loads due to either volume reduction or treatment with specific stormwater management BMPs can be estimated at this spatial scale. Additionally, stormwater runoff and pollutant load reduction benefits will be evaluated on an individual lot basis for a total of up to 6 prototypes with different lot sizes, Stormwater Management BMP technology and property types. It is expected that site visits will be coordinated by DEP in coordination with the interagency, development community and other stakeholders in order to obtain site-specific characteristics of new development or redevelopment projects to evaluate for flow and water quality improvement benefits from feasible stormwater management BMP types. Information gathered at the site visits will also be used to determine the selection of the prototypes for specific lots and property types

Reductions in pollutant loads for pathogens, TSS, TN and TP for various types of infiltration, storage and treatment based stormwater BMPs will be estimated using removal curves that relate reductions in concentrations and corresponding flow rates (with rainfall depths as surrogates). This calculation will be performed in Microsoft Excel, as a post-processing step, where the variability in stormwater BMP performance will be represented in lookup tables for the various BMP practices based on rainfall/ incoming flow to the BMP. Up to two specific stormwater BMP technologies, in each category of retention/ treatment technologies and performance guidelines provided in NYS SWMDM (Appendix A), will be used to develop percent removal rates that are technically defensible. As discussed earlier, the infiltration based retention and non-infiltrative treatment practices will be summarized for use in the MS4 drainage areas.

For MS4 drainage areas, skeletal InfoWorks models will be set up and used to calculate the quantities of stormwater generated, treated, and/or retained on-site and corresponding predicted reductions in pollutant loads, summarized for each receiving waterbody. There can be limited decay of some pollutants within the stormwater conveyance system. As a conservative assumption, we will not take into account this limited decay and use the source-area reductions computed using InfoWorks as the end-of-pipe water quality benefits in terms of pollutant load reductions. For the treatment-based stormwater management BMP controls in MS4 drainage areas, for example, we will use the percent removal rates to estimate reductions in concentrations and use with the flow volumes to derive the overall pollutant load reductions. In this screening process to determine appropriate lot size threshold(s), we propose to assess benefits in terms of end-of-pipe water quality pollutant load reductions from MS4 drainage areas. No receiving water body water quality modeling is included at present time.

These analyses will be performed for 100% retention and 100% treatment-based stormwater management BMPs. Definition of a baseline condition is necessary to quantify the incremental benefits achieved from the requirement of this new stormwater rule in MS4 drainage areas. We propose to use the same typical hydrologic year being used by DEP for the Long Term Control Plans for baseline evaluation. In MS4 drainage areas, this will start with the 2008 LTCP baseline flows and pollutant loads as benchmarks and evaluate the effectiveness of different retention and treatment targets.

DEP currently uses 1-inch as stormwater management criterion for its ongoing CSO GI program. However, the DEC recommends in SWMDM the use of a 90th percentile rainfall volume of 1.4-inches to 1.5-inches (depending on the location in NYC) for water quality based stormwater control at the site-scale. Pollutant load reductions associated with 1-inch versus 90th percentile DEC requirements of retention and treatment (for MS4 drainage areas) will be quantified in this analysis to assess the incremental benefits from the increased onsite stormwater control requirement.

Infiltration potential in various drainage areas varies significantly, with most of Bronx Borough with bedrock conditions and several areas of Queens, Brooklyn and Staten Island with better infiltration potential. HSG-based evaluation can be used to adjust the infiltration versus storage/treatment (e.g., extended detention) requirements as part of the new stormwater rule. While the rule is envisioned to be

applicable throughout the MS4 drainage areas of the City, the stormwater management BMP toolbox to achieve the requirements of this rule will include multiple tools applicable to different HSG conditions. Alternatives of stormwater rule being used in this analysis are shown below in Table 1.

In order to provide guidance to DEP on the sensitivity of the technical approach used for new stormwater rule implementation, inclusion of infiltration consideration based on HSGs, and also the selection of baseline for this analysis, we propose to select three representative drainage areas where detailed InfoWorks analyses will be performed (depending on the availability of the MS4 drainage area delineation mapping information).

Table 1. Alternatives for Post-Construction Stormwater Management Requirements.

Alternative	Post-Construction Requirements
A. Current NYS SWMDM	New development and redevelopment criteria applied separately to relevant activities
B. NYS SWMDM New Development	New development criteria applied to all development activities, without HSG-based specific reduction factors
C. NYS SWMDM New Development with customized specific reduction factor(s)	New development criteria applied to all development activities, but HSG-based specific reduction factors are adjusted to incorporate a higher retention requirement (or potentially differentiate between new development and redevelopment)

In the selected three representative MS4 drainage areas, Arcadis will conduct typical BMP analysis for selected lot size threshold bins and development categories (e.g., residential, commercial, and industrial) in order to estimate the costs and other constraints. This will include site visits to the selected properties in each selected lot size threshold bin and development category (up to 6 total), identification of typical BMPs that could be implemented at the site, and estimation of costs for their implementation. DEP will facilitate these site visits through coordination with the interagency, development community and other stakeholders.

Life cycle costs will be evaluated for both the developer/owner (including design, construction, and O&M costs, loss of property revenues, and permitting/inspections over the design life) and the City (including municipal staff resources required for SWPPP reviews and BMP inspections), for each of the scenarios evaluated in the representative MS4 drainage areas. Upon acceptance of the approach, additional citywide cost and benefit evaluations for other MS4 drainage areas will be performed through extrapolations.

Based on the analyses detailed under Task 2 and Task 3, a most cost-effective scenario will be chosen, which will include implementation of the new stormwater rule-based controls in new and redevelopment

areas in public and private lands to assess the overall cost and benefits from stormwater management BMPs in MS4 drainage areas.

Deliverables (by Arcadis):

- Draft and Final Technical Memos summarizing the results of the lot size threshold study including the cost-benefit analysis.
- Summary of site visits and typical BMP assessments.
- Presentations on lots size threshold study analyses for DEP to review with key stakeholders and DEC at meetings to be determined.

Table 3.2 Acceptable Runoff Reduction Techniques

Group	Practice	Description
Runoff Reduction Techniques	Conservation of natural areas	Retain the pre-development hydrologic and water quality characteristics of undisturbed natural areas, stream and wetland buffers by restraining and/or permanently conserving these areas on a site.
	Sheetflow to riparian buffers or filter strips	Undisturbed natural areas such as forested conservation areas and stream buffers or vegetated filter strips and riparian buffers can be used to treat and control stormwater runoff from some areas of a development project.
	Vegetated open swale	The natural drainage paths, or properly designed vegetated channels, can be used instead of constructing underground storm sewers or concrete open channels to increase time of concentration, reduce the peak discharge, and provide infiltration.
	Tree planting / tree box	Plant or conserve trees to reduce stormwater runoff, increase nutrient uptake, and provide bank stabilization. Trees can be used for applications such as landscaping, stormwater management practice areas, conservation areas and erosion and sediment control.
	Stream daylighting for redevelopment projects	Stream Daylight previously-culverted/piped streams to restore natural habitats, better attenuate runoff by increasing the storage size, promoting infiltration, and help reduce pollutant loads.
	Rain garden	Manage and treat small volumes of stormwater runoff using a conditioned planting soil bed and planting materials to filter runoff stored within a shallow depression.
	Green roof	Capture runoff by a layer of vegetation and soil installed on top of a conventional flat or slopped roof. The rooftop vegetation allows evaporation and evaportranspiration processes to reduce volume and discharge rate of runoff entering conveyance system.
	Stormwater planter	Small landscaped stormwater treatment devices that can be designed as infiltration or filtering practices. Stormwater planters use soil infiltration and biogeochemical processes to decrease stormwater quantity and improve water quality.
	Rain tank/Cistern	Capture and store stormwater runoff to be used for irrigation systems or filtured and reused for non-contract activities.
	Porous Pavement	Pervious types of pavements that provide an alternative to conventional paved surfaces, designed to infiltrate rainfall through the surface, thereby reducing stormwater runoff from a site and providing some pollutant uptake in the underlying soils.

Table 7.4 Stormwater Management Capability Matrix

SMP Group	SMP Design	Water Quality			Channel Protection	Flood Control
		Nitrogen	Metals	Bacteria		
Pond	Micropool ED	○	○	○	○	○
	Wet Pond				○	○
	Wed ED Pond				○	○
	Multiple Pond				○	○
	Pocket Pond				○	○
Wetland	Shallow Wetland	○	◗	○	○	○
	ED Wetland				○	○
	Pond/Wetland				○	○
	Pocket Wetland				○	❶
Infiltration	Infiltration Trench	○	○	○	●	●
	Shallow I-Basin				❷	❷
	Dry Well				●	●
Filters	Surface Sand Filter	○	○	◗	❶	●
	Underground SF				●	●
	Perimeter SF				●	●
	Organic SF				●	●
	Bioretention				❶	●
Open Channels	Dry Swale	◗	○	●	●	●
	Wet Swale				●	●

○: Good option for meeting management goal

Good Pollutant removal (>30% TN, >60% Metals, >70 Bacteria)

◗: Fair pollutant removal (15-30% TN, 30-60% Metals, 35-70 Bacteria)

●: Cannot meet management goal

Poor pollutant removal (<15% TN, <30 Metals, <35% Bacteria)

❶: In most cases, cannot meet this goal, but the design may be adapted to add storage

❷: Generally cannot meet this goal, except in areas with soil percolation rates greater than 5.0 in/hr

3/7/2016

APPENDIX E - DEC-DEP MS4 INDUSTRIAL/COMMERCIAL DELINEATION OF RESPONSIBILITIES MEMO

Environmental Protection

Vincent Sapienza
Acting Commissioner

Angela Licata
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MEMORANDUM-Final

TO: Selvin Trevor Southwell, P.E.
Deputy Regional Water Engineer - EE3
New York State Department of Environmental Conservation
47-40 21st Street, Long Island City, NY 11101

FROM: Manuel J. Quintela, P.E.
59-17 Junction Boulevard, 11th Floor
Flushing, NY 11373

DATE: April 12, 2017

SUBJECT: MS4 Industrial Commercial-Permitted/Unpermitted MSGP Facilities-Delineation of jurisdictional responsibilities.

This memorandum outlines the delineation of responsibilities between DEP and DEC with respect to the Industrial and Commercial Stormwater Program requirements found in Sections IV.H.1, 2 and 3 of the NYC Municipal Separate Stormwater Sewer System (MS4) permit NY028790, which were discussed and agreed upon during quarterly meetings between the agencies on July 21, 2016, September 8, 2016 and December 1, 2016. It also reflects additional discussion and agreement reached during a December 23, 2016 conference call between DEP and DEC regarding document/data-sharing necessary to DEP's implementation of its program.

Section IV.H.1 Industrial/Commercial Facility Inventory

Pursuant to Section IV.H.1 of the MS4 permit, the City is preparing an inventory of all industrial and commercial sites within the City's jurisdiction that could discharge Pollutants of Concern (POCs) in stormwater to the MS4. The inventory must include, among other things, industrial facilities subject to the SPDES MSGP or individual SPDES permits. Permit Section IV.H.1.a.iii(1)(a). In connection with this inventory and the related inspection requirements, DEP and DEC have agreed that:

- Industrial/commercial facilities currently covered under an individual SPDES permit will be classified as "no further action" sites and will not be included as part of the industrial/commercial inspection program. Facilities designated as "no further action" will not require assessment and will be removed from the facility inventory.

- Facilities in the inventory that have filed a Notice of Termination (NOT) with DEC will be classified as "no further action." Facilities designated as "no further action" will not require assessment and will be removed from the facility inventory. DEC will provide DEP with a list of facilities that have filed an NOT.

- Facilities with "Conditional Exclusion for No Exposure Certification" will not be part of a regular inspection program and will only be inspected by DEP on a complaint basis. DEC will provide DEP with a list of facilities that have a Conditional Exclusion for No Exposure Certification.

Section IV.H.2. Stormwater Control Measures for Unpermitted Industrial and Commercial Facilities.

Section IV.H.2 of the MS4 Permit requires the City to develop a plan to assess and inspect industrial and commercial facilities to determine if they generate significant contributions of POCs to impaired waters, and a procedure to refer such facilities to DEC for permitting. DEC and DEP have agreed that:

- The procedure for referring unpermitted facilities to DEC for SPDES coverage will not specify the type of coverage (i.e., individual SPDES or MSGP). However, DEP will provide to DEC a technical justification for its referral of unpermitted facilities, based on the permit requirement (i.e., the facility's potential to contribute significant POCs to impaired waters).

- Facilities eligible for a No Exposure Certification will be given 60 days to file such certification with DEC. DEP will use DEC's Dropbox online tool as specified in #3 below to determine if facility has submitted a No Exposure Certification.

Section IV.H.3 SPDES Industrial Stormwater Multi-Sector General Permit (MSGP) Facility Inspections.

Section IV.H.3 of the MS4 Permit requires the City to develop and implement an inspection program for MSGP facilities, and must prioritize facilities for inspection based on the potential for water quality impact. DEC and DEP have agreed that:

1. DEC will provide initial prioritization (*high, medium and low*) and justification for that prioritization for currently permitted MSGP facilities. DEC will provide the initial batch of prioritized sites by December 2016 and the remainder in 2017. DEP will develop its own prioritization protocol, taking into consideration criteria used by DEC, and will include that protocol as part of the SWMP. Once the SWMP is approved, this protocol will be applied to all MSGP facilities including those already prioritized by DEC.

2. DEC and DEP will divide responsibility for enforcement activities between the agencies for specific types of permit violations, as follows:
   - Violations discovered during MSGP facility inspections – DEP
   - Violations for failure to report – DEC
   - Violations for failure to obtain coverage under the MSGP – DEC

3. DEC and DEP agreed that DEP will use DEC's online Dropbox to review monthly reports for MSGP facilities discharging to the City's MS4. DEP has determined that it can add codes to the Dropbox database to more effectively track relevant updates to the MSGP facilities' information, but such coding will require DEC to, among other things, maintain consistent file nomenclature. In order to ensure that DEP has efficient and timely access to facility information in Dropbox, DEC agreed to the following protocols:

   a. Dropbox format.
      - DEC will share the current naming conventions of files and will notify DEP when any nomenclature has changed, as changing nomenclature could off-set coding aims.
      - DEC will add columns to the MSGP spreadsheet indicating whether the facility is discharging to the MS4 (that information is listed in the facility NOI).

   b. Information on MSGP-covered facilities in Dropbox Folders.
      - If DEP needs information on a known facility (e.g., sampling data), it will provide the permit number to DEC, and DEC can locate and deliver data immediately.
      - DEC will share facility-specific documents in preparation for DEP's site inspections. The anticipated turnaround time to provide these documents is 30 days.

APPENDIX F - MEETING NOTES FROM FEBRUARY 4, 2017 CONEY ISLAND CREEK WORKSHOP

Summary of the Meeting

The Coney Island Education Workshop was held at the New York Aquarium on Saturday, February 4th, 2017, as a coordinated effort between the Coney Island Beautification Project, SWIM Coalition, Wildlife Conservation Society, Partnership for Parks, and DEP. Approximately 30 people attended from the Coney Island Community.

Introductions from the Wildlife Conservation Society, SWIM Coalition, and Partnership for Parks preceded a DEP-led presentation on the MS4 program, and a statement from the Coney Island Beautification Project on Trash Free Waters. Questions asked during the presentation included coordination efforts with NYCHA, MTA, and DSNY, and clarification between DEP and DEC responsibilities.

Short presentations on Priority MS4 Waterbodies and the Illicit Discharge Detection and Elimination (IDDE) program set the context for the breakout session. Topics discussed with the community were IDDE notification ideas, IDDE education and outreach, trash "hot spots" locations, and the best way to reach the community for education and outreach.

Breakout Session Highlights

- **IDDE Notifications**
  - Alert elected officials, community board, community organizations, schools, OEM, local newspapers
  - E-blast and/or text messages from community board or Notify NYC
  - Signage
    - Multiple languages
    - Located at libraries, precincts, firehouses, eateries, parks, boat access points, train stations, aquarium, Coney Island Creek
    - Hang flyers in high rise buildings and senior centers
  - Radio announcements on language specific stations
  - Website
    - Post information on the illicit discharge
      - Create color coded system for discharge severity
      - Create grading system, like DOH's for restaurants, for waterbodies
    - Post specific address so there is a public notice and someone can't sell their home with the problem (for illicit connections)
    - Create a GPS app that allows phones to connect to the website, citywide program to get information on active investigations
  - Put a medallion on catch basin associated with an issue to let the public know a problem has been called in (for illegal dumping)

- **IDDE Education**
  - Storm stenciling
  - Attend community meetings and have workshops in the community
  - Programming with the aquarium and schools
  - Signs at parks, subway station
  - Pamphlets at bodegas
  - Engage with developers and home/building owners

- **IDDE Community Requests**
  - Citizen science programs – need standard operating procedures and information for people to know how to document properly
  - Shoreline Survey and Sentinel monitoring data.
    - Schedule of when DEP goes out so community members can join
  - Make an example of violator companies
  - Reporting system with reward system
    - Anonymous notifications
    - Have the reward go back to the community, not to individuals
  - Label outfalls with ID and sign with information on reporting
    - Sign in multiple languages

- **Trash "hot spot" Locations**
  - Mermaid Ave.
  - NYCHA
  - Cropsey Bridge, Coney Island Creek Bridge, and under Belt Pkwy
  - Subway stations, bus stops, playgrounds

- **Floatables Requests from Community**
  - Coordination with NYCHA and Sanitation
    - Want NYCHA to have and use dumpsters
  - Wind proof trash cans
  - CSO and MS4 outfalls
    - End-of-pipe netting
    - Booms
    - Skimmers
  - Conduct studies for the trash at the outfalls and illegal dumping of medical waste in Coney Island Creek
  - Have Parks issue summons for people littering

APPENDIX G - MSGP SITES - SECOND INTERIM REPORT

Background

New York State Pollution Discharge Elimination System (SPDES) Permit number NY0287890, effective August 1, 2015, includes a number of provisions to address discharges from the City of New York's Municipal Separate Storm Sewer System (MS4). The permit requires the City to prepare and submit to the New York State Department of Environmental Conservation (DEC) within three years of permit issuance an approvable Stormwater Management Program (SWMP) Plan, which must include a variety of activities and management practices to reduce pollutants to the maximum extent practicable (MEP).

The MS4 Permit (Part IV.H) requires the City to include in the SWMP, a section that addresses industrial and commercial stormwater sources discharging to the MS4. That section will include for the MS4 area an inventory of facilities; procedures for inspecting facilities covered under the SPDES Multi- Sector General Permit (MSGP); and procedures for inspecting other facilities that may significantly contribute POCs to impaired waters, but DEC does not currently cover under the MSGP or individual SPDES permit. The New York City Department of Environmental Protection (DEP) will be responsible for administering the inspection program for these facilities after DEC has approved the SWMP Plan.

Permit Part IV.H.3.a.i. delineates the requirements for the City's inspection program for currently permitted MSGP sites located in MS4 areas. The City must provide an interim report at the end of each of the first two years after the effective date of the MS4 permit (EDP) detailing the progress made on the development of this program. This document constitutes the second interim report and describes the progress made to date on developing the program, including work related to the facility prioritization and facility inspection protocols, as well as anticipated next steps the City will complete by the time of SWMP submittal in August 2018.

The elements covered herein and in the SWMP submittal will address the Permit Part IV.H3.a requirements ("Development of Inspection Program,"), which includes a protocol for prioritization of existing permitted MSGP facilities and modification of prioritization based on site inspection findings; and Permit Part IV.H.3.b., ("Minimum Inspection Requirements"), which includes inspection frequencies, scope of inspections, and documentation and inspection tracking requirements.

SPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity

Pursuant to Section 402 of the federal Clean Water Act (CWA), stormwater discharges from certain industrial activities from a point source (including discharges through an MS4) are unlawful unless they are authorized by a National Pollutant Discharge Elimination System

(NPDES) permit or by a state permit program. New York State's SPDES program is a NPDES-approved program with permits issued in accordance with the NYS Environmental Conservation Law (ECL). Facilities must either obtain permit coverage through an individual industrial SPDES permit that addresses the stormwater discharges, obtain coverage under the SPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity, or they must provide certification per a "No Exposure Exclusion" that industrial activities are not exposed to stormwater[1].

Program Description and Permit Requirements

The City's program is being designed to apply consistently across all MSGP sectors of identified facilities and operations in the MS4 area. The MSGP has several basic requirements regarding inspections, documentation, monitoring and control measures, and includes additional sector-specific requirements for 30 individual sectors. DEP's inspection protocol, described below, focuses on the broadly applicable provisions of the MSGP rather than on the site-specific requirements for particular facilities or sectors. The final MS4 MSGP inspection plan submitted with the SWMP will include all elements required to perform thorough inspections and evaluations of currently permitted MSGP sites in the MS4 area.

Program Development Activities in Progress by August 1st

a. Facility Prioritization and Reprioritization

Permit Part IV.H.3.a.ii. requires that the inspection program prioritize facilities into high, medium, and low categories based on their potential to impact water quality, using criteria such as discharges of Pollutants of Concern (POCs) to impaired waters, pollutant sources on site, proximity to a waterbody, and violation history of the facility.

DEC provided to DEP a list of 20 MSGP facilities that DEC has confirmed to date as permitted facilities located in the City's MS4 area. NYC will provide any updates to the total number of facilities in the MS4 area along with the SWMP.

DEC agreed to provide initial prioritization of existing MSGP sites using the most recent facility inspection data, and also to provide the rationale for this initial prioritization. The results of DEC's initial prioritization for 17 of these sites is presented in Table 1. DEC used criteria such as discharges to impaired waters, presence of impairment POCs, facility Discharge Monitoring Report (DMR), and site visit and SWPPP ratings to designate the prioritization ranking for each facility. DEP included this prioritization criteria in its prioritization model, which will be implemented in subsequent prioritizations conducted by DEP as part of the City's MSGP inspection program at new and existing facilities, should subsequent inspections indicate the need for reprioritization.

[1]Text taken from fact sheet for New York State Department of Environmental Conservation SPDES Multi-Sector General Permit for Stormwater Discharges Associate with Industrial Activity.

Table 1: Initial Prioritization for existing MSGP sites as of January 2017

Initial DEC's Prioritization Rating	Number of MSGP Sites
High	2
Medium	12
Low	4

Prioritization ranking will dictate the inspection frequency presented in Table 2.

Table 2: Inspection Frequencies

Facility/Activity Priority[2]	Inspection Frequency
High	Annual
Medium	3 Years
Low	5 Years

b. MSGP Permitted Facilities Inspection Field Protocol

DEP and its consultants are developing an inspection protocol that will be implemented at all MSGP-permitted sites in the MS4 area, regardless of sector. The protocol includes activities that inspectors must perform prior to the field inspection, such as reviewing available facility records, as well as activities they must conduct both during and after the inspection. The protocol will include a method by which inspectors will determine significant contributors of POCs. The results of the initial facility inspection will either confirm the facility's initial prioritization or dictate a new priority ranking for the facility. If a facility is reprioritized, its inspection frequency will likewise be updated to correspond to the new priority level. DEP will also use a third party contractor to conduct inspections and enforcement activities at MSGP sites.

c. MS4 Industrial Commercial-Permitted/Unpermitted MSGP Facilities-Delineation of Jurisdictional Responsibilities, see Appendix B

DEP and DEC have agreed to a protocol for sharing and maintaining data related to MSGP facilities. The protocol will be incorporated into the inspection procedures for facilities covered under SPDES MSGP, and includes the following agreements between DEC and DEP:

[2] High- Means high potential for water quality impact. This includes facilities with a written violation occurring in the previous year.
Medium- Means medium potential for water quality impact Low- Means low potential for water quality impact.

- DEP will use DEC's Dropbox website to access MSGP facility data;
- DEC will share the current naming conventions of files within DEC's Dropbox website and will notify DEP when any nomenclature has changed;
- DEC will add columns to the MSGP spreadsheet indicating whether the facility is discharging to the MS4 (that information is listed in the facility NOI);
- if DEP needs information on a known facility (e.g., sampling data), it will provide the permit number to DEC, and DEC will locate and deliver data immediately; and
- DEC will share facility-specific documents in preparation for DEP's site inspections. The anticipated turnaround time to provide these documents is 30 days.

d. Legal Authority

In December 2016, the City Council introduced legislation that, if adopted, will authorize DEP to promulgate rules to inspect currently permitted MSGP sites and other facilities, as required by the City's MS4 permit. Currently, DEP expects to propose rules to implement the MSGP inspection program for public comment sometime in spring or early summer 2018. The City's inspections will start after finalization of the rules and DEC's approval of the SWMP, beginning with the high priority sites.

Future Activities Identified for Next Reporting Cycle

DEP expects to perform the following activities to develop the MSGP inspection program during the next year:

a) Finalize the facility inspection protocol detailing the steps to be taken during MSGP facility inspections, and the MSGP facility prioritization model;
b) Continue to develop a tracking system for inspections of permitted sites;
c) Continue procurement of a third party contractor to perform inspections of permitted and unpermitted MSGP facilities. The contract will provide for inspections of facilities for five years after SWMP is approved. After five years, DEP will determine whether a portion of or the entire inspection program will be transferred to City inspectors, or if another inspections contract should be procured. The anticipated advertising date for this initial contract is spring of 2017.

APPENDIX H - 2017 MS4 PROGRESS REPORT: PUBLIC COMMENTS AND RESPONSES

2017 NYC Municipal Separate Storm Sewer Permit Progress Report:

Public Comments and Responses

SPDES Permit No. NY-0287890

Effective Date of Permit: August 1, 2015

August 1, 2017

Background:

On August 1, 2015, the Department of Environmental Conversation (DEC) issued a comprehensive stormwater permit to the City. The permit includes robust requirements that significantly expand the City's obligations to reduce pollutants discharging to and from the Municipal Separate Storm Sewer System (MS4). There are 14 City agencies with substantial obligations under the new MS4 permit, and the Department of Environmental Protection (DEP) is responsible for coordinating the efforts of those agencies with respect to all matters relating to the permit's requirements. The City's MS4 permit requires the development by August 1, 2018 of a Stormwater Management Program (SWMP) Plan, the goal of which will be to reduce pollution that reaches waterbodies through the MS4.

As required by the MS4 permit, the City made available to the public on May 8, 2017, the 2017 Progress Report on the development of the SWMP. On May 16, the City hosted a public meeting to present the Progress Report to all interested stakeholders. The 2017 Progress Report was open for comments through June 5, 2017. The City received comments orally at the public meeting and in writing, and has prepared the following responses.

City Responses to Comments on the MS4 Progress Report

Questions and Comments Received at the May 16 Public Meeting

Comment: Will the DEP portion of the MS4 map be completed by 2018?

Response: DEP has completed drainage area delineations for a little more than half of the known DEP-owned MS4 outfalls. DEP is continuing to delineate drainage areas for DEP-owned MS4 outfalls and anticipates completing this work by the submission of the preliminary map in August 2018.

Comment: 311 is inadequate for reporting discharges from outfalls to waterways. Additionally, the 311 mobile application should allow the public to make reports using GPS coordinates.

Response: Noted. The City is exploring ways to improve the process for reporting through 311 discharges from outfalls; this includes a pilot project to install signs at MS4 outfalls. By providing identifying numbers for MS4 outfalls, the City will make it easier for the public to report the location of the outfall to 311. There are no plans at this time to modify the 311 mobile application. Despite the challenges in reporting discharges from outfalls, 311 is still the best way to connect with the City on many MS4-related issues.

Comment: DEP should develop outreach about what citizens can do and how they can supplement monitoring/enforcement. Regarding the Citizen Water Quality Testing Program, how are data compared with what we collect? How can we engage the community groups to become more involved?

Response: DEP agrees that citizen water quality monitoring programs are important aspects of citizen involvement and could supplement the monitoring programs established for regulatory compliance purposes. Accordingly, DEP obtained the citizen water quality monitoring data for several waterbodies where LTCPs are developed, conducted comparisons and shared the results with multiple stakeholders including SWIM. However, monitoring data from outside groups may or may not follow DEP and EPA-approved sampling procedures/guidelines. DEP will continue to evaluate whether and how it might be able to engage/utilize community groups. Some considerations include the feasibility of those groups' adopting standard protocols to match our current programs to ensure the data obtained are comparable and can be scientifically evaluated.

Comment: Newtown Creek sampling showed off the chart levels of, fecal coliform. What is DEP doing to investigate for illegal connections?

Response: DEP has active Illicit Discharge Detection and Elimination (IDDE) investigations in different receiving waterbodies, including Newtown Creek. In Newtown Creek, DEP is currently conducting source tracking via dye testing to confirm potential illicit connections. DEP will follow up with appropriate enforcement and coordinate with DEC as necessary.

Comment: What is the City doing to institute laws and regulations to reduce plastic waste at the source, such as plastic bag bans? How has the City highlighted the pollution of bags, plastic, bottles, etc.? When will we see some of the laws reflecting this and more public outreach?

Response: The City is pursuing several policies and programs that seek to reduce waste at the source. These include both legislative and regulatory approaches as well as public education and outreach approaches.

The City is in the process of banning expanded polystyrene foam. Following a May 12, 2017 determination by DSNY that expanded polystyrene foam could not be recycled in a manner that is economically feasible or environmentally effective for New York City, the City plans to institute a ban starting November 13, 2017.

The City has also attempted to reduce plastic bag waste by imposing a fee on all carryout merchandise bags. Local Law 63, passed by the City in 2016, would have imposed a fee of at least five cents on all carryout merchandise bags. In February 2017, however, New York State suspended the NYC Carryout Bag Law and established a one-year moratorium on establishing new carryout bag fees in New York City. NY State is establishing a task force to develop a uniform State plan for addressing the plastic bag problem. The task force includes appointees from the State Senate and State Assembly, as well as local governments and other stakeholders. By the end of 2017, this Task Force will conclude with a report and proposed legislation.

The City also has several public education and outreach programs that seek to raise awareness and change behaviors. These include the B.Y.O. campaign, Zero Waste programs, Talk Trash NY campaign, and the Clean Streets = Clean Beaches campaign. Most recently, DEP initiated a "Don't Trash Our Waters campaign" in collaboration with the Department of Sanitation, which was kicked off at Coney Island Creek and will be expanded to Bronx River Watershed this summer.

Comment: Will there be a re-evaluation of fines for an environmental violation so that they are more effective?

Response: The City has not yet decided on whether the MS4 program will include a revision of fines for environmental violations, but will consider this issue during SWMP development.

Comment: How is DEP catching one time offenders dumping paint/oil into catch basins?

Response: The response from DEP depends on how the complaint is received. If the complaint is submitted anonymously, DEP will send staff to investigate, and if DEP staff are able to connect a suspect to the illicit discharge, a violation is issued. If someone willing to give his or her name submits the complaint, and DEP does not witness the individual or company dumping into a catch basin, then DEP would require the person who witnessed the act to testify at the Environmental Control Board (ECB) to hold the offender accountable.

Comment: Since the Green Infrastructure Grant Program will now be eligible in MS4 areas, why not require that all properties participate in the program? The City should pass legislation requiring that all existing properties take the City's funding in order to ensure that all private properties will be retrofitted with green infrastructure.

Response: Under the Green Infrastructure Grant Program, the City does not provide funds for legally mandated actions under local, state, or federal law, and/or associated with administrative

permit conditions or terms of settlement agreements. In other words, if the City were to require that existing properties retrofit with green infrastructure, it could not provide funding for the design and construction of the GI. Such a mandate, with no financial support, would be significantly challenging for many property owners around New York City. As a result, the City will continue to develop private incentive programs and conduct extensive outreach to encourage New Yorkers to participate in the optional programs.

Comment: What is the status of the Adopt-a-Catch Basin Program?

Response: The of the Adopt-a-Catch Basin pilot program was launched in 2016 in the Brooklyn neighborhoods of Canarsie, Gowanus, Prospect-Lefferts Gardens, and Sunset Park where catch basins that are clogged with garbage and other debris prevent adequate storm water collection, flooding areas nearby and forming small ponds that impede cars, bicyclists, and pedestrians. The effort is intended to curb localized flooding after heavy rainstorms as well as to help prevent floatables, such as bottles and other debris from entering into waterways. DEP provides training, as well as gloves and garbage bags, to participating organizations that agree to maintain storm drains in their neighborhoods, and also enrolls participants in an early alert system to inform them of upcoming weather events that may cause flooding.. The City is still exploring expanding the program to other neighborhoods.

Comment: There should be graphics in the public meeting presentations that enable viewers to understand the difference between what is required for private and public business/homeowners per provision of the MS4 Permit.

Response: Noted. The City will consider using more graphics to clarify responsibilities for private businesses/homeowners impacted by the MS4 Permit. The City will also use graphics will be used in presentations and in the final Stormwater Management Program (SWMP).

Comment: How transparent will we be about monitoring/reporting in the next 3-4 years?

Response: In accordance with the MS4 Permit, the City will release an annual report each year. The report will be available online and public meetings will be held each year to discuss the content of the annual report. People will be able to submit questions, comments and concerns on the report to MS4@dep.nyc.gov. If the question is specifically referring to stormwater monitoring, then in accordance with the MS4 Permit, DEP will provide results of the information collected and analyzed as part of the Monitoring and Assessment Program. The results will be included in future MS4 Annual Reports.

Comment: Will High Level Storm Sewers (HLSS) be part of MS4? Are there sewer separation projects in process?

Response: High Level Storm Sewers (HLSS) that ultimately discharge to waters of New York State through MS4 outfalls owned or operated by the City are considered part of the MS4 and are covered by the permit. HLSS are one strategy for alleviating pressure on the combined sewer system and limiting combined sewer overflows. Since HLSS require a separate pipe and outlet to

a waterbody, this strategy is only cost-effective for developments near the water's edge. Some select areas are receiving new HLSS.

Submitted June 1, 2017 by Marni Majorelle from Alive Structures:

Comment: Please include the MS4 in the Green Infrastructure Grant Program as soon as possible.

Response: The current Green Infrastructure Grant Program is now available citywide, in both the MS4 and combined sewer areas of the city. Through the NYC Department of Environmental Protection, in coordination with the NYC Law Department and the NYC Office of Management and Budget, the City is also developing new private incentive programs for green infrastructure implementation. As these programs are still in development, please visit www.nyc.gov/greeninfrastructure to sign up for the green infrastructure listserv to receive updates as they become available.

Comment: Other cities are creating storm water policies, green infrastructure incentives, and mandates that are more effective than NYC's. [The comment included an attachment with examples.]

Response: The City has formed positive relationships with many of the cities on this list to share best practices for incentivizing green infrastructure on private property. For example, DEP staff has visited Philadelphia, spoken with grant staff and grant recipients, reviewed grant documents such as contracts and applications, and visited constructed projects. This sharing has gone both ways and Philadelphia has modeled portions of its grant program on the current New York City Green Infrastructure Grant. During the development of the new private incentive program referenced in the response above, the City has hosted roundtable discussions with property owners and green infrastructure contractors to gather critical feedback. Additionally, DEP has completed stormwater surveys with approximately 30 municipalities (including all of those listed, with the exceptions of France and Switzerland) to learn more about their stormwater programs, including how they implement and incentivize green infrastructure programs, and will be publishing the summary of these surveys by the end of this year. Furthermore, the program the City is developing in accordance with the MS4 Permit for Post-Construction Stormwater Management will require green infrastructure and related measures for certain new construction and reconstruction projects. DEP has held several workshops in collaboration with Urban Green Council and REBNY including the development community and their technical engineering companies to discuss what would be the appropriate lot size threshold for NYC by taking into account water quality, cost, local size conditions, impervious surface coverage, total lot area managed, number of affected public/private properties and other relevant factors.

Submitted June 2, 2017 by Ira Gersenhorn:

Comment: This MS4 Progress Report is from NYC DEP. Should there be a separate MS4 Progress report from every city agency or does this report involve all city agencies?

Response: There are 14 City agencies with substantial obligations under the MS4 permit. Pursuant to Executive Order No. 429 of 2014 and Section 1403 of the New York City Charter, as recently revised by Local Law 97 of 2017, the Department of Environmental Protection (DEP) is responsible for coordinating the efforts of those agencies with respect to all matters relating to the permit's requirements. As a result, the 2017 Progress Report is produced by DEP and reports on the work of all of the city agencies with permit obligations.