STORMWATER PLAN

STORMWATER MANAGEMENT PROGRAM (SWMP) PLAN

FOR COMPLIANCE WITH NYSDEC MS4 PERMIT NUMBER GP-0-24-001

PREPARED FOR:

VILLAGE OF HEAD OF THE HARBOR

500 NORTH COUNTRY ROAD
ST. JAMES, NEW YORK

MS4 SPDES PERMIT No. NYR20A353

EFFECTIVE DATE: JANUARY 3, 2024
EXPIRATION DATE: JANUARY 2, 2029
REVISED: SEPTEMBER 2025

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STORMWATER MANAGEMENT PROGRAM (SWMP) PLAN FOR COMPLIANCE WITH MS4 PERMIT NUMBER GP-0-24-001

SWMP PLAN OVERVIEW

Introduction:

The Village of Head of The Harbor has developed this Stormwater Management Program Plan (SWMP) to satisfy the requirements of the New York State Department of Environmental Conservation (NYSDEC) General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4) Permit No. GP-0-24-001. Through this program the Village of Head of the Harbor hopes to reach the important goal of improving the quality of its surface waters and the associated recreational, environmental and economic benefits these waters provide.

The MS4 General Permit is organized into the following six (6) Minimum Control Measures (MCMs), which represent the non-numeric effluent limitations to reduce the discharge of pollutants to the maximum extent practicable, protect water quality, and generally satisfy the State and Federal stormwater discharge regulations:

- MCM #1: Public Education and Outreach
- MCM #2: Public Involvement/Participation
- MCM #3: Illicit Discharge Detection and Elimination
- MCM #4: Construction Site Stormwater Runoff Control
- MCM #5: Post-Construction Stormwater Management
- MCM #6: Pollution Prevention and Good Housekeeping

Individual MCMs and components of the Village's SWMP are developed, implemented, and/or enforced primarily by the Village Engineer, Highway Trustee, and the Building Inspector. In general, the respective supervisor of each Village department is responsible for delegating the implementation and documentation of the applicable SWMP elements to their staff. In addition, the Village utilizes the expertise and resources provided by other entities as necessary (e.g., neighboring municipalities, consulting engineers, etc.). Each Village department is responsible for reviewing, maintaining, and updating any agreements with other entities as appropriate.

Applicable Local Laws:

- ❑ Attached as Appendix A is Chapter 85 of the Village Code: Erosion and Drainage. The purpose of the code is to establish minimum stormwater management requirements and controls.
- ❑ Attached as Appendix B is Chapter 165, Article XX of the Village Code: Stormwater Management. The purpose of the code is to establish minimum stormwater management requirements and controls.
- ❑ Attached as Appendix C is Chapter 166 of the Village Code: Illicit Discharges to Storm Sewers. The purpose of the code is to provide for the health, safety and general welfare of the citizens of the Incorporated Village of Head of The Harbor.

STORMWATER MANAGEMENT PROGRAM (SWMP) PLAN FOR COMPLIANCE WITH MS4 PERMIT NUMBER GP-0-24-001

SWMP PLAN OVERVIEW (CONTINUED)

Staffing and Staff Development Programs and Organization Charts:

- ❑ Staffing: see chart below for contact information

Building Inspector -	Oversees all private building construction projects.
Village Engineer and/or - Stormwater Program Coordinator	Provides technical support to the Village Building Inspector as well as to the Board of Trustees, Planning Board and Zoning Board of Appeals. The Village Engineer also oversees large capital improvement projects.
Highway Director -	Oversees normal day to day maintenance of Village infrastructure, including but not limited to storm basin cleaning and street sweeping.
Village Clerk's Office -	Provides for the office support.
Mayor -	Oversees municipal work and is the signatory for all paperwork

- ❑ Staff Development Programs: all listed staff members have been involved in employee stormwater training seminars.
- ❑ Organizational Chart: All listed staff members report directly to the Trustees of the Village of Head of The Harbor.

Title	Name	Phone	Email
Building Inspector	Robert O'Shea	T (631)-584-5602 F (631)-862-1417	hohbuilding@yahoo.com
Village Engineer and Stormwater Program Coordinator	Daniel Falasco	T (631)-584-5550 F (631)-862-1417	Dan.falasco@outlook.com
Highway Director	Frank Prinzevalli	T (631)-584-3701 F (631)-862-1417	frankprinzehoth@gmail.com
Village Clerk	Margaret O'Keefe	T (631)-584-2239 F (631)-862-1417	okeeffem@optonline.net
Mayor	Michael Utevsky	T (631)-584-5550 F (631)-862-1417	okeeffem@optonline.net

Table 1: Names, title, and contact information for departments in the Village of Head of the Harbor responsible for implementing the provisions of the MS4 permit.

Comprehensive System Mapping:

In accordance with the provisions of the MS4 General Permit, the Village must develop and maintain a comprehensive system map. The intent of the comprehensive system map is to provide a clear understanding of the MS4, serve as a planning tool to allow for prioritization of SWMP efforts, and facilitate decision-making. The MS4 General Permit provides an iterative compliance schedule for completing the comprehensive system map. The comprehensive system mapping to be completed within six (6) months of the Effective Date of Coverage is provided in Appendix D along with individual maps for each outfall. Infrastructure and facility data updates, including Phase I and Phase II of comprehensive mapping, will be provided by the Highway Director with the assistance of the Village Engineer.

Following the completion of Phase I mapping (Part IV.D.2.a), the Village will annually update the comprehensive system mapping including updates to prioritization information of monitoring locations, construction sites, and municipal facilities. This requirement is not obligatory until January 2027.

The sources of the required data are presented in Table 2 below and continue on the following page.

Reference	Datasets	Data Location
IV.D1.a.	MS4 Outfalls	Mapping data maintained by Village Engineer and Highway Director
IV.D1.b.	MS4 Interconnections	
IV.D1.c.	Preliminary Storm Sewersheds	
IV.D1.d.	MS4 Infrastructure	Not applicable (1)
IV.D1.e.i.	Automatically & Additionally Designated Areas	NYS GIS Clearinghouse (2) NYSDEC Stormwater Interactive Map (3)
IV.D1.e.ii.a)	Waterbody Classification	
IV.D1.e.ii.b)	Waterbody Inventory/Priority Waterbodies List (4)	
IV.D1.e.ii.c)	TMDL Watershed Areas (5)	NYSDEC Stormwater Interactive Map (3)

Table 2: Mapping components and resources

Reference	Datasets	Data Location
IV.D1.e.iii.	Land Use	Suffolk County GIS Viewer (6)
IV.D1.e.iv.	Roads	NYS GIS Clearinghouse (2)
IV.D1.e.v.	Topography	

Table 2: Mapping components and resources continued.

(1) The mapping required under Part IV.D1.d of the MS4 General Permit does not apply to the Village because the Village was not subject to Part IX.A (New York City East of Hudson Watershed) or Part IX.D (Peconic Estuary Nitrogen Watershed) from previous iterations of the MS4 General Permit.

(2) NYS GIS Clearinghouse can be accessed at the following link: https://data.gis.ny.gov/

(3) NYSDEC Stormwater Interactive Map can be accessed at the following link: https://gisservices.dec.ny.gov/gis/stormwater/

(4) Information on waterbody impairment status and associated pollutant(s) of concern is available in Appendix C of the MS4 General Permit.

(5) The mapping required under Part IV.D1.e.ii of the MS4 General Permit does not apply to the Village because Long Island Sound TMDL Watershed is not subject to additional BMPs that are required under this iteration of the MS4 permit.

(6) Suffolk County GIS Viewer can be accessed at the following link: https://gisapps.suffolkcountyny.gov/gisviewer/

Program Budget:

Program budget consists of two (2) sources. The Village Trustees, on an annual budget provides for the funding of the staff as well as for the everyday operation of the Village including but not limited to storm basin cleaning and street sweeping. Funding for the inspection of SWPPP is from the property owner through established trust and agency accounts and/or the permit application fees.

STORMWATER MANAGEMENT PROGRAM (SWMP) PLAN FOR COMPLIANCE WITH MS4 PERMIT NUMBER GP-0-24-001

MCMS & MEASUREABLE GOALS (CONTINUED)

Policy, Procedures and Materials for each Minimum Measure:

- ❑ Minimum Control Measure #1 - Public Education and Outreach
  - · Provide appropriate brochures for the public regarding illicit discharges. Brochures to be kept at the Village Hall and on the Village web site.
  - · Educate the public, as well as professionals, who appear before the Planning Board for site plan review.
  - · Provide information biannually on how to reduce phosphorous and pathogen pollutants in Mill Pond and Stony Brook Harbor and encourage the use of non-phosphorous based fertilizers.
  - · There are no current municipal facilities with nuisance bird populations that have the potential to contribute pathogens, but the Village will continue to monitor for changes and add signage as required

- ❑ Minimum Control Measure #2 - Public Involvement/Participation
  - · Support efforts of the Harbor Day Committee Joint in their activities.
  - · Local point of contact regarding stormwater management has been established as the Village Engineer and Building Inspector.
  - · Encourage involvement in local clean-up events.
  - · Allow the public to review and comment on the SWMP plan and the draft annual report.

- ❑ Minimum Control Measure #3 - Illicit Discharge Detection and Elimination
  - · Record and report observations of identified or suspected illicit discharges.
  - · Monitor drainage out-falls, interconnections, and municipal facility intraconnections on a quarterly basis.
  - · Annually, update procedures for detecting and eliminating illicit discharges.
  - · Review site plans for potential illicit discharges.
  - · Refer appropriate site plans to the Suffolk County Department of Health Services for compliance with Article 6 of the Sanitary Code.
  - · Local point of contact to report illicit discharges has been established as the Village Engineer.
  - · Developed and implemented an illicit discharge track down and elimination program, attached as Appendix O.
  - · Developed and implemented a monitoring locations inspection and sampling program, attached as Appendix N.

MCMS & MEASUREABLE GOALS (CONTINUED)

- ❑ Minimum Control Measure #4 - Construction Site Stormwater Runoff Control
  - · Prepare standard details for stormwater runoff control measures.
  - · Require “Third Party” certifications of all developers and contractors.
  - · Local point of contact to report complaints related to construction stormwater activity has been established as the Building Inspector.
  - · Developed construction oversight program that outlines procedures, trainings, and all the individuals who have been involved.
  - · Provide educational training to planning board members and review personnel to identify sites where Erosion and Sediment Control and SWPPP’s are required.
  - · Review SWPPPs for compliance with NYS standards and to provide construction inspection requirements
  - · The Village currently has no properties undergoing construction with a total land disturbance of greater than or equal to 1 acre or that are part of a larger common plan of development or sale. Once construction begins on a site with these conditions, it shall be recorded in the construction site inventory log, attached as Appendix J, and stored in the Village Building Department for a period of no less than five years.

- ❑ Minimum Control Measure #5 - Post-Construction Stormwater Management
  - · Local point of contact to report complaints of flooding or standing water has been established as the Village Engineer and Building Inspector.
  - · Obtain post construction easements for all projects required to file a Notice of Intent.
  - · Monitor post construction activities for all projects required to file a Notice of Intent.
  - · Maintained and developed an inventory of post-construction stormwater management practices
  - · Developed and implemented a post-construction stormwater SMP inspection and maintenance program
  - · Inspected leaching drainage structures connected to outfalls annually – more maintenance may be required as needed when complaints are received.
  - · Inspected wetland ponds and recharge basins biannually – more maintenance may be required as needed when complaints are received.

MCMS & MEASUREABLE GOALS (CONTINUED)

- ❑ Minimum Control Measure #6 - Pollution Prevention / Good Housekeeping
  - · Maintained Village vehicles off site.
  - · Conducted annual street sweeping events.
  - · Cleaned storm drains on a regular basis.
  - · Maintained Village property free of junk and debris.
  - · Dog waste receptacles and signs prohibiting littering are located in public places where residents may frequent.
  - · Evaluated the effectiveness of deterrents, population controls, and other measures that may reduce bird-related pathogen contributions

Stormwater Management Practice Selection and Measurable Goals:

The Village code and policy provides for:

- · No direct discharge of stormwater runoff to surface waters, marshes or wetlands.
- · Site development plans shall include measures such as holding ponds, sedimentation basins, berming, vegetated buffer areas or other means to attenuate the outflow of stormwater pollutants.
- · Any water discharged from control systems shall be of acceptable quality before it is permitted to enter wetlands or surface waters.
- · During construction, all disposal of stormwater runoff shall be handled on site.
- · Soil erosion on site shall be contained by such measures as baling, mulching, use of fibrous cover materials or temporary vegetation.
- · Site designs shall minimize impermeable paving.
- · Site designs shall incorporate the use of natural land features, such as shallow depressions, whenever possible for the on-site collection of stormwater for recharge.
- · Natural vegetation and trees shall be retained to the maximum extent possible in the site design in order to reduce erosion potential and stormwater runoff.

MCMS & MEASUREABLE GOALS (CONTINUED)

Operation and Maintenance Schedules:

- Storm Drainage Basin Cleaning: Storm drains are cleaned on an annual basis to assure that all drains are cleaned over a five-year period. Areas more prone to sediment buildup are cleaned more often. Records are kept by the Highway Director. A template log can be found attached in Appendix R. During the annual drainage basin cleaning the contractor is required to sign a Third-Party agreement that they are aware of the Village's Stormwater Management Program. The contractor is to notify the Highway Director of any suspect material that is removed from the basin during the cleaning operation.
- Outfall Inspection: The Village has mapped four (4) drainage outfalls within its jurisdiction. These outfalls are known to the Village Officials, Village Engineer, Building Inspector, Highway Director, highway maintenance personnel and Village Police Department. All the above are aware of the Stormwater Management program and if any discharge, during dry conditions are observed they are to report such instance to the Village Engineer. Specifically, the highway maintenance personnel are to review, on a quarterly basis, each of the four (4) drainage outfalls for the purpose of detecting illicit discharge. These inspection logs can be found attached in Appendix R.
- Street Sweeping: The Highway Director schedules street sweeping as necessary with a minimum of once every year. During the street sweeping operation the contractor is required to sign a Third-Party agreement that they are aware of the Village's Stormwater Management Program. The contractor is to notify the Highway Director of any suspect material that is removed during the sweeping operation. Sweeping logs are maintained by the Village Highway Director. A template log can be found attached in Appendix R. Once maintenance has been completed it shall be recorded in the log and stored with the Department for a period of no less than five years. This requirement is not applicable to:
    - Uncurbed roads with no catch basins
    - High-speed limited access highways
    - Roads defined as interstates, freeways and expressways, or arterials by the USDOT 2013

APPENDIX A
Chapter 85 of the Village Code: Erosion and Drainage

Chapter 85

EROSION AND DRAINAGE

ARTICLE I
Natural Protective Features

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§ 85-3. Applicability.
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Erosion Protection Structures

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§ 85-18. Slopes.
§ 85-19. Preservation of natural features.
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§ 85-21. Site planning and preparation.
§ 85-22. Runoff management.
§ 85-23. Fill.
§ 85-24. Pathways and accessways.
§ 85-25. Buffer adjoining wetlands and waterways.
§ 85-26. Removal of soil and earth materials.
§ 85-27. Enforcement.

ARTICLE IV
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§ 85-28. Title.
§ 85-29. Findings and purpose.
§ 85-30. Discharge of stormwater runoff.
§ 85-31. Construction requirements.
§ 85-32. Buffers.
§ 85-33. Site design.
§ 85-34. Permits and approvals.
§ 85-35. Notice to rectify conditions; penalty.

[HISTORY: Adopted by the Board of Trustees of the Village of Head-of-the-Harbor: Art. I, 1-14-1989 as L.L. No. 4-1989 ; Art. II, 1-14-1989 as L.L. No. 5-1989 ; Art. III, 1-14-1989 as L.L. No. 6-1989 ; Art. IV, 1-14-1989 as L.L. No. 8-1989 . Amendments noted where applicable.]

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HEAD-OF-THE-HARBOR CODE

GENERAL REFERENCES

Building construction — See Ch. 65.

Docks — See Ch. 73.

Environmental quality review — See Ch. 81.

Flood damage prevention — See Ch. 97.

Freshwater wetlands — See Ch. 101.

Subdivision of land — See Ch. 143.

Trees — See Ch. 149.

Zoning and land development — See Ch. 165.

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ARTICLE I
Natural Protective Features
[Adopted 1-14-1989 as L.L. No. 4-1989]

§ 85-1. Title.

This Article shall be known as the "Minimization of Erosion Risk of Natural Protective Features Law of the Village of Head-of-the-Harbor."

§ 85-2. Findings and purpose.

Beaches, dunes, bluffs and other natural protective features are safeguards for coastal lands. They help to protect human life and property from risks resulting from storms and flooding. Erosion of these protections may result from excavation of coastal features, from improperly designed waterfront structures, from inadequate site planning and from other actions undertaken in disregard of their fragile nature and great value. Actions and development in or in proximity to natural protective features must be undertaken in a manner which minimizes and mitigates any adverse effects to these features and ensures that they are neither destroyed nor substantially weakened.

§ 85-3. Applicability.

The following areas within the Village of Head-of-the-Harbor are designated as important natural protective features which shall be protected against disturbance, destruction or encroachment by development or any other incompatible land use activity:

A. Cordwood Path Beach (Town of Smithtown facility) on the western shore of Stony Brook Harbor at the boundary of the Villages of Head-of-the-Harbor and Nissequogue.

B. Bluffs adjacent to Stony Brook Harbor on the southern and eastern shores, extending to the confluence of the harbor and Stony Brook Creek at the grist mill in Stony Brook.

C. All beaches adjacent to Stony Brook Harbor.

§ 85-4. Beaches.

Because of the unsuitability of beaches for development and their vulnerability to erosion processes, no permanent structures may be erected on any beach within the Village of Head-of-the-Harbor for any purpose or use, and no grading, excavation or alteration of the natural slope of the beach shall be permitted.

§ 85-5. Bluffs.

Because bluffs are inherently fragile natural features subject to erosion, sloughing, weakening, slumping and eventual collapse from improper use, development, runoff and groundwater seepage, any grading, removal of vegetation, improper siting of buildings, paving or parking areas materially accelerate the risk of severe erosion damage. In the event of these dangers, the following restrictions and standards are required by this Article:

A. The impact upon a bluff from site disturbance shall be minimized by siting all structures at a minimum distance from the landward edge of the bluff to be determined by the erosional rate of the bluff and the amount of land required for the structure to remain unaffected for a period of 50 years. In no case shall any structure, including swimming pools, be located closer than 100 feet from the landward edge of a bluff.

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B. There shall be no land disturbance within the setback zone, including removal of vegetation, alteration of grade, alteration of surface soils, placement of temporary structures or similar activities.

C. Natural vegetation shall be retained to stabilize the bluff face and to disperse stormwater.

D. Stormwater from developed parts of the property shall be directed in such a manner that it does not flow across the surface of the land to the bluff face. No natural slope of land away from the bluff face shall be altered, and no overland flow of stormwater shall be allowed to reach the bluff face of an adjacent property.

E. Stormwater shall not be recharged in a quantity or a location from which surface runoff or subsurface water or groundwater flow will undermine the bluff face.

F. Impermeable paving shall be minimized, with trap rock and native gravel required for driveways, and for other outdoor surfaces, such suitable permeable paving as brick or flagstone on sand.

G. Roads and driveways shall be sited in such a manner that no stormwater from a road or driveway will reach the bluff face or the beach below.

H. Where ground cover has been disturbed, the area within 100 feet of the bluff face shall be replanted with native vegetation suitable for the location.

§ 85-6. Requirements for building permit.

No permit may be issued by the Building Inspector for any construction in the designated areas except upon submission by the applicant of an exact and detailed plan which meets with all restrictions and standards set forth in this Article.

§ 85-7. Review and approval of building permits. [Amended 4-15-2015 by L.L. No. 1-2015]

All building permits for construction in the designated areas must be approved by the Village Engineer and the Board of Architectural Review.

§ 85-8. Penalties for offenses.

Activities undertaken without the required permit and approvals shall be penalized as follows:

A. By restoration of the disturbed area to its previously existing natural condition, or as close an approximation to its natural condition as is practicable, which restoration shall include removal of any encroaching structures and revegetation of the area, where necessary; and

B. By a fine of $5,000 where unpermitted activities have resulted in bluff erosion, sloughing, any degree of bluff collapse or any flow of stormwater resulting from such activities which intrudes upon neighboring property or the beach below the bluff.

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ARTICLE II
Erosion Protection Structures
[Adopted 1-14-1989 as L.L. No. 5-1989]

§ 85-9. Title.

This Article shall be known as the "Erosion Protection Structures Law of the Village of Head-of-the-Harbor."

§ 85-10. Findings and purpose.

Erosion protection structures, if improperly designed or constructed, may be ineffective or even harmful to neighboring waterfront properties. They are to be encouraged only where they are likely to minimize or prevent damage or destruction to public or private property, to natural protective features and other natural resources. The purpose of this Article is to set forth the basic requirements for the construction of useful and successful erosion protection structures and the standards which must be met by such construction in the Village of Head-of-the-Harbor.

§ 85-11. Definitions.

The following definitions apply to the terms used in this Article:

EROSION — The loss or displacement of land along the coastline from the action of currents, waves, tides, wind-driven water, waterborne ice or other impacts of storms. "Erosion" also means the loss or displacement of land from the action of wind, runoff or surface water or groundwater seepage.

EROSION PROTECTION STRUCTURE — A structure specifically designed to reduce or prevent erosion, such as a groin, jetty, seawall, revetment, bulkhead, breakwater or project for artificial beach nourishment.

MODIFICATION — A change of any kind in size or design.

RECONSTRUCTION — The rebuilding of an erosion protection structure, the cost of which equals or exceeds 50% of the estimated full replacement cost of the structure.

§ 85-12. Standards.

The following requirements apply to all erosion protection structures constructed, reconstructed or modified:

A. All erosion protection structures must be designed and built according to generally accepted engineering principles which have demonstrated success or, in cases in which sufficient data is not currently available, show a reasonable likelihood of controlling long-term erosion. The proposed protective measures must have a reasonable probability of controlling erosion at the immediate site for a least 30 years.

B. A long-term maintenance program must be provided which includes specifications for normal maintenance of degradable materials and periodic replacement of removable materials.

C. Any bulkheading required which is adjacent to wetlands shall be located upland of the high marsh wetland boundary. Bulkheads and other erosion protection structures may not block the surface or subsurface flow of freshwater to the wetland. The yearly highest tide level shall be the minimum bulkhead location upland of a wetland.

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§ 85-13. Permits and approvals.

The following Village procedures must be followed in connection with the construction, reconstruction or modification of erosion protection structures:

A. All such construction requires a building permit. A design plan must be provided, with engineering data to indicate reasonable likelihood of success in long-term erosion control for a minimum of 30 years, which must be approved by the Village Engineer before the Building Inspector may issue a building permit.

B. The submitted plan must include a long-term maintenance program, including specifications for normal maintenance of degradable materials and periodic replacement of removable materials. This program must also be approved by the Village Engineer prior to the issuance of a building permit.

C. Because any erosion control structure may induce changes in natural coastal processes, such as shifts in tidal activity, silting or patterns of currents, and may have an impact upon wildlife habitats, the construction or modification of any such structure shall be regarded as a Type I action under the Village law providing for environmental quality review.[1] **[Amended 4-15-2015 by L.L. No. 1-2015]**

§ 85-14. Penalties for offenses.

As the damage to private and public properties adjacent to an improperly designed or constructed erosion protection structure is potentially great, the construction of such a structure without a permit issued under the foregoing standards and procedures shall be penalized as follows:

A. By removal of the structure and restoration of the area to its previous state;

B. By a fine of $1,000 where removal or restoration is not required; and

C. Where a fine has been imposed, by the alteration and modification of the unpermitted structure to conform to all standards and requirements set forth in this Article.

1. **Editor's Note: See Ch. 81, Environmental Quality Review.**

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ARTICLE III
Erosion and Flooding Prevention
[Adopted 1-14-1989 as L.L. No. 6-1989]

§ 85-15. Title.

This Article will be known as the "Erosion and Flooding Prevention Law of the Village of Head-of-the-Harbor."

§ 85-16. Findings and purpose.

Insufficient or improper measures for the control of erosion and flooding can result in aggravating the severity of natural processes, ultimately creating risk of damage to property and endangerment to human life. The use of inappropriate or incorrect means affecting drainage or littoral transport, stormwater runoff or displacement of unstable soils or otherwise bringing about adverse and destructive effects is to be avoided. The purpose of this Article is to provide standards and requirements for development and construction which will result in no measurable increase in erosion or flooding at the site of the activity or development or at other locations.

§ 85-17. Drainage.

Stream channels, natural floodplains and major drainage swales shall not be altered in any way to decrease the ability to accommodate and channel stormwater runoff and floodwaters.

A. In such areas no disturbance of land shall be permitted that will create such an alteration. "Disturbance of land" includes alteration of slope, deposition of waste materials and removal of vegetation.

B. If no practicable alternative exists to the location of driveways, walkways, paths or other means of access within these areas, such facilities shall be sited to minimize and mitigate the amount and velocity of stormwaters entering the swale.

§ 85-18. Slopes.

A. No slope of 25% or more shall in any circumstances be developed, nor shall it be disturbed except for conservation measures or to remove debris which inhibits the functioning of the drainage of the swale. Natural vegetation shall be retained.

B. Slopes of less than 25% but composed or erodible soils (e.g., Carver) require development proposals indicating load-bearing capacity of the soils. Unless the soils can be stabilized with a minimum of on-site disturbance and with no adverse impacts to the stability of neighboring properties, the development shall not be permitted.

§ 85-19. Preservation of natural features.

Development shall preserve major natural features of a site. Grading and cut-and-fill operations shall be minimized and shall conform to natural topography.

§ 85-20. Vegetation and trees.

Natural vegetation and trees shall be retained to the maximum practicable extent in order to reduce erosion

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potential.

§ 85-21. Site planning and preparation.

A. Natural drainage patterns shall be protected and incorporated into the site plan.

B. Site preparation, including stripping of vegetative cover and grading, shall be limited to 30 days prior to construction.

C. Soils disturbed in site preparation shall be stabilized by erosion protection measures such as temporary vegetation, retention ponds, recharge basins, berming, silt traps, mulching and the effective means of minimizing and mitigating sedimentation.

§ 85-22. Runoff management.

A. Stormwater runoff may not be diverted to another property during site preparation or after development.

B. The amount and velocity of runoff from a developed site shall not exceed predevelopment characteristics.

C. On any site adjacent to coastal waters, stormwater must be retained on-site to the maximum practicable extent in order to minimize runoff.

§ 85-23. Fill.

A. Fill shall not block natural watercourses, wetlands, floodways or constructed channels.

B. Fill shall be compacted at a final angle of repose that is stable, that minimizes erosion and that prevents settling.

§ 85-24. Pathways and accessways.

Walking paths or other accessways shall be sited in such a manner as to preclude their being a source of sediment to any adjacent or nearby waterbody.

§ 85-25. Buffer adjoining wetlands and waterways. [Amended 12-19-2001 by L.L. No. 2-2001]

A natural vegetative buffer of not less than 100 feet shall be retained adjacent to any surface water, stream or waterway or wetland.

§ 85-26. Removal of soil and earth materials.

A. Removal from a site under development of soil, sand, gravel or other earth materials shall be limited to the minimum necessary amount, which shall in no case approximate a commercial sand-, gravel- or earth-mining operation, whether temporary in character or otherwise, and which shall not result in the stripping from the site of topsoil.

B. Any removal of sand, gravel or earth materials from any site shall require a special permit issued by the Building Inspector. In connection with the subdivision of land, such a permit must be approved by the Planning Board. In connection with site development, the permit must be approved by the Board of Architectural Review. In either case the special permit shall also require the signed approval of the Village Engineer. **[Amended 4-15-2015 by L.L. No. 1-2015]**

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C. Removal of sand, gravel or earth materials from any site shall be considered a Type I action under Chapter 81, Environmental Quality Review, and shall be subject to all SEQRA procedures.

§ 85-27. Enforcement.

The provisions, standards and regulations set forth in this Article shall be incorporated into all permits and approvals with respect to land use and development issued by any agency of the Village of Head-of-the-Harbor empowered herein or elsewhere to grant such permissions. The requirements under this Article may be entered as restrictions, conditions or stipulations upon any permit or approval issued.

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ARTICLE IV
Drainage Quality Control
[Adopted 1-14-1989 by L.L. No. 8-1989]

§ 85-28. Title.

This Article shall be known as the "Drainage Quality Control Law of the Village of Head-of-the-Harbor."

§ 85-29. Findings and purpose.

Stormwater runoff and combined overflows which drain into Stony Brook Harbor contain pollutants and sediments which significantly affect the quality of the waters of the harbor. Conservation of high water quality and improvement of the quality of the harbor waters where contamination has occurred are major objectives of the Local Waterfront Revitalization Program entered into by the Village of Head-of-the-Harbor, jointly with the Village of Nissequogue, under the Coastal Management Program of the State of New York. The purpose of this Article is to establish measures to assist in controlling the entry of water contaminants into Stony Brook Harbor.

§ 85-30. Discharge of stormwater runoff.

A. No direct discharge of stormwater runoff to surface waters, marshes or wetlands is permitted.

B. Site development plans shall indicate measures to attenuate the outflow of stormwater pollutants, such as holding ponds, sedimentation basins, berming, vegetated buffer areas and other comparable means.

C. Any water discharged from control systems shall be of acceptable quality before it is permitted to enter wetlands or surface waters.

§ 85-31. Construction requirements.

A. During construction, all disposal of stormwater runoff shall be handled on site.

B. Soil erosion on site shall be contained by such measures as baling, mulching, use of fibrous cover materials, temporary vegetation, etc.

§ 85-32. Buffers.

All projects, regardless of the area of ground-cover removal and/or grading, shall retain a natural vegetative buffer zone along waterbodies, including wetlands and marshes, which will confine visible siltation to the 25% of the buffer nearest to the activity which disturbs the land.

§ 85-33. Site design.

A. Site designs shall minimize impermeable paving.

B. Site designs shall incorporate the use of natural land features, such as shallow depressions, whenever possible for the on-site collection of stormwater for recharge. In no circumstances shall such a feature be utilized if subsurface conditions cause a stagnant pool to develop.

§ 85-34. Permits and approvals.

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A. The provisions of this Article shall serve as guidelines for the Planning Board in its evaluation of proposals for the subdivision of land and to the Board of Architectural Review in its examination of site plans and of other proposals which are within its scope of consideration and approval. No approval may be granted by either agency which does not conform to the provisions of this Article.

B. Any proposed development or redevelopment of any land must be done, with respect to stormwater runoff and overflows, in a manner which conforms to the rules and regulations relating to drainage adopted by the Planning Board and the Board of Architectural Review.

C. The Village Engineer shall examine all drainage plans proposed for the development or redevelopment of land for conformity with the regulations, shall inspect the site during construction activities to ensure adherence to the regulations, the permit issued and the provisions of this Article and shall give final approval to the drainage control measures before a certificate of occupancy may be issued.

§ 85-35. Notice to rectify conditions; penalty.

Rectification of any condition which produces direct discharge of stormwater runoff to surface waters, marshes or wetlands from any land is required following notice from the Village Engineer to the responsible party of the condition. Rectification must be accomplished within a reasonable period of time, not in any case to exceed eight calendar months from the time of notice. Failure to provide adequate measures for runoff control by the end of the eight-month period may be penalized by the imposition of a fine of $50 per day.

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APPENDIX B
Chapter 165 of the Village Code, Article XX: Stormwater Management

ARTICLE XX
Stormwater Management
[Added 5-16-2007 by L.L. No. 3-2007[1]]

§ 165-114. Stormwater pollution prevention plan required.

No application for approval of a land development activity shall be reviewed until the appropriate board has received a stormwater pollution prevention plan (SWPPP) prepared in accordance with the specifications in this article.

§ 165-115. Contents of stormwater pollution prevention plans.

All SWPPPs shall provide the following background information and erosion and sediment controls:

A. Background information about the scope of the project, including location, type and size of project.

B. Site map/construction drawing(s) (using a scale of one inch equal to 100 feet) for the project, including a general location map. At a minimum, the site map should show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); wetlands and drainage patterns that could be affected by the construction activity; existing and final slopes; locations of off-site material, waste, borrow or equipment storage areas; and location(s) of the stormwater discharges(s);

C. Description of the soil(s) present at the site;

D. Construction phasing plan describing the intended sequence of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance. Not more than one acre shall be disturbed at any one time unless pursuant to an approved SWPPP;

E. Description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a pollutant source in stormwater runoff;

F. Description of construction and waste materials expected to be stored on site, with updates as appropriate, and a description of controls to reduce pollutants from these materials, including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response;

G. Temporary and permanent structural and vegetative measures to be used for soil stabilization, runoff control and sediment control for each stage of the project from initial land clearing and grubbing to project closeout;

H. A site map/construction drawing(s) specifying the location(s), size(s) and length(s) of each erosion and sediment control practice;

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1. **Editor's Note: Article 1 of this article also provided findings of fact, purpose, statutory authority, applicability, and exemptions. For these provisions, see the original copy of the law on file in the Village offices.**

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I. Dimensions, material specifications and installation details for all erosion and sediment control practices, including the siting and sizing of any temporary sediment basins;

J. Temporary practices that will be converted to permanent control measures;

K. Implementation schedule for staging temporary erosion and sediment control practices, including the timing of initial placement and duration that each practice should remain in place;

L. Maintenance schedule to ensure continuous and effective operation of the erosion and sediment control practice;

M. Name(s) of the receiving water(s);

N. Delineation of SWPPP implementation responsibilities for each part of the site;

O. Description of structural practices designed to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable; and

P. Any existing data that describes the stormwater runoff at the site.

Q. Land development activities meeting Condition A, B or C below shall also include water quantity and water quality controls (postconstruction stormwater runoff controls) as set forth in Subsection R below as applicable:

(1) Condition A: stormwater runoff from land development activities discharging a pollutant of concern to either an impaired water identified on the Department's 303(d) list of impaired waters or a total maximum daily load (TMDL) designated watershed for which pollutants in stormwater have been identified as a source of the impairment.

(2) Condition B: stormwater runoff from land development activities disturbing one or more acres.

(3) Condition C: stormwater runoff from land development activity disturbing between one and five acres of land during the course of the project, exclusive of the construction of single-family residences and construction activities at agricultural properties.

R. SWPPP requirements for Conditions A, B and C:

(1) All information in § 165-115A to P above.

(2) Description of each postconstruction stormwater management practice.

(3) Site map/construction drawing(s) showing the specific location(s) and size(s) of each postconstruction stormwater management practice.

(4) Hydrologic and hydraulic analysis for all structural components of the stormwater management system for the applicable design storms.

(5) Comparison of postdevelopment stormwater runoff conditions with predevelopment conditions.

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(6) Dimensions, material specifications and installation details for each postconstruction stormwater management practice.

(7) Maintenance schedule to ensure continuous and effective operation of each postconstruction stormwater management practice.

(8) Maintenance easements to ensure access to all stormwater management practices at the site for the purpose of inspection and repair. Easements shall be recorded on the plan and shall remain in effect with transfer of title to the property.

(9) Inspection and maintenance agreement binding on all subsequent landowners served by the on-site stormwater management measures in accordance with § 165-120 below.[2]

(10) For Condition A, the SWPPP shall be prepared by a landscape architect, certified professional or professional engineer and must be signed by the professional preparing the plan, who shall certify that the design of all stormwater management practices meet the requirements in this article.

§ 165-116. Other environmental permits.

The applicant shall assure that all other applicable environmental permits have been or will be acquired for the land development activity prior to approval of the final stormwater design plan.

§ 165-117. Contractor certification.

A. Each contractor and subcontractor identified in the SWPPP who will be involved in soil disturbance and/or stormwater management practice installation shall sign and date a copy of the following certification statement before undertaking any land development activity: "I certify under penalty of law that I understand and agree to comply with the terms and conditions of the stormwater pollution prevention plan. I also understand that it is unlawful for any person to cause or contribute to a violation of water quality standards."

B. The certification must include the name and title of the person providing the signature, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification is made.

C. The certification statement(s) shall become part of the SWPPP for the land development activity.

§ 165-118. Copy of SWPPP to be retained at site.

A copy of the SWPPP shall be retained at the site of the land development activity during construction from the date of initiation of construction activities to the date of final stabilization.

§ 165-119. Performance and design criteria.

All land development activities shall be subject to the following performance and design criteria:

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2. Editor's Note: For maintenance agreements, see § 165-123.

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A. Technical standards. For the purpose of this article, the following documents shall serve as the official guides and specifications for stormwater management. Stormwater management practices that are designed and constructed in accordance with these technical documents shall be presumed to meet the standards imposed by this article:

(1) The New York State Stormwater Management Design Manual (New York State Department of Environmental Conservation, most current version or its successor, hereafter referred to as the "Design Manual").

(2) New York Standards and Specifications for Erosion and Sediment Control (Empire State Chapter of the Soil and Water Conservation Society, 2004, most current version or its successor, hereafter referred to as the "Erosion Control Manual").

B. Equivalence to technical standards. Where stormwater management practices are not in accordance with technical standards, the applicant or developer must demonstrate equivalence to the above technical standards, and the SWPPP shall be prepared by a licensed professional.

C. Water quality standards. Any land development activity shall not cause an increase in turbidity that will result in substantial visible contrast to natural conditions in surface waters of the State of New York.

§ 165-120. Maintenance and inspection during construction.

A. The applicant or developer of the land development activity or its representative shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the applicant or developer to achieve compliance with the conditions of this article. Sediment shall be removed from sediment traps or sediment ponds whenever their design capacity has been reduced by 50%.

B. For land development activities meeting Condition A, B or C in § 165-115Q above, the applicant shall have a qualified professional conduct site inspections and document the effectiveness of all erosion and sediment control practices every seven days and within 24 hours of any storm event producing 0.5 inch of precipitation or more. Inspection reports shall be maintained in a site logbook.

C. The applicant or developer or its representative shall be on site at all times when construction or grading activity takes place and shall inspect and document the effectiveness of all erosion and sediment control practices.

§ 165-121. Maintenance easement(s).

Prior to the issuance of any approval that has a stormwater management facility as one of the requirements, the applicant or developer must execute a maintenance easement agreement that shall be binding on all subsequent landowners served by the stormwater management facility. The easement shall provide for access to the facility at reasonable times for periodic inspection by the Village of Head-of-the-Harbor to ensure that the facility is maintained in proper working condition to meet design standards and any other provisions established by this article. The easement shall be recorded by the grantor in the office of the County Clerk after approval by the

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Village Attorney for the Village of Head-of-the-Harbor.

§ 165-122. Maintenance after construction.

The owner or operator of permanent stormwater management practices installed in accordance with this article shall ensure they are operated and maintained to achieve the goals of this article. Proper operation and maintenance also includes, as a minimum, the following:

A. A preventive/corrective maintenance program for all critical facilities and systems of treatment and control (or related appurtenances) which are installed or used by the owner or operator to achieve the goals of this article.

B. Written procedures for operation and maintenance and training new maintenance personnel.

C. Discharges from the SMPs shall not exceed design criteria or cause or contribute to water quality standard violations in accordance with Section § 165-119C.

§ 165-123. Maintenance agreements.

The Village of Head-of-the-Harbor shall approve a formal maintenance agreement for stormwater management facilities binding on all subsequent landowners and recorded in the office of the County Clerk as a deed restriction on the property prior to final plan approval. The maintenance agreement shall be consistent with the terms and conditions of Schedule B of this article entitled "Sample Stormwater Control Facility Maintenance Agreement."[3] The Village of Head-of-the-Harbor, in lieu of a maintenance agreement, at its sole discretion, may accept dedication of any existing or future stormwater management facility, provided such facility meets all the requirements of this article and includes adequate and perpetual access and sufficient area, by easement or otherwise, for inspection and regular maintenance.

§ 165-124. Erosion and sediment control inspection.

A. The Village of Head-of-the-Harbor Stormwater Management Officer may require such inspections as necessary to determine compliance with this article and may either approve that portion of the work completed or notify the applicant wherein the work fails to comply with the requirements of this article and the stormwater pollution prevention plan (SWPPP) as approved. To obtain inspections, the applicant shall notify the Village of Head-of-the-Harbor enforcement official at least 48 hours before any of the following as required by the Stormwater Management Officer:

   (1) Start of construction.

   (2) Installation of sediment and erosion control measures.

   (3) Completion of site clearing.

   (4) Completion of rough grading.

   (5) Completion of final grading.

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3. **Editor's Note: Schedule B is on file in the Village offices.**

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(6) Close of the construction season.

(7) Completion of final landscaping.

(8) Successful establishment of landscaping in public areas.

B. If any violations are found, the applicant and the developer shall be notified in writing of the nature of the violation and the required corrective actions. No further work shall be conducted except for site stabilization until any violations are corrected and all work previously completed has received approval by the Stormwater Management Officer.

§ 165-125. Stormwater management practice inspections.

The Village of Head-of-the-Harbor Stormwater Management Officer is responsible for conducting inspections of stormwater management practices (SMPs). All applicants are required to submit as-built plans for any stormwater management practices located on site after final construction is completed. The plan must show the final design specifications for all stormwater management facilities and must be certified by a professional engineer.

§ 165-126. Inspection of stormwater facilities after project completion.

Inspection programs shall be established on any reasonable basis, including but not limited to routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher-than-typical sources of sediment or other contaminants or pollutants; inspections of businesses or industries of a type associated with higher than usual discharges of contaminants or pollutants or with discharges of a type which are more likely than the typical discharge to cause violations of state or federal water or sediment quality standards or the SPDES stormwater permit; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to, reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in drainage control facilities; and evaluating the condition of drainage control facilities and other stormwater management practices.

§ 165-127. Submission of reports.

The Village of Head-of-the-Harbor Stormwater Management Officer may require monitoring and reporting from entities subject to this article as are necessary to determine compliance with this article.

§ 165-128. Right of entry for inspection.

When any new stormwater management facility is installed on private property or when any new connection is made between private property and the public stormwater system, the landowner shall grant to the Village of Head-of-the-Harbor the right to enter the property at reasonable times and in a reasonable manner for the purpose of inspection as specified in § 165-126.

§ 165-129. Construction completion guarantee.

In order to ensure the full and faithful completion of all land development activities related to

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compliance with all conditions set forth by the Village of Head-of-the-Harbor in its approval of the stormwater pollution prevention plan, the Village of Head-of-the-Harbor may require the applicant or developer to provide, prior to construction, a performance bond, cash escrow, or irrevocable letter of credit from an appropriate financial or surety institution which guarantees satisfactory completion of the project and names the Village of Head-of-the-Harbor as the beneficiary. The security shall be in an amount to be determined by the Village of Head-of-the-Harbor based on submission of final design plans, with reference to actual construction and landscaping costs. The performance guarantee shall remain in force until the surety is released from liability by the Village of Head-of-the-Harbor, provided that such period shall not be less than one year from the date of final acceptance or such other certification that the facility(ies) has(have) been constructed in accordance with the approved plans and specifications and that a one-year inspection has been conducted and the facilities have been found to be acceptable to the Village of Head-of-the-Harbor. Per annum interest on cash escrow deposits shall be reinvested in the account until the surety is released from liability.

§ 165-130. Maintenance guarantee.

Where stormwater management and erosion and sediment control facilities are to be operated and maintained by the developer or by a corporation that owns or manages a commercial or industrial facility, the developer, prior to construction, may be required to provide the Village of Head-of-the-Harbor with an irrevocable letter of credit from an approved financial institution or surety with a principal place of business in the Town of Smithtown or Town of Brookhaven to ensure proper operation and maintenance of all stormwater management and erosion control facilities both during and after construction and until the facilities are removed from operation. If the developer or landowner fails to properly operate and maintain stormwater management and erosion and sediment control facilities, the Village of Head-of-the-Harbor may draw upon the account to cover the costs of proper operation and maintenance, including engineering and inspection costs.

§ 165-131. Recordkeeping.

The Village of Head-of-the-Harbor may require entities subject to this article to maintain records demonstrating compliance with this article.

§ 165-132. Notice of violation.

When the Village of Head-of-the-Harbor determines that a land development activity is not being carried out in accordance with the requirements of this article, it may issue a written notice of violation to the landowner. The notice of violation shall contain:

A. The name and address of the landowner, developer or applicant.

B. The address, when available, or a description of the building, structure or land upon which the violation is occurring.

C. A statement specifying the nature of the violation.

D. A description of the remedial measures necessary to bring the land development activity into compliance with this article, and a time schedule for the completion of such remedial action.

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E. A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed.

F. A statement that the determination of violation may be appealed to the municipality by filing a written notice of appeal within 15 days of service of notice of violation.

§ 165-133. Stop-work orders.

The Village of Head-of-the-Harbor may issue a stop-work order for violations of this article. Persons receiving a stop-work order shall be required to halt all land development activities, except those activities that address the violations leading to the stop-work order. The stop-work order shall be in effect until the Village of Head-of-the-Harbor confirms that the land development activity is in compliance and the violation has been satisfactorily addressed. Failure to address a stop-work order in a timely manner may result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this article.

§ 165-134. Injunction.

Any land development activity that is commenced or is conducted contrary to this article may be restrained by injunction or otherwise abated in a manner provided by law.

§ 165-135. Penalties for offenses.

In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of this article shall be guilty of a violation punishable by a fine not exceeding $350 or imprisonment for a period not to exceed six months, or both, for conviction of a first offense; for conviction of a second offense, both of which were committed within a period of five years, punishable by a fine not less than $350 nor more than $700 or imprisonment for a period not to exceed six months, or both; and upon conviction for a third or subsequent offense, all of which were committed within a period of five years, punishable by a fine not less than $700 nor more than $1,000 or imprisonment for a period not to exceed six months, or both. However, for the purposes of conferring jurisdiction upon courts and judicial officers generally, violations of this article shall be deemed misdemeanors, and for such purpose only, all provisions of law relating to misdemeanors shall apply to such violations. Each week's continued violation shall constitute a separate additional violation.

§ 165-136. Withholding of certificate of occupancy.

If any building or land development activity is installed or conducted in violation of this article, the Stormwater Management Officer may prevent the occupancy of said building or land.

§ 165-137. Restoration of lands.

Any violator may be required to restore land to its undisturbed condition. In the event that restoration is not undertaken within a reasonable time after notice, the Village of Head-of-the-Harbor may take necessary corrective action, the cost of which shall become a lien upon the property until paid.

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§ 165-138. Fees for services.

The Village of Head-of-the-Harbor may require any person undertaking land development activities regulated by this article to pay reasonable costs at prevailing rates for review of SWPPPs, inspections, or SMP maintenance performed by the Village of Head-of-the-Harbor or performed by a third party for the Village of Head-of-the-Harbor.

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APPENDIX C
Chapter 166 of the Village Code: Illicit Discharges to Storm Sewers

Chapter 166

ILLICIT DISCHARGES TO STORM SEWERS

§ 166-1.	Purpose; intent.
§ 166-2.	Definitions.
§ 166-3.	Applicability.
§ 166-4.	Responsibility for administration.
§ 166-5.	Discharge prohibitions.
§ 166-6.	Prohibition against failing individual sewage treatment systems.
§ 166-7.	Prohibition against activities contaminating stormwater.
§ 166-8.	Prevention, control, and reduction of stormwater pollutants by use of best management practices.
§ 166-9.	Suspension of access to MS4; illicit discharges in emergency situations.
§ 166-10.	Industrial or construction activity discharges.
§ 166-11.	Access and monitoring of discharges.
§ 166-12.	Notification of spills.
§ 166-13.	Enforcement; penalties for offenses.
§ 166-14.	Appeal of notice of violation.
§ 166-15.	Corrective measures after appeal.
§ 166-16.	Injunctive relief.
§ 166-17.	Alternative remedies.
§ 166-18.	Violations deemed a public nuisance.
§ 166-19.	Remedies not exclusive.

[HISTORY: Adopted by the Board of Trustees of the Village of Head-of-the-Harbor 5-16-2007 by L.L. No. 4-2007 . Amendments noted where applicable.]

GENERAL REFERENCES

Building construction — See Ch. 65.

Environmental quality review — See Ch. 81.

Erosion and drainage — See Ch. 85.

Solid waste — See Ch. 136.

Subdivision of land — See Ch. 143.

Zoning and land development — See Ch. 165.

§ 166-1. Purpose; intent.

The purpose of this chapter is to provide for the health, safety, and general welfare of the citizens of the Village of Head-of-the-Harbor through the regulation of nonstormwater discharges to the municipal separate storm sewer system (MS4) to the maximum extent practicable as required by federal and state law. This chapter establishes methods for controlling the introduction of pollutants into the MS4 in order to comply with requirements of the SPDES general permit for municipal separate storm sewer systems. The objectives of this chapter are:

A. To meet the requirements of the SPDES general permit for stormwater discharges from MS4s, Permit No. GP-02-02 or as amended or revised;

B. To regulate the contribution of pollutants to the MS4 since such systems are not designed to accept,

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process or discharge nonstormwater wastes;

C. To prohibit illicit connections, activities and discharges to the MS4;

D. To establish legal authority to carry out all inspection, surveillance and monitoring procedures necessary to ensure compliance with this chapter; and

E. To promote public awareness of the hazards involved in the improper discharge of trash, yard waste, lawn chemicals, pet waste, wastewater, grease, oil, petroleum products, cleaning products, paint products, hazardous waste, sediment and other pollutants into the MS4.

§ 166-2. Definitions.

Whenever used in this chapter, unless a different meaning is stated in a definition applicable to only a portion of this chapter, the following terms will have meanings set forth below:

BEST MANAGEMENT PRACTICES (BMPS) — Schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

CLEAN WATER ACT — The Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.) and any subsequent amendments thereto.

CONSTRUCTION ACTIVITY — Activities requiring authorization under the SPDES permit for stormwater discharges from construction activity, GP-02-01, as amended or revised. These activities include construction projects resulting in land disturbance of one or more acres. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

DEPARTMENT — The New York State Department of Environmental Conservation.

DESIGN PROFESSIONAL — A New York State licensed professional engineer or licensed architect.

HAZARDOUS MATERIALS — Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

ILLICIT CONNECTIONS — Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the MS4, including but not limited to:

A. Any conveyances which allow any nonstormwater discharge including treated or untreated sewage, process wastewater, and wash water to enter the MS4 and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency; or

B. Any drain or conveyance connected from a commercial or industrial land use to the MS4 which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

ILLICIT DISCHARGE — Any direct or indirect nonstormwater discharge to the MS4, except as exempted in § 166-5 of this chapter.

INDIVIDUAL SEWAGE TREATMENT SYSTEM — A facility serving one or more parcels of land or

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residential households, or a private, commercial or institutional facility, that treats sewage or other liquid wastes for discharge into the groundwaters of New York State, except where a permit for such a facility is required under the applicable provisions of Article 17 of the Environmental Conservation Law.

INDUSTRIAL ACTIVITY — Activities requiring the SPDES permit for discharges from industrial activities except construction, GP-98-03, as amended or revised.

MS4 — Municipal separate storm sewer system.

MUNICIPALITY — The Village of Head-of-the-Harbor.

MUNICIPAL SEPARATE STORM SEWER SYSTEM — A conveyance or system of conveyances, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains:

A. Owned or operated by the Village of Head-of-the-Harbor;

B. Designed or used for collecting or conveying stormwater;

C. Which is not a combined sewer; and

D. Which is not part of a publicly owned treatment works (POTW) as defined at 40 CFR 122.2.

NONSTORMWATER DISCHARGE — Any discharge to the MS4 that is not composed entirely of stormwater.

PERSON — Any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner or as the owner's agent.

POLLUTANT — Dredged spoil, filter backwash, solid waste, incinerator residue, treated or untreated sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards.

PREMISES — Any building, lot, parcel of land, or portion of land, whether improved or unimproved, including adjacent sidewalks and parking strips.

SPECIAL CONDITIONS —

A. Discharge compliance with water quality standards: the condition that applies where a municipality has been notified that the discharge of stormwater authorized under its MS4 permit may have caused or has the reasonable potential to cause or contribute to the violation of an applicable water quality standard. Under this condition the municipality must take all necessary actions to ensure future discharges do not cause or contribute to a violation of water quality standards.

B. Section 303 (d)-listed waters: the condition in the municipality's MS4 permit that applies where the MS4 discharges to a 303(d)-listed water. Under this condition the stormwater management program must ensure no increase of the listed pollutant of concern to the 303(d)-listed water.

C. Total maximum daily load (TMDL) strategy: the condition in the municipality's MS4 permit where a TMDL including requirements for control of stormwater discharges has been approved by EPA for a water-body or watershed into which the MS4 discharges. If the discharge from the MS4 did not meet the TMDL stormwater allocations prior to September 10, 2003, the municipality was required to modify its stormwater management program to ensure that reduction of the pollutant of concern specified in the TMDL is achieved.

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D. The condition in the municipality's MS4 permit that applies if a TMDL is approved in the future by EPA for any water-body or watershed into which an MS4 discharges. Under this condition the municipality must review the applicable TMDL to see if it includes requirements for control of stormwater discharges. If an MS4 is not meeting the TMDL stormwater allocations, the municipality must, within six months of the TMDL's approval, modify its stormwater management program to ensure that reduction of the pollutant of concern specified in the TMDL is achieved.

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM (SPDES) STORMWATER DISCHARGE PERMIT — A permit issued by the Department that authorizes the discharge of pollutants to waters of the state.

STORMWATER — Rainwater, surface runoff, snowmelt and drainage.

STORMWATER MANAGEMENT OFFICER (SMO) — An employee, the Municipal Engineer or other public official(s) designated by the Village of Head-of-the-Harbor to enforce this chapter. The SMO may also be designated by the municipality to accept and review stormwater pollution prevention plans, forward the plans to the applicable municipal board and inspect stormwater management practices.

303(d) LIST — A list of all surface waters in the state for which beneficial uses of the water (drinking, recreation, aquatic habitat, and industrial use) are impaired by pollutants, prepared periodically by the Department as required by Section 303(d) of the Clean Water Act. Section 303(d)-listed waters are estuaries, lakes and streams that fall short of state surface water quality standards and are not expected to improve within the next two years.

TMDL — Total maximum daily load.

TOTAL MAXIMUM DAILY LOAD — The maximum amount of a pollutant to be allowed to be released into a water body so as not to impair uses of the water, allocated among the sources of that pollutant.

WASTEWATER — Water that is not stormwater, is contaminated with pollutants and is or will be discarded.

§ 166-3. Applicability.

This chapter shall apply to all water entering the MS4 generated on any developed and undeveloped lands unless explicitly exempted by an authorized enforcement agency.

§ 166-4. Responsibility for administration.

The Stormwater Management Officer(s) [SMO(s)] shall administer, implement, and enforce the provisions of this chapter. Such powers granted or duties imposed upon the authorized enforcement official may be delegated in writing by the SMO as may be authorized by the municipality.

§ 166-5. Discharge prohibitions.

A. Prohibition of illegal discharges. No person shall discharge or cause to be discharged into the MS4 any materials other than stormwater except as provided in Subsection A(1). The commencement, conduct or continuance of any illegal discharge to the MS4 is prohibited, except as described as follows:

(1) The following discharges are exempt from discharge prohibitions established by this chapter, unless the Department or the municipality has determined them to be substantial contributors of pollutants: water line flushing or other potable water sources, landscape irrigation or lawn watering, existing diverted stream flows, rising groundwater, uncontaminated groundwater

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infiltration to storm drains, uncontaminated pumped groundwater, foundation or footing drains, crawl space or basement sump pumps, air-conditioning condensate, irrigation water, springs, water from individual residential car washing, natural riparian habitat or wetland flows, dechlorinated swimming pool discharges, residential street wash water, water from fire-fighting activities, and any other water source not containing pollutants. Such exempt discharges shall be made in accordance with an appropriate plan for reducing pollutants.

(2) Discharges approved in writing by the SMO to protect life or property from imminent harm or damage, provided that such approval shall not be construed to constitute compliance with other applicable laws and requirements, and further provided that such discharges may be permitted for a specified time period and under such conditions as the SMO may deem appropriate to protect such life and property while reasonably maintaining the purpose and intent of this chapter.

(3) Dye testing in compliance with applicable state and local laws is an allowable discharge but requires a verbal notification to the SMO prior to the time of the test.

(4) The prohibition shall not apply to any discharge permitted under an SPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Department, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the MS4.

B. Prohibition of illicit connections.

(1) The construction, use, maintenance or continued existence of illicit connections to the MS4 is prohibited.

(2) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

(3) A person is considered to be in violation of this chapter if the person connects a line conveying sewage to the municipality's MS4 or allows such a connection to continue.

§ 166-6. Prohibition against failing individual sewage treatment systems.

No persons shall operate a failing individual sewage treatment system in areas tributary to the municipality's MS4. A failing individual sewage treatment system is one which has one or more of the following conditions:

A. The backup of sewage into a structure.

B. Discharges of treated or untreated sewage onto the ground surface.

C. A connection or connections to a separate stormwater sewer system.

D. Liquid level in the septic tank above the outlet invert.

E. Structural failure of any component of the individual sewage treatment system that could lead to any of the other failure conditions as noted in this section.

F. Contamination of off-site groundwater.

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§ 166-7. Prohibition against activities contaminating stormwater.

A. Activities that are subject to the requirements of this section are those types of activities that:

(1) Cause or contribute to a violation of the municipality's MS4 SPDES permit.

(2) Cause or contribute to the municipality being subject to the special conditions as defined in § 166-2, Definitions, of this chapter.

B. Such activities include failing individual sewage treatment systems as defined in § 166-6, improper management of pet waste or any other activity that causes or contributes to violations of the municipality's MS4 SPDES permit authorization.

C. Upon notification to a person that he or she is engaged in activities that cause or contribute to violations of the municipality's MS4 SPDES permit authorization, that person shall take all reasonable actions to correct such activities such that he or she no longer causes or contributes to violations of the municipality's MS4 SPDES permit authorization.

§ 166-8. Prevention, control, and reduction of stormwater pollutants by use of best management practices.

A. Best management practices. Where the SMO has identified illicit discharges as defined in § 166-2 or activities contaminating stormwater as defined in § 166-7, the municipality may require implementation of best management practices (BMPs) to control those illicit discharges and activities.

(1) The owner or operator of a commercial or industrial establishment shall provide, at its own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the MS4 through the use of structural and nonstructural BMPs.

(2) Any person responsible for a property or premises which is, or may be, the source of an illicit discharge as defined in § 166-2 or an activity contaminating stormwater as defined in § 166-7 may be required to implement, at said person's expense, additional structural and nonstructural BMPs to reduce or eliminate the source of pollutant(s) to the MS4.

(3) Compliance with all terms and conditions of a valid SPDES permit authorizing the discharge of stormwater associated with industrial activity, to the extent practicable, shall be deemed compliance with the provisions of this section.

B. Individual sewage treatment systems: response to special conditions requiring no increase of pollutants or requiring a reduction of pollutants. Where individual sewage treatment systems are contributing to the municipality's being subject to the special conditions as defined in § 166-2 of this chapter, the owner or operator of such individual sewage treatment systems shall be required to:

(1) Maintain and operate individual sewage treatment systems as follows:

(a) Inspect the septic tank annually to determine scum and sludge accumulation. Septic tanks must be pumped out whenever the bottom of the scum layer is within three inches of the bottom of the outlet baffle or sanitary tee or the top of the sludge is within 10 inches of the bottom of the outlet baffle or sanitary tee.

(b) Avoid the use of septic tank additives.

(c) Avoid the disposal of excessive quantities of detergents, kitchen wastes, laundry wastes,

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and household chemicals; and

(d) Avoid the disposal of cigarette butts, disposable diapers, sanitary napkins, trash and other such items.

(e) Most tanks should be pumped out every two to three years. However, pumping may be more or less frequent depending on use. Inspection of the tank for cracks, leaks and blockages should be done by the septage hauler at the time of pumping of the tank contents.

(2) Repair or replace individual sewage treatment systems as follows:

(a) In accordance with 10 NYCRR Appendix 75A to the maximum extent practicable.

(b) A design professional licensed to practice in New York State shall prepare design plans for any type of absorption field that involves:

[1] Relocating or extending an absorption area to a location not previously approved for such.

[2] Installation of a new subsurface treatment system at the same location.

[3] Use of alternate system or innovative system design or technology.

(c) A written certificate of compliance shall be submitted by the design professional to the municipality at the completion of construction of the repair or replacement system.

§ 166-9. Suspension of access to MS4; illicit discharges in emergency situations.

A. The SMO may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge which presents or may present imminent and substantial danger to the environment, to the health or welfare of persons, or to the MS4. The SMO shall notify the person of such suspension within a reasonable time thereafter, in writing, of the reasons for the suspension. If the violator fails to comply with a suspension order issued in an emergency, the SMO may take such steps as deemed necessary to prevent or minimize damage to the MS4 or to minimize danger to persons.

B. Suspension due to the detection of illicit discharge. Any person discharging to the municipality's MS4 in violation of this chapter may have its MS4 access terminated if such termination would abate or reduce an illicit discharge. The SMO will notify a violator in writing of the proposed termination of its MS4 access and the reasons therefor. The violator may petition the SMO for a reconsideration and hearing. Access may be granted by the SMO if he/she finds that the illicit discharge has ceased and the discharger has taken steps to prevent its recurrence. Access may be denied if the SMO determines in writing that the illicit discharge has not ceased or is likely to recur. A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to this section without the prior approval of the SMO.

§ 166-10. Industrial or construction activity discharges.

Any person subject to an industrial or construction activity SPDES stormwater discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the municipality prior to the allowing of discharges to the MS4.

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§ 166-11. Access and monitoring of discharges.

A. Applicability. This section applies to all facilities that the SMO must inspect to enforce any provision of this chapter or whenever the authorized enforcement agency has cause to believe that there exists, or potentially exists, in or upon any premises, any condition which constitutes a violation of this chapter.

B. Access to facilities.

(1) The SMO shall be permitted to enter and inspect facilities subject to regulation under this chapter as often as may be necessary to determine compliance with this chapter. If a discharger has security measures in force which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to the SMO.

(2) Facility operators shall allow the SMO ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records as may be required to implement this chapter.

(3) The municipality shall have the right to set up on any facility subject to this chapter such devices as are necessary in the opinion of the SMO to conduct monitoring and/or sampling of the facility's stormwater discharge.

(4) The municipality has the right to require the facilities subject to this chapter to install monitoring equipment as is reasonably necessary to determine compliance with this chapter. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the discharger at its own expense. All devices used to measure stormwater flow and quality shall be calibrated to ensure their accuracy.

(5) Unreasonable delays in allowing the municipality access to a facility subject to this chapter is a violation of this chapter. A person who is the operator of a facility subject to this chapter commits an offense if the person denies the municipality reasonable access to the facility for the purpose of conducting any activity authorized or required by this chapter.

(6) If the SMO has been refused access to any part of the premises from which stormwater is discharged and he/she is able to demonstrate probable cause to believe that there may be a violation of this chapter or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this chapter or any order issued hereunder, then the SMO may seek issuance of a search warrant from any court of competent jurisdiction.

§ 166-12. Notification of spills.

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation, has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into the MS4, said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials, said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of nonhazardous materials, said person shall notify the municipality in person or by telephone or facsimile no later than the next business day. Notifications in person or by telephone shall be confirmed by written notice addressed and mailed to the municipality within three business days of the telephone notice. If the

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discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

§ 166-13. Enforcement; penalties for offenses.

A. Notice of violation.

(1) When the municipality's SMO finds that a person has violated a prohibition or failed to meet a requirement of this chapter, he/she may order compliance by written notice of violation to the responsible person. Such notice may require, without limitation:

(a) The elimination of illicit connections or discharges;

(b) That violating discharges, practices, or operations shall cease and desist;

(c) The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;

(d) The performance of monitoring, analyses, and reporting;

(e) Payment of a fine; and

(f) The implementation of source control or treatment BMPs.

(2) If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that should the violator fail to remediate or restore within the established deadline, the work will be done by a designated governmental agency or a contractor and the expense thereof shall be charged to the violator.

B. Penalties. In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of this chapter shall be guilty of a violation punishable by a fine not exceeding $350 or imprisonment for a period not to exceed six months, or both, for conviction of a first offense; for conviction of a second offense, both of which were committed within a period of five years, punishable by a fine not less than $350 nor more than $700 or imprisonment for a period not to exceed six months, or both; and upon conviction for a third or subsequent offense, all of which were committed within a period of five years, punishable by a fine not less than $700 nor more than $1,000 or imprisonment for a period not to exceed six months, or both. However, for the purposes of conferring jurisdiction upon courts and judicial officers generally, violations of this chapter shall be deemed misdemeanors, and for such purpose only, all provisions of law relating to misdemeanors shall apply to such violations. Each week's continued violation shall constitute a separate additional violation.

§ 166-14. Appeal of notice of violation.

Any person receiving a notice of violation may appeal the determination of the SMO to the Village Board of Trustees within 15 days of its issuance, which shall hear the appeal within 30 days after the filing of the appeal, and, within five days of making its decision, file its decision in the office of the Municipal Clerk and mail a copy of its decision by certified mail to the discharger.

§ 166-15. Corrective measures after appeal.

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A. If the violation has not been corrected pursuant to the requirements set forth in the notice of violation or, in the event of an appeal, within five business days of the decision of the municipal authority upholding the decision of the SMO, then the SMO shall request the owner's permission for access to the subject private property to take any and all measures reasonably necessary to abate the violation and/or restore the property.

B. If refused access to the subject private property, the SMO may seek a warrant in a court of competent jurisdiction to be authorized to enter upon the property to determine whether a violation has occurred. Upon determination that a violation has occurred, the SMO may seek a court order to take any and all measures reasonably necessary to abate the violation and/or restore the property. The cost of implementing and maintaining such measures shall be the sole responsibility of the discharger.

§ 166-16. Injunctive relief.

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this chapter. If a person has violated or continues to violate the provisions of this chapter, the SMO may petition for a preliminary or permanent injunction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

§ 166-17. Alternative remedies.

A. Where a person has violated a provision of this chapter, he/she may be eligible for alternative remedies in lieu of a civil penalty, upon recommendation of the Municipal Attorney and concurrence of the Municipal Code Enforcement Officer, where:

   (1) The violation was unintentional.

   (2) The violator has no history of previous violations of this chapter.

   (3) Environmental damage was minimal.

   (4) The violator acted quickly to remedy the violation.

   (5) The violator cooperated in investigation and resolution.

B. Alternative remedies may consist of one or more of the following:

   (1) Attendance at compliance workshops.

   (2) Storm drain stenciling or storm drain marking.

   (3) River, stream or creek cleanup activities.

§ 166-18. Violations deemed a public nuisance.

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this chapter is a threat to public health, safety, and welfare and is declared and deemed a nuisance and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.

§ 166-19. Remedies not exclusive.

The remedies listed in this chapter are not exclusive of any other remedies available under any applicable

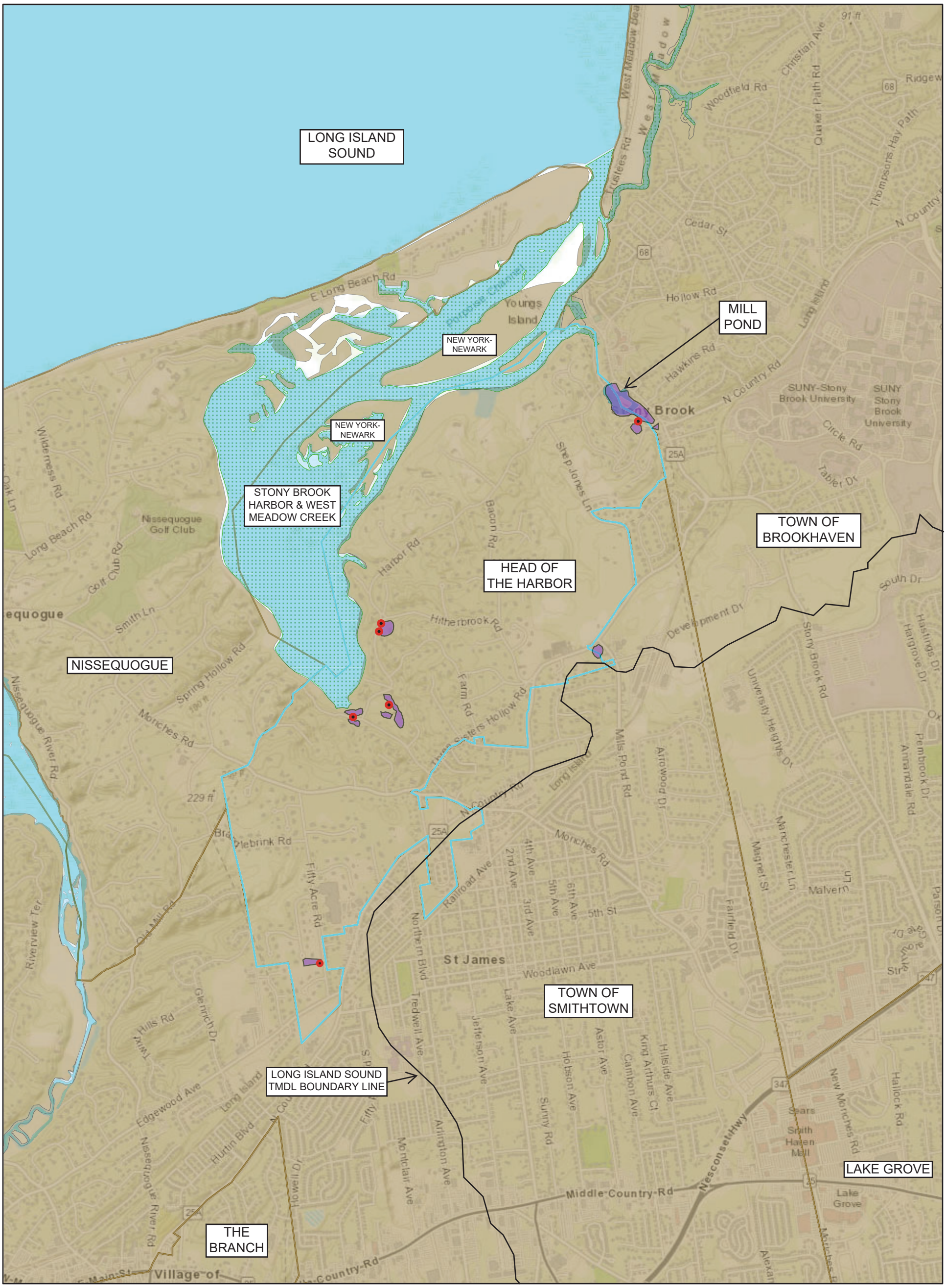
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federal, state or local law, and it is within the discretion of the authorized enforcement agency to seek cumulative remedies.

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APPENDIX D
Drainage Maps

VILLAGE OF HEAD OF THE HARBOR BASEMAP



RECEIVING WATERBODY				
WATERBODY NAME	**WI/PWL ID**	**CLASS**	**IMPAIRED?**	**STORMWATER-RELATED POC**
STONY BROOK HARBOR & WEST MEADOW CREEK	1702-0047	SA	YES	PATHOGENS
MILL POND	1701-0113	C (T)	YES	PHOSPHOROUS
TMDL WATERSHED				
The Village of Head of Harbor is partially located within the Long Island Sound TMDL Watershed for dissolved oxygen in the north west - see boundary line on basemap. This TMDL is not listed in Table 3 of the MS4 Permit and is not subject to additional BMPs.				

NOTES:
1. Up to date land use is available through SuffolkCounty.
2. The Village of Head of The Harbor discharges to Mill Pond and Stony Brook Harbor & West Meadow Creek which are both listed as impaired waters of the state in Appendix C of the MS4 permit.



NOTE:

1. MILL POND IS LISTED IN APPENDIX C OF GP-0-24-001 WHICH CONTAINS PHOSPHOROUS POLLUTANTS.
2. STONY BROOK HARBOR IS LISTED IN APPENDIX C OF GP-0-24-001 WHICH CONTAINS PAHTOGEN POLLUTANTS.

DRAINAGE MAP VILLAGE OF HEAD OF THE HARBOR

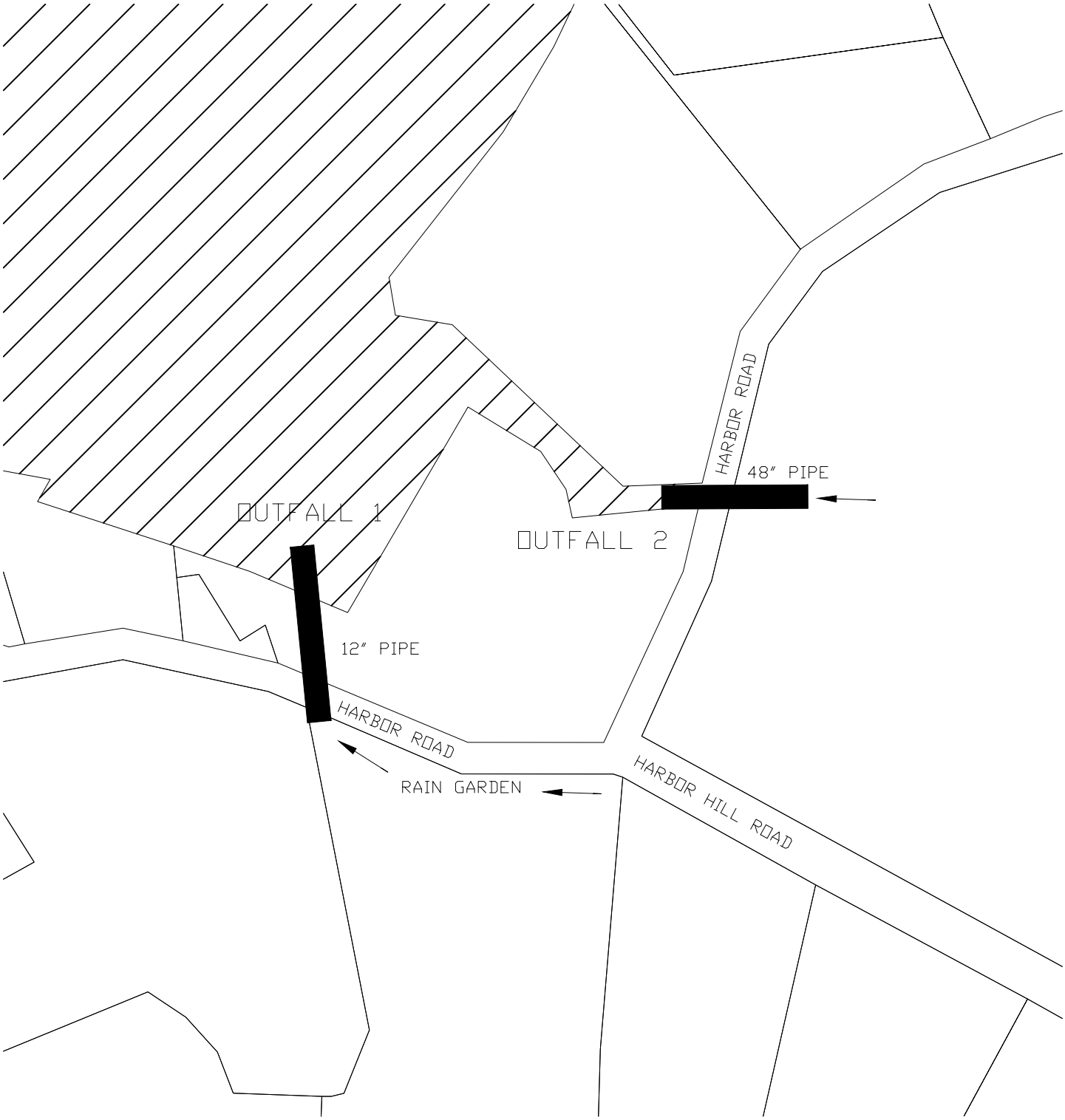
COMPILED BY VILLAGE STAFF

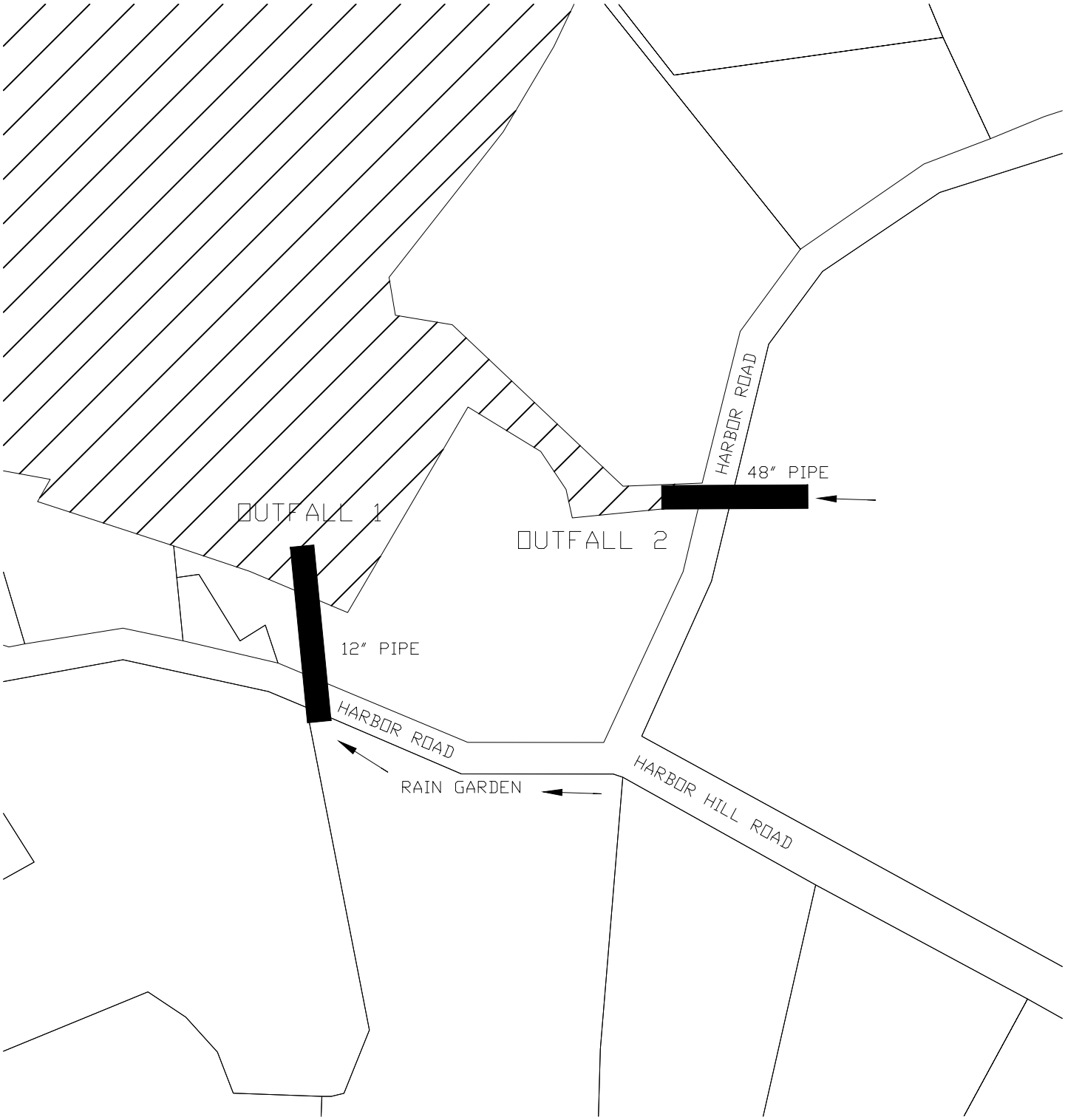
SCALE: 1"=400'

DATE: OCT, 2006

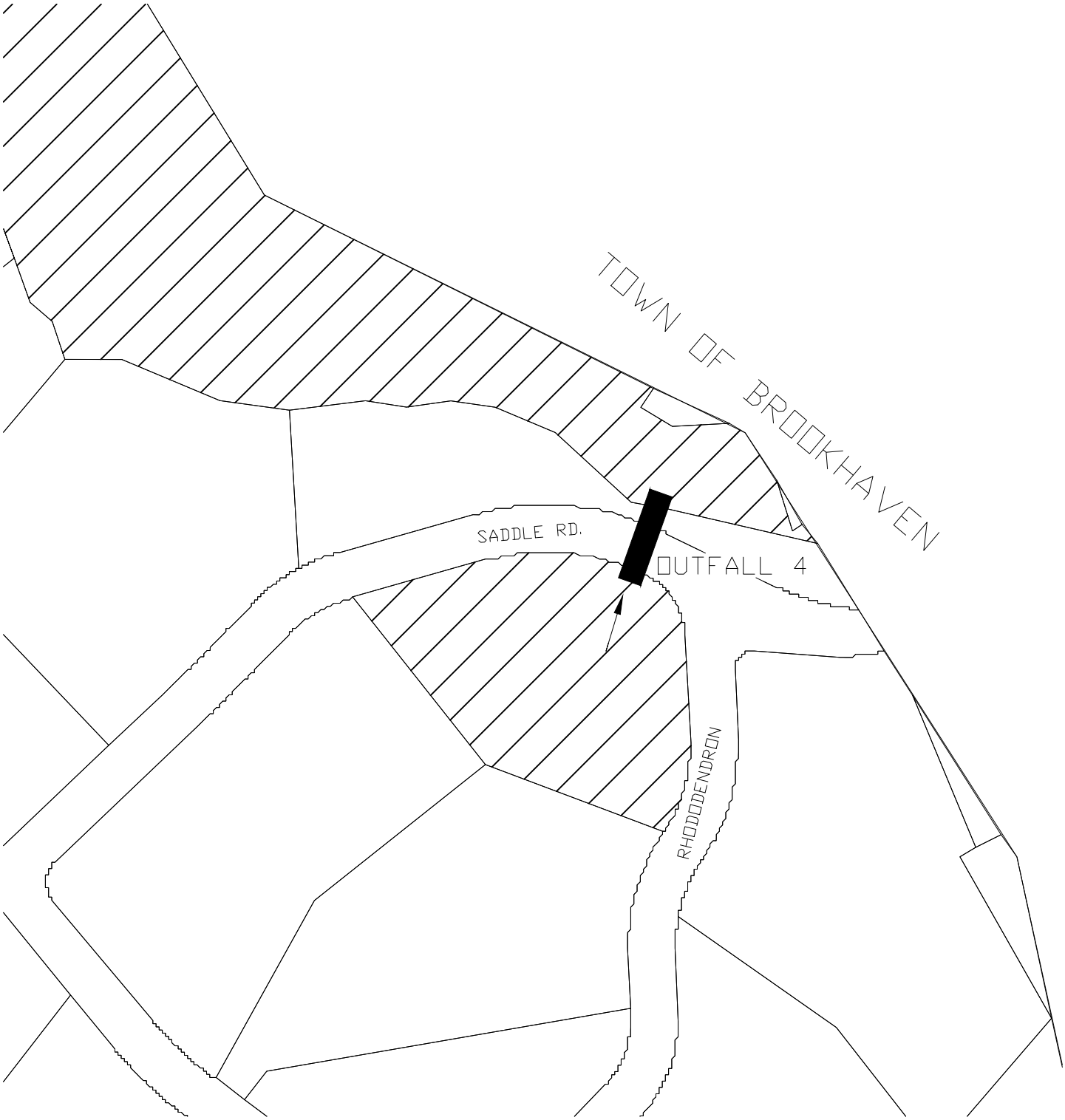
JOB #:

SHEET: 1 OF 1


HARBOR ROAD
48" PIPE
OUTFALL 1
OUTFALL 2
12" PIPE
HARBOR ROAD
RAIN GARDEN
HARBOR HILL ROAD


HARBOR ROAD
48" PIPE
OUTFALL 1
OUTFALL 2
12" PIPE
HARBOR ROAD
RAIN GARDEN
HARBOR HILL ROAD


HARBOR ROAD
ROBIN HILL LANE
HITHERBROOK ROAD
OUTFALL 3A
12" PIPE
12" PIPE
OUTFALL 3B
HARBOR ROAD


TOWN OF BROOKHAVEN
SADDLE RD.
OUTFALL 4
RHODODENDRON

APPENDIX E
MS4 NOI Form & 2025 Annual Report

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water
625 Broadway, Albany, New York 12233-3500
P: (518) 402-8233 | F: (518) 402-9029
www.dec.ny.gov

MS4 Operator Certification Form for eReports

SPDES General Permit for
Stormwater Discharges From
Municipal Separate Storm Sewer Systems (GP-0-24-001)

Instructions

Please review Part X.J. of GP-0-24-001 before signing this form. A signature by an unauthorized person will delay permit coverage.

This form must be signed by one of the following:

1. For a corporation: by a responsible corporate officer
2. For a partnership: by a general partner
3. For a sole proprietorship: by the proprietor
4. For a municipality, state, federal or other public agency: by a principal executive officer or ranking elected official

MS4 Operator Name: Village of Head of the Harbor

eReport Submission Number: NYR20A353

MS4 Operator Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Douglas Dahlgard	Mayor	Inc. Village of Head of the Harbor
Name (please print or type)	Title	Organization

Douglas Dahlgard 7/28/24

Signature Date

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Digitally signed by:
nFormNY
dec0117pw5web.svc.ny.gov
Date: 2024.03.04 13:22:16 -05:00
Reason: Copy Of Record
Location: Albany, New York

MS4 Notice of Intent

version 1.1

(Submission #: HQ1-RDS1-ZWZP6, version 1)

Details

Alternate Identifier NYR20A353

Submission ID HQ1-RDS1-ZWZP6

Form Input

MS4 Operator Information

MS4 Operator

The MS4 Operator is the person, persons, or legal entity that obtains coverage and is responsible for the MS4.

Is this NOI for an MS4 Operator continuing coverage?
Yes

Permit ID #:
NYR20A353

MS4 Operator Type
Traditional land use control

Traditional Land Use Control

Traditional land use control MS4 Operator requirements are found in Part VI of the MS4 General Permit.

Municipality Name or Legal Entity Name
Village of Head of the Harbor

Legal Municipal/Entity Mailing address

500 Route 25A
SAINT JAMES, NY, NY 11780
Suffolk

Ranking Official

Official Title	First and Last Name	Phone	Email
Mayor	Douglas Dahlgard	631-584-5550	okeeffem@optonline.net

NOI Preparer

NOI Preparer Title	First and Last Name	Phone	Email
Municipal Engineer	Daniel Falasco	516-317-7209	Dan.Falasco@outlook.com

NAICS Codes

Federal, State or Local Government - 924110
Military Bases - 928110
Highway, road or other thoroughfare system - 237310
Large Hospitals - 622110
Public Colleges and Universities - 611310
Correctional Institutions - 922140

NAICS Code Lookup

NAICS Code
924110

Is the MS4 Operator working with other MS4 Operators to implement the Stormwater Management Program?
No

Does the MS4 Operator have any facilities that need to obtain MSGP coverage under MSGP permit?
No

MS4 Location Information

MS4 Facility Name
Village of Head of the Harbor

On the map below, place the pin at the center of the MS4 Operator. This can be either the geographic center or the population center.

Central point of the MS4 Operator
40.88649050000001,-73.1591476

Waterbody Information (1 of 1)

If the MS4 Operator discharges to multiple waterbodies, all waterbodies must be listed. Use the 'Duplicate Waterbody Information' or 'Add New Waterbody Information' buttons to add as many waterbodies as necessary.

To find the names of waterbodies, including any impaired waterbodies, use the DEC's Stormwater Interactive Map. Under the Permit Related Layers check the box for the Impaired Waterbodies for MS4GP and the box for Waterbody Inventory/Priority Waterbodies List.
Stormwater Interactive Map

Waterbody name and segment receiving MS4 Operator discharges
Stony Brook Harbor and West Meadow Creek - 1702-0047

Is this waterbody segment listed in Appendix C (List of Impaired Waters) of the MS4 General Permit?
Yes

An MS4 discharging to a waterbody listed in Appendix C must meet the requirements of Part VIII. for the pollutant(s) of concern listed in Appendix C.

For which pollutant(s) of concern is the waterbody impaired?
Pathogens

Is this waterbody segment listed in Table 3 (Approved TMDL Watersheds with MS4 Contribution) of the MS4 General Permit?
No

CERTIFICATION

The MS4 Operator has read and understands the SPDES MS4 General Permit, GP-0-24-001, as it pertains to permit requirements as well as the timeframes for compliance set forth in the permit.
Yes

I am the ranking elected official or Principal Executive Officer for the MS4 Operator and will be signing the form electronically.
No

As a representative of the MS4 Operator, you cannot sign the Notice of Intent. Please download certification form from the link below. Have the Ranking Elected Official or Principal Executive Officer sign the certification form. Upload form to your computer and attach to this NOI.

This certification form must be signed and uploaded every time the NOI is submitted.
Certification Form

Attach completed certification form.

2024MS4NOI.Executed.pdf - 02/29/2024 10:54 AM
Comment
NONE PROVIDED

MS4 Annual Report/Interim Progress Certification&#65533;2025

version 1.0

(Submission #: HQB-E521-80Y8A, version 1)

Details

Originally Started By	JEFFREY PATANJO
Alternate Identifier	NYR20A353
Submission ID	HQB-E521-80Y8A
Status	Submitting
Active Steps	Form Submitted

Form Input

MS4 Operator Information

Municipality Name or Legal Entity Name
Village of Head of the Harbor

Permit ID #:
NYR20A353

MS4 Operator Type
Traditional land use control

Traditional Land Use Control
Village

Traditional Land Use Control

Traditional land use control MS4 Operator requirements are found in Part VI of the MS4 General Permit.

Legal Municipal/Entity Mailing address

500 Route 25A
SAINT JAMES, NY, NY 11780
Suffolk

Ranking Official

Official Title	First and Last Name	Phone	Email
Mayor	Michael Utevsky	631-584-5550	okeeffem@optonline.net

Report Preparer

Report Preparer Title	First and Last Name	Phone	Email
Municipal Engineer	Daniel Falasco	516-317-7209	Dan.Falasco@outlook.com

Stormwater Program Coordinator

Coordinator Title	First and Last Name	Phone	Email
Stormwater Program Coordinator	Daniel Falasco	516-317-7209	Dan.Falasco@outlook.com

Part IV

Was the information in this section completed as part of a coalition/group?
No

MS4 General Permit Resources

Use the following webpages for more information on the permit and fact sheet:
MS4 Permit Webpage

MS4 Toolbox

SWMP Plan

Annually: Have the alternative implementation agreements in the SWMP Plan been updated? (Part IV.A.1.e.)
Yes

Annually: Has the SWMP been updated? (Part IV.B.3.)
Yes

Mapping

Annually: Has the comprehensive system mapping been updated? (Part IV.D.)
Yes

What tools are used to satisfy the comprehensive system mapping requirements? (e.g. paper maps, GIS, web mappers, etc.)
Paper maps and web mappers. The Village of Head of the Harbor drainage map is also available in the Town of Smithtown GIS system.

Within three (3) years of the EDC: Has Phase I of the comprehensive mapping been completed? (Part IV.D.2.a.)
No

Please clarify the reason for selecting "No" for this item.
Item not due this year

Within five (5) years of the EDC: Has Phase II of the comprehensive mapping been completed? (Part IV.D.2.b.)
No

Please clarify the reason for selecting "No" for this item.
Item not due this year

Legal Authority

Within three (3) years of the EDC: For newly designated MS4 Operators, has adequate legal authority been developed and implemented? (Part IV.E.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year

Please enter any comments related to the questions in this section below:
NONE PROVIDED

Part V

In Year 5: Has the SWMP Plan been evaluated? (Part V.C.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year

Part VI

Which MCMs in this Part were completed as a coalition/group, if any?
NONE PROVIDED

Minimum Control Measure 1

Within three (3) years of the EDC: Have the focus areas been identified? (Part VI.A.1.a.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year

Within three (3) years of the EDC: Have the target audience(s) and associated pollutant generating activities been identified? (Part VI.A.1.b.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year

Within three (3) years of the EDC: Have the education and outreach topics been identified and how the education and outreach topics will reduce the potential for pollutants explained? (Part VI.A.1.c.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year

In Year 5: Has the method(s) used for distribution of educational messages been identified? (Part VI.A.2.a.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year

In Year 5: Has one educational message been delivered to each target audience(s) for each focus area based on the education and outreach topic(s)? (Part VI.A.2.b.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year

In Year 4 and Year 5: Have target audiences, focus areas, and/or education and outreach topics been updated? (Part VI.A.2.c.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year

Please enter any comments related to the questions in this section below:
NONE PROVIDED

Minimum Control Measure 2

Annually: Has an opportunity for public involvement/participation in the development and implementation of the SWMP been provided? (Part VI.B.1.a.)
Yes

What was the opportunity for public involvement/participation in the SWMP?
Public hearings or meetings
Coordination with other pre-existing public involvement/participation opportunities

Annually: Has the public been informed about the opportunity for their involvement in the development and implementation of the SWMP and how they can get involved? (Part VI.B.1.b.)
Yes

What is the method(s) used for distribution to inform the public of the opportunity for involvement?
Printed materials (e.g., mail inserts, brochures and newsletters)
Electronic materials (e.g., websites, email listservs)
Public notice

Annually: Has an opportunity to review and comment on the publicly available SWMP Plan been provided? (Part VI.B.2.a.)
Yes

Annually: Has an opportunity to review and comment on the draft annual report been provided? (Part VI.B.2.b.i.)
Yes

What opportunity for review and comment on the draft annual report has been provided?
Posting of draft Annual Report on a public website

Annually: Have the comments received on the SWMP Plan been summarized? (Part VI.B.2.c.i.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
No comments have been received on the SWMP Plan.

Annually: Have the comments received on the draft annual report been summarized? (Part VI.B.2.c.i.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
No comments have been received on the Draft Annual Report.

Please enter any comments related to the questions in this section below:
NONE PROVIDED

Minimum Control Measure 3

Within three (3) years of the EDC: Has an inventory of monitoring locations been developed? (Part VI.C.1.c.i.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 4 and Year 5: Has the monitoring location inventory been updated? (Part VI.C.1.c.ii.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within three (3) years of the EDC: Have monitoring locations been prioritized? (Part VI.C.1.d.i.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 4 and Year 5: Has the monitoring location prioritization been updated? (Part VI.C.1.d.iii.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within two (2) years of the EDC: Has a monitoring locations inspection and sampling program been developed and implemented? (Part VI.C.1.e.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year. The Village is currently working to implement this part of the program.

In Year 5: Have all the monitoring locations been inspected? (Part VI.C.1.e.i.a))
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 5: Has training on the MS4 Operator's monitoring locations inspection and sampling procedures been provided? (Part VI.C.1.e.ii.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 3, Year 4, and Year 5: Have the names, titles, and contact information for the individuals who have received monitoring locations inspection and sampling training been updated? (Part VI.C.1.e.iii.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 3, Year 4, and Year 5: Have the monitoring locations inspection and sampling procedures been updated? (Part VI.C.1.e.iv.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within two (2) years of the EDC: Has an illicit discharge track down program been developed and implemented? (Part VI.C.2.)
Yes

In Year 5: Has training on the MS4 Operator's illicit discharge track down procedures prior to conducting illicit discharge track down been provided? (Part VI.C.2.b.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 3, Year 4, and Year 5: Have the names, titles, and contact information for the individuals who have received illicit discharge track down procedures training been updated? (Part VI.C.2.c.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 3, Year 4, and Year 5: Have the illicit discharge track down procedures been reviewed and updated? (Part VI.C.2.d.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within two (2) years of the EDC: Has an illicit discharge elimination program been developed and implemented? (Part VI.C.3.)
Yes

In Year 5: Has training on the MS4 Operator's illicit discharge elimination procedures prior to conducting illicit discharge elimination been provided? (Part VI.C.3.b.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 3, Year 4, and Year 5: Have the names, titles, and contact information for the individuals who have received illicit discharge elimination procedures training been updated? (Part VI.C.3.c.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 3, Year 4, and Year 5: Have the illicit discharge elimination procedures been reviewed and updated? (Part VI.C.3.d.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Please enter any comments related to the questions in this section below:
NONE PROVIDED

Minimum Control Measure 4

Within one (1) year of the EDC: Has a construction oversight program been developed and implemented? (Part VI.D.3)
Yes

In Year 5: Has training on the MS4 Operator's construction oversight procedures prior to conducting construction oversight been provided? (Part VI.D.3.b.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 2, Year 3, Year 4, and Year 5: Have the names, titles, and contact information for the individuals who have received construction oversight procedures training been updated? (Part VI.D.3.c.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 2, Year 3, Year 4, and Year 5: Have the construction oversight procedures been reviewed and updated? (Part VI.D.3.e.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Annually: Has the inventory of construction sites been updated? (Part VI.D.4.b.)
Yes

How many construction sites are on the inventory?
0

Within one (1) year of the EDC: Have construction sites been prioritized? (Part VI.D.5.a.)
Yes

How many high priority construction sites are on the inventory?
0

In Year 2, Year 3, Year 4, and Year 5: Has the construction site prioritization been updated? (Part VI.D.5.c.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within three (3) years of the EDC: Have the individuals responsible for reviewing SWPPPs for acceptance received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District, or other Department endorsed entity prior to conducting SWPPP reviews and/or approvals? (Part VI.D.6.a.i.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year. The Village currently only has qualified professional reviewing SWPPPs.

Annually: Have the names, titles, and contact information for the individuals who have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District, or other Department endorsed entity, for individuals responsible for reviewing SWPPPs been updated? (Part VI.D.6.d.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
The Village currently only has qualified professional reviewing SWPPPs.

Are pre-construction meetings conducted prior to the commencement of construction activity? (Part VI.D.7.)
Yes

Within three (3) years of the EDC: Have the individuals responsible for construction site inspections received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District, or other Department endorsed entity prior to conducting construction site inspections? (Part VI.D.8.a.i.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year. The Village currently only has qualified professionals conducting construction site inspections.

Annually: Have all sites with construction activity identified in the inventory been inspected during active construction after the pre-construction meeting, or sooner if deficiencies are noted that require attention? (Part VI.D.8.c.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
There are currently no construction sites on the inventory.

Annually: Have the names, titles, and contact information for the individuals who have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District, or other Department endorsed entity, for individuals responsible for construction site inspections been updated? (Part VI.D.8.d.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
The Village currently only has qualified professionals conducting construction site inspections.

Are final construction site inspections conducted? (Part VI.D.9.)
Yes

Please enter any comments related to the questions in this section below:
NONE PROVIDED

Minimum Control Measure 5

Annually: Has the inventory of post-construction SMPs been updated? (Part VI.E.2.c.)
Yes

How many post-construction SMPs are on the inventory?
7

Within five (5) years of the EDC: Have the required components been included in the post-construction SMP inventory? (Part VI.E.2.d.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within one (1) year of the EDC: Has a post-construction SMP inspection and maintenance program been developed and implemented? (Part VI.E.4.)
Yes

Has each post-construction SMP identified in the inventory been inspected at the required frequency? (Part VI.E.4.a.)
Yes

In Year 5: Has training on the MS4 Operator's post-construction SMP inspection and maintenance procedures prior to conducting post-construction SMP inspection and maintenance been provided? (Part VI.E.4.b.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Annually: Have names, titles, and contact information for the individuals who have received post-construction SMP inspection and maintenance procedures training updated? (Part VI.E.4.c.)
Yes

In Year 2, Year 3, Year 4, and Year 5: Have the post-construction SMP inspection and maintenance procedures been reviewed and updated? (Part VI.E.4.d.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Please enter any comments related to the questions in this section below:
NONE PROVIDED

Minimum Control Measure 6

Within three (3) years of the EDC: Have best management practices (BMPs) been incorporated into the municipal facility program and municipal operations program? (Part VI.F.1.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within three (3) years of the EDC: Has a municipal facility program been developed and implemented? (Part VI.F.2.a.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 5: Has training on the MS4 Operator's municipal facility procedures prior to conducting municipal facility procedures been provided? (Part VI.F.2.a.ii.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 4 and Year 5: Have the names, titles, and contact information for the individuals who have received municipal facility procedures training been updated? (Part VI.F.2.a.iii.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 4 and Year 5: Have the municipal facility procedures been updated? (Part VI.F.2.a.iv.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within two (2) years of the EDC: Has a municipal facility inventory been developed? (Part VI.F.2.b.i.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year. The Village is currently working to implement this part of the program.

In Year 3, Year 4, and Year 5: Has the municipal facility inventory been updated? (Part VI.F.2.b.ii.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within three (3) years of the EDC: Have the municipal facilities been prioritized? (Part VI.F.2.c.i.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 4 and Year 5: Has the municipal facility prioritization been updated? (Part VI.F.2.c.iii.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within five (5) years of the EDC: Has a municipal facility specific SWPPP for each high priority municipal facility been developed? (Part VI.F.2.d.i.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

How many municipal facility specific SWPPPs for high priority municipal facilities have been developed?
0

In Year 5: Has all wet weather visual monitoring of the monitoring locations at all high priority municipal facilities been conducted? (Part VI.F.2.d.ii.a))
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 5: Has a comprehensive site assessment for each high priority municipal facility been completed? (Part VI.F.2.d.ii.c))
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 5: Has a comprehensive site assessment for each low priority municipal facility been completed? (Part VI.F.2.e.ii.c))
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within three (3) years of the EDC: Has a municipal operations program been developed? (Part VI.F.3.a.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 5: Has training on the MS4 Operator's municipal operations procedures prior to conducting municipal operations been provided? (Part VI.F.3.a.ii.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 4 and Year 5: Have the names, titles, and contact information for the individuals who have received municipal operations procedures training been updated? (Part VI.F.3.a.iii.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 4 and Year 5: Have the municipal operations procedures been reviewed and updated? (Part VI.F.3.a.iv.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within three (3) years of the EDC: Have catch basins in need of inspection been identified? (Part VI.F.3.c.i.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within three (3) years of the EDC: Has catch basin inspection information been inventoried? (Part VI.F.3.c.ii.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

In Year 5: Have all streets, bridges, parking lots, and right of ways been swept? (Part VI.F.3.d.i.a))
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Annually: Have all streets in business districts and commercial areas been swept? (Part VI.F.3.d.i.b))
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
The Village of Head of the Harbor only contains residential and agricultural districts. All streets are swept a minimum of once annually

Within five (5) years of the EDC: Have roads, bridges, parking lots, and right of way maintenance specific BMPs been implemented? (Part VI.F.3.d.ii.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within five (5) years of the EDC: Have winter road maintenance specific BMPs been implemented? (Part VI.F.3.d.iii.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Please enter any comments related to the questions in this section below:
NONE PROVIDED

Part VIII

Does the MS4 Operator discharge to an impaired water listed in Appendix C of GP-0-24-001?
Yes

For which pollutant(s) is the waterbody impaired? Select the pollutants for all the impaired waters listed in Appendix C of GP-0-24-001 to which the MS4 Operator discharges.
Phosphorus
Pathogens

Which requirements in this Part were completed as a coalition/group, if any?
NONE PROVIDED

Phosphorus

Within three (3) years of the EDC: Has the comprehensive system mapping been updated, in a geographic information system (GIS), to include MS4 infrastructure and sewershed information for each MS4 outfall and ADA MS4 outfall discharging to a phosphorus impaired water listed in Appendix C? (Part VIII.A.1.a.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within three (3) years of the EDC: Has the comprehensive system mapping been updated, in a geographic information system (GIS), to include the listed items for each MS4 outfall discharging to a phosphorus impaired water listed in Appendix C? (Part VIII.A.1.b.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within three (3) years of the EDC: Has the comprehensive system mapping been updated, in a geographic information system (GIS), to include ADA MS4 outfalls discharging to a phosphorus impaired water listed in Appendix C? (Part VIII.A.1.c.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Minimum Control Measure 1

Twice a year, in Year 4 and Year 5: Have educational messages with information specific to phosphorus been provided? (Part VIII.A.2.b.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Minimum Control Measure 3

Within five (5) years of the EDC: Has the number of each item listed in Part VIII.A.1.b. been included on the MS4 outfall inventory for each associated MS4 outfall? (Part VIII.A.4.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Minimum Control Measure 4

How many high priority construction sites discharge to the phosphorus impaired water(s)?
0

Minimum Control Measure 6

In Year 4 and Year 5: Have all streets located in sewersheds discharging to phosphorus impaired segments been swept? (Part VIII.A.7.a.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Pathogens

Within three (3) years of the EDC: Has the comprehensive system mapping been updated, in a geographic information system (GIS), to include MS4 infrastructure and sewershed information for each MS4 outfall and ADA MS4 outfall discharging to a pathogens impaired water listed in Appendix C? (Part VIII.C.1.a.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within three (3) years of the EDC: Has the comprehensive system mapping been updated, in a geographic information system (GIS), to include the listed items for each MS4 outfall discharging to a pathogens impaired water listed in Appendix C? (Part VIII.C.1.b.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within three (3) years of the EDC: Has the comprehensive system mapping been updated, in a geographic information system (GIS), to include ADA MS4 outfalls discharging to a pathogens impaired water listed in Appendix C? (Part VIII.C.1.c.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Minimum Control Measure 1

In Year 4 and Year 5: Have educational messages with information specific to pathogens been provided? (Part VIII.C.2.b.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Minimum Control Measure 3

Within five (5) years of the EDC: Has the number of each item listed in Part VIII.C.1.b. been included on the MS4 outfall inventory for each associated MS4 outfall? (Part VIII.C.4.)
No

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Minimum Control Measure 6

In Year 4 and Year 5: Have all streets located in sewersheds discharging to pathogens impaired segments been swept? (Part VIII.C.7.a.i.)
N/A

Please clarify the reason for selecting "No" or "N/A" for this item.
Item not due this year.

Within one (1) year of the EDC: Has the effectiveness of deterrents, population controls, and other measures that may reduce bird related pathogen contributions been evaluated? (Part VIII.C.7.b.iv.)
Yes

Within one (1) year of the EDC: Have dog waste receptacles been made available in areas where pets/domestic animals may frequent? (Part VIII.C.7.c.)
Yes

Please enter any comments related to the questions in this section below:
NONE PROVIDED

Part IX

Does the MS4 Operator discharge to a TMDL listed in Table 3 of GP-0-24-001?
No

Please enter any comments related to the questions in this section below:
The Village of Head of Harbor discharges to the Long Island Sound TMDL for dissolved oxygen which is not listed in Table 3 of GP-0-24-001.

Interim Progress Status

Interim Progress Resources

Use the following webpages for more information on the permit and fact sheet:
MS4 Permit Webpage

MS4 Toolbox

Have you reviewed compliance items due within two years of EDC?
Yes

Have you reviewed compliance items due within three years of EDC?
Yes

Have you reviewed compliance items due within four years of EDC?
Yes

Have you reviewed compliance items due within five years of EDC?
Yes

Have you reviewed compliance items which need to be completed routinely (annually, every five (5) years, etc.)?
Yes

Please enter any comments related to the questions in this section.
NONE PROVIDED

Certification

The ranking elected official or Principal Executive Officer for the MS4 Operator will be signing the form.
Yes

As the Ranking Elected Official or Principal Executive Officer, please download the certification form using the link below. Complete and sign the certification. Then, upload the certification form to this Interim Progress Certification and/or Annual Report.
Certification Form

Attach completed certification form.
ms4certform-signed.pdf - 04/09/2025 08:40 AM
Comment
NONE PROVIDED

Attachments

Date	Attachment Name	Context	User
4/9/2025 8:40 AM	ms4certform-signed.pdf	Attachment	JEFFREY PATANJO

Status History

	User	Processing Status
3/28/2025 2:44:05 PM	JEFFREY PATANJO	Draft
4/9/2025 8:40:47 AM	JEFFREY PATANJO	Submitting

Processing Steps

Step Name	Assigned To/Completed By	Date Completed
Form Submitted		
Review		

Appendix F
NYSDEC SPDES General Permit - MS4 (GP-0-24-001)

NEW YORK STATE | Department of Environmental Conservation

FINAL

PERMIT

for

NEW YORK STATE

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT

for

STORMWATER DISCHARGES

from

MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)

Permit No. GP-0-24-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70
of the Environmental Conservation Law

Issuance Date: December 13, 2023

Effective Date: January 3, 2024

Expiration Date: January 2, 2029

Scott Sheeley

Chief Permit Administrator

Scott E. Sheeley — DECEMBER 13, 2023

Authorized Signature — Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, NY 12233

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NOTE

All italicized words within this *State Pollutant Discharge Elimination System (SPDES)* general permit are defined in Appendix A.

Part I. Permit Coverage and Limitations

A. Permit Authorization

This *SPDES* general permit authorizes the *discharge* of *stormwater* from small *MS4*s.

1. An *MS4 Operator* is eligible for coverage under this *SPDES* general permit if the *MS4* is *automatically* or *additionally designated (Appendix B)*.

   Only portions of the *MS4* which are located within the *automatically* or *additionally designated areas* are subject to, and authorized to *discharge* by, the requirements of this *SPDES* general permit (Part IV.C.).

2. This *SPDES* general permit contains terms and conditions specific for each of the following types of *MS4 Operators* that are authorized to *discharge* under this *SPDES* general permit, in accordance with Part I.A.1:

   a. *Traditional Land Use Control MS4 Operators;*

   b. *Traditional Non-land Use Control MS4 Operators;* and

   c. Non-traditional MS4 Operators.

   The minimum control measures (MCMs) for *traditional land use MS4 Operators* are listed in Part VI. The MCMs for *traditional non-land use control MS4 Operators* and *non-traditional MS4 Operators* are listed in Part VII. Part III.B, Part VIII, and Part IX. list additional requirements for all *MS4 Operators' MS4*s *discharging* to impaired waters.

3. Non-*stormwater discharges* through outfalls listed in Part 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (NYCRR) 750-1.2(a)(29)(vi) and 40 CFR 122.34(b)(3)(ii), are authorized by this *SPDES* general permit provided they do not violate Environmental Conservation Law (ECL) Section 17-0501. If the *Department* or *MS4 Operator* determines that one or more of the *discharges* are in violation of ECL Section 17-0501, the identified *discharges* are illicit and the *MS4 Operator* must eliminate such *discharges* by following the *illicit discharge* MCM requirements found in Part VI.C. or Part VII.C, depending on the *MS4 Operator* type.

   Discharges from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned.

B. Exemption and Limitations on Coverage

1. The following *discharges* from *MS4 Operators* are exempt from the requirements of this *SPDES* general permit:
   a. *Stormwater discharges* associated with an *industrial activity* provided the *discharges* are covered by the SPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity, GP-0-23-001 (MSGP); and
   b. Individual *SPDES* permitted *stormwater discharges* provided the *discharges* are in compliance with their individual *SPDES* permit limitations.
2. The following *discharges* from *MS4 Operators* are not authorized by this *SPDES* general permit:
   a. *Stormwater discharges* that may adversely affect an endangered or threatened species, or its designated critical habitat, unless the *MS4 Operator* has obtained a permit issued pursuant to 6 NYCRR Part 182 or the *Department* has issued a letter of non-jurisdiction.
   b. *Stormwater discharges* which adversely affect properties listed or eligible for listing in the National Register of Historic Places unless the covered entity is in compliance with requirements of the National Historic Preservation Act and has coordinated with the appropriate State Historic Preservation Office any activities necessary to avoid or minimize impacts.
   c. *Stormwater discharges*, the permitting of which is prohibited under 40 CFR 122.4 and 6 NYCRR 750-1.3.
   d. The *discharge* of vehicle and equipment washwater from *municipal facilities*, including tank cleaning operations.
3. All documentation necessary to demonstrate *discharge* eligibility (Part I.B.1. and Part I.B.2.) must be documented in the *Stormwater Management Program Plan (SWMP Plan)* (Part IV.B.).

Part II. Obtaining Permit Coverage

A. *MS4 Operators*, meeting the eligibility requirements in Part I.A.1. of this *SPDES* general permit, must submit the notice of intent (NOI) electronically (eNOI) unless the *MS4 Operator* has obtained a waiver from the electronic submittal requirement (Part II.B.) in order to be authorized to *discharge* under this *SPDES* general permit. Access and directions for use, for electronic submission of the NOI, are located on the *Department*'s website. *MS4 Operators* must submit the eNOI as indicated in Table 1 and in accordance with Part X.J.

Table 1. eNOI Submittal for Permit Coverage			
Type of permit coverage	**Deadline to submit complete eNOI**	**Effective Date of Coverage (EDC)**	**Form to file with the *Department***
Newly designated *MS4 Operator*	180 days[1] from written notification from the *Department*	The submission of the complete eNOI	eNOI
MS4 Operators continuing coverage from GP-0-15-003	Forty-five (45) days from the effective date of the permit (EDP)	EDP	eNOI

MS4 Operators continuing coverage from GP-0-15-003 are eligible for continued coverage under this SPDES general permit (GP-0-24-001) on an interim basis for up to sixty (60) calendar days from the EDP. During this interim period, an MS4 Operator must comply with the requirements of GP-0-15-003.

By submitting the complete e*NOI*, the *MS4 Operator* certifies that the *MS4 Operator* has read and agrees to comply with the terms and conditions of this *SPDES* general permit including the provisions to update the *SWMP Plan* (Part IV.B.) in accordance with the timeframes set forth in this *SPDES* general permit.

MS4 Operators must document the complete NOI in the *SWMP Plan* (Part IV.B.). As information in the completed NOI changes, within thirty (30) days, the *MS4 Operators* must update the information on the NOI and resubmit the completed NOI to the Department. The *MS4 Operator* must document information from the Department acknowledging previous coverage or designation in the *SWMP Plan* (Part IV.B.).

Where there is a permit condition to *develop,* newly designated *MS4 Operators* must create that permit requirement. Where there is a permit condition to *develop, MS4 Operators* continuing coverage must continue to implement their current *SWMP* and update the *SWMP* to comply with the permit requirement.

For newly designated *MS4 Operators*, timeframes for compliance begin on the effective date of coverage (EDC).

B. Electronic Submission Waiver

1. *MS4 Operators* must submit all NOIs electronically unless the *MS4 Operator* has received a waiver from the Department based on one of the following conditions:

   a. If the *MS4 Operator* is physically located in a geographical area (i.e., zip code or census tract) that is identified as under-served for broadband internet

[1] In this *SPDES* general permit, days refer to calendar days.

access in the most recent report from the Federal Communications Commission; or

b. If the *MS4 Operator* has limitations regarding available computer access or computer capability.

2. If an *MS4 Operator* wishes to obtain a waiver from submitting an NOI electronically, the *MS4 Operator* must submit a request using the Application for Electronic Submittal Waiver to the *Department* at the following address:

   NYS DEC Bureau of Water Compliance

   MS4 NOTICE OF INTENT WAIVER

   625 Broadway, 4th Floor

   Albany, New York 12233-3505

3. A waiver may only be considered granted once the *MS4 Operator* receives written confirmation from the *Department*.

4. *MS4 Operators* must document the eNOI waiver in the *SWMP Plan* (Part IV.B.), if applicable.

C. *MS4 Operators* who submit a complete NOI are authorized to *discharge stormwater* under the terms and conditions of this *SPDES* general permit.

1. NOI Content

   The NOI shall include:

   a. Legal name and address of the *MS4 Operator*;

   b. Receiving waterbodies; and

   c. *Municipal Separate Storm Sewer System (MS4)* NPDES Permit-Related Information of 40 CFR Part 127 Appendix A.

Part III. Special Conditions

A. *Discharge* Compliance with *Water Quality Standards*

1. The *MS4 Operator* must implement the required controls contained in Part III. through Part IX. of this *SPDES* general permit. The *Department* expects that compliance with the terms and conditions of this *SPDES* general permit will assure *MS4 discharges* meet applicable *water quality standards*.

2. It shall be a violation of the ECL for any *discharge* authorized by this *SPDES* general permit to either cause or contribute to a violation of *water quality standards* as contained in 6 NYCRR 700-705.

3. The *MS4 Operator* must take all necessary actions to ensure *discharges* comply with the terms and conditions of this *SPDES* general permit. If at any time an *MS4 Operator* becomes aware (e.g., through self-monitoring or by notification from the *Department*) that a *discharge* causes or contributes to the violation of an applicable *water quality standard*, the *MS4 Operator* must implement corrective

actions and the *MS4 Operator* must document these actions in the *SWMP Plan* (Part IV.B.).

4. Compliance with this *SPDES* general permit does not preclude, limit, or eliminate any enforcement activity as provided by Federal and/or State law. Additionally, if violations of applicable *water quality standards* occur, then coverage under this *SPDES* general permit may be terminated by the *Department* in accordance with 6 NYCRR 750-1.21(e), and the *Department* may require an application for an alternative *SPDES* general permit or an individual *SPDES* permit may be issued.

B. Water Quality Improvement Strategies for Impaired Waters

1. List of Impaired Waters (Appendix C)

Part VIII. requirements must be implemented in addition to the applicable requirements of the six (6) MCMs in Part VI. or Part VII, depending on the *MS4 Operator* type.

For *MS4 Operators* whose *MS4 outfall*s and *additionally designated area MS4 outfalls* (*ADA MS4 outfalls*) *discharge* to waters impaired for phosphorus, silt/sediment, pathogens, nitrogen, or floatables (Appendix C), the *MS4 Operator* must *develop* and implement the *pollutant* specific *best management practices (BMPs*), listed in Part VIII, targeted towards the *pollutant of concern (POC)* causing the impairment.

For *MS4 Operators discharging* to waters within a *total maximum daily load (TMDL)* watershed that does not specify a *pollutant* load reduction necessary for *MS4*s and listed in Appendix C, the *MS4 Operator* must implement the enhanced *BMP* requirements of Part VIII. for the applicable *pollutant* of concern of the *TMDL*.

The enhanced *BMP* requirements in Part VIII. are written to address the *POCs* listed in Table 2.

Table 2. *Pollutant* Specific BMPs for Impaired Waters listed in Appendix C

POC	Part VIII. Reference
Phosphorus	A
Silt/Sediment	B
Pathogens	C
Nitrogen	D
Floatables	E

2. Watershed Improvement Strategy Requirements for *TMDL* Implementation (Part IX.)

Part IX. requirements must be implemented in addition to the applicable requirements of the six (6) MCMs in Part VI. or Part VII, depending on the *MS4 Operator* type.

a. *MS4 Operators discharging* to waters within the watersheds listed in Table 3 must implement additional *BMPs* and applicable *retrofit* plans as specified in Part IX. to achieve the *pollutant* load reductions specified in the referenced *TMDL* or respective implementation plan.

Table 3. Approved *TMDL* Watersheds with *MS4* Contribution

TMDL	POC	Part IX. Reference
Phase II Phosphorus TMDLs for Reservoirs in the NYC Watershed, June 2000	Phosphorus	A
Total Maximum Daily Load (TMDL) for Phosphorus in Lake Carmel, October 2016		
Total Maximum Daily Load (TMDL) for Phosphorus in Palmer Lake, March 2015		
Impaired Waters Restoration Plan for Greenwood Lake – Total Maximum Daily Load for Total Phosphorus, September 2005	Phosphorus	B
Updated Phosphorus Total Maximum Daily Load for Onondaga Lake, June 2012		
Total Maximum Daily Load (TMDL) for Phosphorus in Lake Oscawana, September 2008		
None	Pathogen	C
TMDL for Nitrogen in the Peconic Estuary Program Study Area, Including Waterbodies Currently Impaired Due to Low Dissolved Oxygen: the Lower Peconic River and Tidal Tributaries; Western Flanders Bay and Lower Sawmill Creek; and Meetinghouse Creek, Terry Creek and Tributaries, September 2007	Nitrogen	D

b. Each *MS4 Operator* is responsible for a waste load reduction as specified in the applicable *TMDL* or *TMDL* implementation plan referenced in Part IX. *MS4 Operators* may form a *Regional Stormwater Entity (RSE)* to implement *stormwater retrofits* collectively where compliance with the *pollutant* reduction requirements would be achieved on a regional basis. The individual load reduction for each participating *MS4 Operator* is aggregated to create a *RSE* load reduction. The *RSE* then designs and installs *retrofits* where they are most feasible within the boundaries of the *RSE*. Each participating *MS4*

Operator of an *RSE* complies if the aggregated *RSE pollutant* load reduction is met.

3. Impaired waters with an approved *TMDL* and listed in Appendix C

Part VIII. and Part IX. requirements must be implemented in addition to the applicable requirements of the six (6) MCMs in Part VI. or Part VII, depending on the *MS4 Operator* type.

An *MS4 discharging* to a waterbody listed in Appendix C must meet the requirements of Part VIII. for the *POC*(s) listed in Appendix C.

An *MS4 discharging* to a waterbody listed in Table 3 must meet the requirements of Part IX. for the specific *POC* identified in the *TMDL*.

Part IV. *Stormwater Management Program (SWMP)* Requirements

MS4 Operators must *develop*, implement, and enforce a *SWMP*. The *SWMP* must be retained in written format, hardcopy or electronic. The written *SWMP* is referred to as the *SWMP Plan* (Part IV.B.). The *MS4 Operator* must use the *SWMP Plan* (Part IV.B.) to document *developed*, planned, and implemented elements of the *SWMP*.

A. Administrative

1. Alternative Implementation Options

a. *MS4 Operators* may utilize other entities or the resources of those entities to assist with any portion of the *SWMP* development, implementation, or enforcement. These entities may consist of other *MS4 Operators*, an *RSE*, a Coalition of *MS4 Operators*, other public entities (e.g., non-*MS4 Operators*), or a private third-party contractor. If the *MS4 Operator* is relying upon another entity for compliance with any portion of this *SPDES* general permit, there must be an agreement in place that:

i. Is legally binding;

ii. Is documented in writing;

iii. Is signed and dated by all parties including a certification statement that explains that the *MS4 Operator* is responsible for compliance with this *SPDES* general permit;

iv. Identifies the activities that the entity will be responsible for including the particular MCM, the location and type of work;

v. Includes the name, address, and telephone number of the contact person representing the entity;

vi. Is kept up-to-date and part of the *SWMP Plan*; and

vii. Is retained by each party for the duration of the permit term.

b. In the *SWMP Plan*, the *MS4 Operator* must *develop* and maintain an inventory of entities assisting in permit implementation that includes the following information:

   i. Name of entity performing permit implementation; and

   ii. Permit requirement being implemented performed by entity.

c. Irrespective of any agreements, each party remains legally responsible for obtaining its own permit coverage, for filing the *NOI,* and satisfying all requirements of this *SPDES* general permit for its own *discharges*.

d. Within thirty (30) days signing, alternative implementation agreements (Part IV.A.1.) must be documented in the *SWMP Plan* (Part IV.B.).

e. Annually review and update any alternative implementation agreements in the *SWMP Plan*, as necessary.

2. Staffing plan/Organizational chart

Individual *SWMP* components may be *developed*, implemented, or enforced by different titles associated with the *MS4 Operator*, or other entities as described in Part IV.A.1. Within six (6) months of the EDC, the *MS4 Operator* must *develop* a written staffing plan/organizational chart which includes job titles and other entities as identified in Part IV.A.1, and the roles and responsibilities for each corresponding to the required elements of the *SWMP*. The staffing plan must describe how information will be communicated and coordinated among all those with identified responsibilities. All staffing plan/organization charts must be documented in the *SWMP Plan* (Part IV.B.).

B. *SWMP Plan*

The *SWMP Plan* must contain, at a minimum, all permit requirements implemented to meet the terms and conditions of this *SPDES* general permit, and documentation required by this *SPDES* general permit. The *SWMP Plan* may incorporate by reference any documents that meet the requirements of this *SPDES* general permit. If an *MS4 Operator* relies upon other documents to describe how the *MS4 Operator* will comply with the requirements of this SPDES general permit, the *MS4 Operator* must attach to the *SWMP Plan* a copy of these documents.

The *SWMP Plan* must identify if any requirements from Part VI. through Part IX. do not require updates and include the rationale behind the determination. The *SWMP Plan* must identify if any requirements from Part VI. through Part IX. are not applicable and include the rationale behind the determination.

1. *Stormwater* Program Coordinator

On the NOI, the *MS4 Operator* must designate a *Stormwater* Program Coordinator who must be knowledgeable in the principles and practices of *stormwater* management, the requirements of this *SPDES* general permit, and the *SWMP*. The *Stormwater* Program Coordinator oversees the *development*, implementation, and enforcement of the *SWMP;* coordinates all elements of the

SWMP to ensure compliance with this *SPDES* general permit; and *develops* and submits the Annual Report (Part V.B.2.). The name, title, and contact information of the *Stormwater* Program Coordinator must be documented in the *SWMP Plan*.

2. Availability of *SWMP Plan*

a. Within six (6) months of the EDC, the *MS4 Operator* must make the current *SWMP Plan*, and documentation associated with the implementation of the *SWMP Plan*, available during normal business hours to the *MS4 Operator*'s management and staff responsible for implementation as well as the *Department* and United States Environmental Protection Agency (USEPA) staff.[2] The completion of this permit requirement must be documented in the *SWMP Plan*.

b. Within six (6) months of the EDC, the *MS4 Operator* must make a copy of the current *SWMP Plan* available for public inspection during normal business hours at a location that is accessible to the public or on a public website. The location of the *SWMP Plan* must be kept current. The completion of this permit requirement must be documented in the *SWMP Plan*.

3. Timeframes for *SWMP* Plan Development or Updates

MS4 Operators must *develop* and implement their *SWMP Plan* in accordance with the timeframes set forth in this *SPDES* general permit. Annually, after the end of the Reporting Year and by April 1, the *SWMP Plan* must be updated to ensure the permit requirements are implemented. More frequent updates to the *SWMP Plan* are noted throughout this *SPDES* general permit in specific permit requirements.

C. Minimum Control Measures (MCMs)

The MCMs for *traditional land use MS4 Operators* are listed in Part VI. while those for *traditional non-land use control MS4 Operators* and *non-traditional MS4 Operators* are listed in Part VII. Parts III.B, Part VIII, and Part IX. list additional requirements for all *MS4 Operators discharging* to impaired waters.

MS4 Operators subject to Part VI.

For *MS4 Operators* subject to Part VI. requirements, all MCMs must be implemented within the *automatically designated area* or an *additionally designated area* subject to Criterion 1 or 2 of the Additional Designation Criteria (Appendix B).

For *MS4 Operators* subject to Part VI. requirements, MCM 4 and MCM 5 must also be implemented within an *additionally designated area* subject to Criterion 3 of the Additional Designation Criteria (Appendix B).

MS4 Operators subject to Part VII.

For *MS4 Operators* subject to Part VII. requirements, all MCMs must be implemented within the *automatically designated area* or an *additionally designated area* subject to Criterion 1 or 2 of the Additional Designation Criteria (Appendix B).

[2] Part X.F. contains the duty for the *MS4 Operator* to provide information.

MS4 Operators subject to Part VIII.

Part VIII. requirements must be implemented in addition to the applicable requirements of the six (6) MCMs in Part VI. or Part VII, depending on the *MS4 Operator* type.

For all *MS4 Operators* subject to Part VIII. requirements, all MCMs must be implemented within the *automatically designated area*.

For *MS4 Operators* subject to Part VI. requirements and subject to Part VIII. requirements, MCM 4 and MCM 5 must also be implemented within an *additionally designated area* subject to Criterion 3 of the Additional Designation Criteria (Appendix B).

MS4 Operators subject to Part IX.

Part IX. requirements must be implemented in addition to the applicable requirements of the six (6) MCMs in Part VI. or Part VII, depending on the *MS4 Operator* type.

For all *MS4 Operators* subject to Part IX. requirements, all MCMs must be implemented within the *automatically designated area* or an *additionally designated area* subject to Criterion 1 of the Additional Designation Criteria (Appendix B).

D. Mapping

The *MS4 Operator* must *develop* and maintain comprehensive system mapping to include the mapping components within the MS4 Operator's *automatically designated area* or an *additionally designated area* subject to Criterion 1 or 2 of the Additional Designation Criteria (Appendix B), unless otherwise specified. The comprehensive system mapping must be documented in the *SWMP Plan*. The comprehensive system mapping must be in a readily accessible format, with scale and detail appropriate to provide a clear understanding of the *MS4*, to serve as a planning tool to allow for prioritization of efforts and facilitate management decisions by the *MS4 Operator*. Annually, after Phase I (Part IV.D.2.a.) completion, the *MS4 Operator* must update the comprehensive system mapping including updates to prioritization information of monitoring locations (Part VI.C.1.d. or Part VII.C.1.d, depending on the *MS4 Operator* type), construction sites (Part VI.D.5. or Part VII.D.5, depending on the *MS4 Operator* type), and *municipal facilities* (Part VI.F.2.c.i. or Part VII.F.2.c.i, depending on the *MS4 Operator* type).

1. Within six (6) months of the EDC, the comprehensive system mapping must include the following information:
    a. *MS4 outfall*s (as required for *MS4 Operators* continuing coverage from previous iterations of this *SPDES* general permit);
    b. *Interconnections* (as required for *MS4 Operators* continuing coverage from previous iterations of this *SPDES* general permit);
    c. Preliminary *storm-sewershed* boundaries (as required for *MS4 Operators* continuing coverage from previous iterations of this *SPDES* general permit);

d. *MS4* infrastructure (as required for *MS4 Operators* continuing coverage from previous iterations of this *SPDES* general permit that were subject to Part IX.A. or Part IX.D.), including:
   i. Conveyance system
      a) Type (closed pipe or open drainage);
      b) Conveyance description for closed pipes (material, shape, dimensions);
      c) Conveyance description for open drainage (channel/ditch lining material, shape, dimensions); and
      d) Direction of flow;
   ii. Culvert crossings (location and dimensions)
   iii. Stormwater structures
      a) Type (drop inlet, *catch basin*, or manhole); and
      b) Number of connections to *catch basins*, and manholes;

e. Basemap information:
   i. *Automatically*[3] and *additionally designated areas* (based on criterion 3 of Additional Designation Criteria in Appendix B);[4]
   ii. Names and location of all *surface waters of the State*, including:
      a) Waterbody classification;[5]
      b) Waterbody Inventory/Priority Waterbodies List (WI/PWL);[6]
         i) Impairment status; and
         ii) *POC,* if applicable;
      c) *TMDL* watershed areas;[7]
   iii. Land use, including:
      a) Industrial;
      b) Residential;
      c) Commercial;
      d) Open space; and
      e) Institutional;
   iv. Roads; and
   v. Topography.[8]

2. The comprehensive system mapping must be updated with the data collected for each phase of mapping within the timeframe for each phase as outlined below:
   a. Phase I: Within three (3) years of the EDC, the comprehensive system mapping must include the following information:

[3]Utilizing the Stormwater Interactive Map on the Department's website or the NYS GIS Clearinghouse.
[4]Utilizing the Stormwater Interactive Map on the Department's website.
[5]Utilizing the Stormwater Interactive Map on the Department's website or the NYS GIS Clearinghouse.
[6]Utilizing the Stormwater Interactive Map on the Department's website or the NYS GIS Clearinghouse.
[7]Utilizing the Stormwater Interactive Map on the Department's website.
[8] Utilizing USGS Quadrangle Map or finer.

i. Monitoring locations, with associated prioritization (Part VI.C.1.d. or Part VII.C.1.d, depending on the *MS4 Operator* type);
ii. Preliminary *storm-sewershed* boundaries (for newly designated *MS4 Operators*);
iii. Focus areas (Part VI.A.1.a. or Part VII.A.1.a, depending on the *MS4 Operator* type);
iv. *Publicly owned/operated* post-construction *stormwater management practices* (*SMPs)* (Part VI.E.3. or Part VII.E.3, depending on the *MS4 Operator* type). The *publicly owned/operated* post-construction *SMPs* subject to this requirement are in the *automatically designated area* or an *additionally designated area* subject to Criterion 1, 2, or 3 of the Additional Designation Criteria (Appendix B); and
v. *Municipal facilities,* with associated prioritization (Part VI.F.2.c. or Part VII.F.2.c, depending on the *MS4 Operator* type).

b. Phase II: Within five (5) years of the EDC, the comprehensive system mapping must include the following information:

i. *MS4* infrastructure, including:
a) Conveyance system
i) Type (closed pipe or open drainage); and
ii) Direction of flow;[9]

b) *Stormwater* structures
i) Type (drop inlet, *catch basin*, or manhole); and
ii) Number of connections to and from drop inlets, *catch basins*, and manholes;

ii. *Privately owned/operated* post-construction *SMPs* which *discharge* to the *MS4* (Part VI.E.2.). The *privately owned/operated* post-construction *SMPs* subject to this requirement are in the *automatically designated area* or an *additionally designated area* subject to Criterion 1, 2, or 3 of the Additional Designation Criteria (Appendix B).
a) If the location of the privately-owned post-construction SMPs cannot be determined without accessing the private property, the *MS4 Operator* must map the location of the property that the post-construction SMP is located on using street address or tax parcel.

E. Legal Authority

For *MS4 Operators* continuing coverage from previous iterations of this *SPDES* general permit, adequate legal authority must be maintained in accordance with Part IV.E.1. or Part IV.E.2.

For a newly designated *MS4 Operator*, within three (3) years, the *MS4 Operator* must, to the extent allowable by State and local law, *develop* and implement

[9] Direction of flow can be a written description or indicated as an arrow on the feature.

adequate legal authority to control *pollutant discharges* to implement this *SPDES* general permit. An *MS4 Operator* must either be in conformance with Part IV.E.1. or Part VI.E.2:

1. Adopt the following model local laws and include a copy of the resolution in their *SWMP Plan*:
   a. The New York State Department of Environmental Conservation Model Local Law to Prohibit Illicit Discharges, Activities and Connections to Separate Storm Sewer Systems, April 2006 (NYS DEC Model IDDE Local Law 2006); and
   b. The New York State Department of Environmental Conservation Sample Local Law for Stormwater Management and Erosion & Sediment Control, March 2006 (NYS DEC Sample SM and E&SC Local Law 2006).
2. Enact a legal mechanism or ensure that written policies/procedures are in place with content equivalent to the model local law, with documentation in the *SWMP Plan* from the attorney representing the *MS4 Operator* of the equivalence. Equivalent legal mechanisms or written policies/procedures must include the following:
   a. For *illicit discharges*:
      i. A prohibition of:
         a) *Illicit discharges*, spills or other release of *pollutants*;
         b) Unauthorized connections into the *MS4*;
      ii. A mechanism to:
         a) Receive and collect information related to the introduction of *pollutants* into the *MS4*;
         b) Require installation, implementation, and maintenance of post-construction *SMPs*;
         c) Require compliance and take enforcement action; and,
         d) Access property for inspection.
   b. To be adequate the legal mechanism must also ensure:
      i. Applicable *construction activities* are effectively controlled and include post-construction runoff controls for new development and redevelopment projects; and
      ii. Post-construction *SMPs* are properly operated and maintained by requiring the following:
         a) A stormwater pollution prevention plan (SWPPP) with erosion and sediment controls that meets or exceed the New York State, Standards and Specifications for Erosion & Sediment Control, November 2016 (NYS E&SC 2016) and requires post-construction *SMPs* for applicable *construction activity* described in Part VI.D.1 in conformance with the

SPDES General Permit for Stormwater from Construction Activities, GP-0-20-001 (CGP);

b) Post-construction *SMPs* as required by CGP meet the *sizing criteria* specified in the New York State Stormwater Management Design Manual, January 2015 (NYS SWMDM 2015), and performance criteria, or equivalent, including Operation & Maintenance Plans for long term maintenance;

c) Construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste, all of which may cause adverse impacts to water quality; and

d) Receive and collect information related to compliance with the approved SWPPP including verification of maintenance of post-construction *SMPs* (if conducted by private entities).

F. Enforcement Measures & Tracking

1. Enforcement Response Plan

Within six (6) months, the *MS4 Operator* must *develop* and implement an enforcement response plan (ERP) which clearly describes the action(s) to be taken for violations that the *MS4 Operator* has enacted for illicit *discharge* (Part VI.C. or Part VII.C, depending on the MS4 Operator type), construction (Part VI.D. or Part VII.D, depending on the MS4 Operator type), and post-construction (Part VI.E. or Part VII.E, depending on the MS4 Operator type). The ERP must be documented in the *SWMP Plan*. The ERP must set forth a protocol to address repeat and continuing violations through progressively stricter responses (i.e., escalation of enforcement) as needed to achieve compliance with the terms and conditions of this *SPDES* general permit.

a. The ERP must describe how the *MS4 Operator* will use the following types of enforcement responses or combination of responses:

   i. Verbal warnings;

   ii. Written notices;

   iii. Citations (and associated fines);

   iv. Stop work orders;

   v. Withholding of plan approvals or other authorizations affecting the ability to *discharge* to the *MS4*; and

   vi. Additional measures, supported in local legal authorities, such as collecting against the project's bond or directly billing the responsible party to pay for work and materials to correct violations.

b. Enforcement responses are based on the type, magnitude, and duration of the violation, effect of the violation on the receiving water, compliance history of the operator, and good faith of the operator in compliance efforts.

c. Efforts to obtain a voluntary correction of deficiencies through informal enforcement, such as verbal warnings or written notices, must not exceed sixty (60) days in duration (from the time of the *MS4 Operator's* initial determination until a return to compliance).

2. Enforcement Tracking

The *MS4 Operator* must track instances of non-compliance in the *SWMP Plan*. The enforcement case documentation must include, at a minimum, the following:

a. Name of the owner/operator of the facility or site of the violation (can be redacted from the publicly available SWMP Plan);

b. Location of the *stormwater* source (e.g., construction project);

c. Description of the violation;

d. Schedule for returning to compliance;

e. Description of enforcement response used, including escalated responses if repeat violations occur or violations are not resolved in a timely manner;

f. Accompanying documentation of enforcement response (e.g., notices of noncompliance, notices of violations);

g. Any referrals to different departments or agencies; and

h. Date violation was resolved.

Part V. Recordkeeping, Reporting, and *SWMP* Evaluation

A. Recordkeeping

The *MS4 Operator* must keep records required by this *SPDES* general permit for five (5) years after they are generated. Records must be submitted to the *Department* within a reasonable specified time period of a written *Department* request for such information. Documents can be maintained in electronic format if the manner reasonably assures the integrity of the records, in accordance with NYCRR 750-2.5(e)(1). Records, including the NOI and the SWMP Plan, must be made available to the public at reasonable times during regular business hours.

B. Reporting

1. Report Submittal

a. Reports must be submitted electronically to the *Department* using the forms located on the Department's website (http://www.dec.ny.gov/).

b. Electronic Submission Waiver

ii. *MS4 Operators* must submit all reports electronically unless the *MS4 Operator* has received a waiver from the *Department* based on one of the following conditions:

a) If the *MS4 Operator* is physically located in a geographical area (i.e., zip code or census tract) that is identified as under-served for broadband internet access in the most recent report from the Federal Communications Commission; or

b) If the *MS4 Operator* has limitations regarding available computer access or computer capability.

iii. If an *MS4 Operator* wishes to obtain a waiver from submitting a report electronically, the *MS4 Operator* must submit a request using the Application for Electronic Submittal Waiver to the *Department* at the following address:

NYS DEC Bureau of Water Compliance

MS4 NOTICE OF INTENT WAIVER

625 Broadway, 4th Floor

Albany, New York 12233-3505

iv. A waiver may only be considered granted once the *MS4 Operator* receives written confirmation from the *Department*.

v. *MS4 Operators* must document the electronic submission waiver in the *SWMP Plan*, if applicable.

2. Annual Reports

a. Annually, *MS4 Operators* must submit an Annual Report to the *Department* using the form provided by the *Department*. The completion of this permit requirement must be documented in the *SWMP Plan*.

b. The reporting period for the Annual Report is January 3 of the current year to January 2 of the following year (Reporting Year).

c. For *MS4 Operators* continuing coverage, the Annual Report must be submitted to the *Department* by April 1 of the year following the end of the Reporting Year.

d. For newly designated *MS4 Operators*, if authorization to discharge is granted:

i. Before September 30, the first Annual Report must be submitted by April 1 of the year following the end of the Reporting Year; or

ii. After September 30, the first Annual Report must be submitted by April 1 following their first complete Reporting Year.

3. Interim Progress Certifications

a. Twice a year, *MS4 Operators* must submit to the *Department* an Interim Progress Certification that verifies the activities included in this *SPDES* general permit have been completed by the date specified using the form provided by the *Department*. The completion of this permit requirement must be documented in the *SWMP Plan*.

b. *MS4 Operators* located within the watersheds listed in Table 3 must include additional information to identify the activities that have been performed during the reporting period to demonstrate progress made by the *MS4 Operator* towards completion of the reduction requirements, prescribed in Part IX.

c. An Interim Progress Certification for the period of January 3 through June 30 of the same year must be submitted to the *Department* by October 1 of the same year. An Interim Progress Certification for the period of July 1 through January 2 of the following year must be submitted to the *Department* by April 1 of the following year along with the Annual Report. Submission of the Annual Report is not a substitute for submission of the Interim Progress Certification.

4. Shared Annual Reporting

MS4 Operators working together to implement their *SWMPs* may complete and submit a shared Annual Report to satisfy the reporting requirements specified in Part V.B.2.

a. The shared Annual Report must outline and explain group activities, but also include the tasks performed by each individual *MS4 Operator*.

b. On or before the reporting deadline, April 1, each *MS4 Operator* within the group, must sign the certification section of the Annual Report to take responsibility for the information in the Annual Report, which includes specific endorsement or acceptance of both the shared Annual Report information and Annual Report information on behalf of the individual *MS4 Operator.*

5. Certification

All reports specified within this Part must be signed and certified in accordance with Part X.J.

6. Annual Report and Interim Progress Certification Content

The Annual Report and Interim Progress Certifications shall summarize the activities performed throughout the Reporting Year, including:

a. The status of compliance with permit requirements;

b. Information documented in the *SWMP Plan*, as specified throughout this *SPDES* general permit; and

c. A certification statement in accordance with 40 CFR 122.22(d).

C. *SWMP* Evaluation

Once every five (5) years, the *MS4 Operator* must evaluate the *SWMP* for compliance with the terms and conditions of this *SPDES* general permit, including the effectiveness or deficiencies of components of the individual *SWMP Plan*, and

the status of achieving the requirements outlined in this *SPDES* general permit. The *SWMP* evaluation must be documented in the *SWMP Plan*.

Part VI. Minimum Control Measures (MCMs) for *Traditional Land Use Control MS4 Operators*

In addition to the requirements contained in Part I. through Part V, *traditional land use control MS4 Operators* must comply with the MCMs contained in this Part.

A. MCM1 – Public Education and Outreach Program

The *MS4 Operator* must *develop* and implement an education and outreach program to increase public awareness of *pollutant* generating activities and behaviors. This MCM is designed to inform the public about the impacts of *stormwater* on water quality, the general sources of *stormwater pollutants*, and the steps the general public can take to reduce *pollutants* in *stormwater* runoff.

1. Development

a. Focus Areas

Within three (3) years of the EDC, the *MS4 Operator* must identify and document the focus areas in the *SWMP Plan*. The focus areas to be considered are as follows:

i. Areas *discharging* to waters with Class AA-S, A-S, AA, A, B, SA, or SB (mapped in accordance with Part IV.D.1.e.ii.a));

ii. *Sewersheds* for impaired waters listed in Appendix C (subject to Part VIII. requirements; mapped in accordance with Part IV.D.1.c. for *MS4 Operators* continuing coverage and Part IV.D.2.a.ii. for newly designated *MS4 Operators*);

iii. *TMDL* watersheds (subject to Part IX. requirements; mapped in accordance with Part IV.D.1.e.ii.c));

iv. Areas with *construction activities*;

v. Areas with on-site wastewater systems (subject to Part VIII. or Part IX. requirements);

vi. Residential, commercial, and industrial areas (mapped in accordance with Part IV.D.1.e.iii.);

vii. *Stormwater hotspots*; and

viii. Areas with *illicit discharges*.

b. Target Audiences and Associated *Pollutant* Generating Activities

Within three (3) years of the EDC, the *MS4 Operator* must identify and document the applicable target audience(s) and associated *pollutant* generating activities that the outreach and education will address for each focus area identified by the *MS4 Operator* in Part VI.A.1.a. in the *SWMP Plan*. The target audiences are as follows:

i. Residents;

ii. Commercial:[10] Business owners and staff;

iii. Institutions:[11] Managers, staff, and students;

iv. Construction: Developers, contractors, and design professionals;

v. Industrial:[12] Owners and staff; and

vi. *MS4 Operator*'s *municipal* staff.

c. Education and Outreach Topics

Within three (3) years of the EDC, the *MS4 Operator* must identify and document in the *SWMP Plan* the education and outreach topics and how the education and outreach topics will reduce the potential for *pollutants* to be generated by the target audience(s) (Part VI.A.1.b.) for the focus area(s) (Part VI.A.1.a.).

d. *Illicit Discharge* Education

Within six (6) months of the EDC, the *MS4 Operator* must make information related to the prevention of *illicit discharges*, available to *municipal* employees, businesses, and the public and document the completion of this requirement in the *SWMP Plan*. The information related to the prevention of illicit discharges must include the following:

i. What types of *discharges* are allowable (Part I.A.3.);

ii. What is an *illicit discharge* and why is it prohibited (Part VI.C.);

iii. The environmental hazards associated with *illicit discharges* and improper disposal of waste;

iv. Proper handling and disposal practices for the most common behaviors within the community (e.g., septic care, car washing, household hazardous waste, swimming pool draining, or other activities resulting in *illicit discharges* to the *MS4*); and

v. How to report *illicit discharges* they may observe (Part VI.C.1.a.).

2. Implementation and Frequency

a. Distribution Method of Educational Messages

Once every five (5) years, the *MS4 Operator* must identify and document in the *SWMP Plan* which of the following method(s) are used for the distribution of educational messages:

i. Printed materials (e.g., mail inserts, brochures, and newsletters);

ii. Electronic materials (e.g., websites, email listservs);

[10] Business, retail stores, and restaurants.
[11] Hospitals, churches, colleges, and schools.
[12] Factories, recyclers, auto-salvage, and mines.

iii. Mass media (e.g., newspapers, public service announcements on radio or cable);

iv. Workshops or focus groups;

v. Displays in public areas (e.g., town halls, library, parks); or

vi. Social Media (e.g., Facebook, Twitter, blogs).

b. Frequency

Following the completion of Part VI.A.1.a, Part VI.A.1.b, and Part VI.A.1.c, within five (5) years of the EDC, and once every five (5) years, thereafter, the *MS4 Operator* must:

i. Deliver an educational message to each target audience(s) (Part VI.A.1.b.) for each focus area(s) (Part VI.A.1.a.) based on the defined education and outreach topic(s) (Part VI.A.1.c.); and

ii. Document the completion of this requirement in the *SWMP Plan*.

c. Updates to the Public Education and Outreach Program

Following the completion of Part VI.A.1.a, Part VI.A.1.b, and Part VI.A.1.c, annually, by April 1, the *MS4 Operator* must:

i. Review and update the focus areas, target audiences, and/or education and outreach topics; and

ii. Document the completion of this requirement in the *SWMP Plan*.

B. MCM 2 - Public Involvement/Participation

The *MS4 Operator* must provide opportunities to involve the public in the development, review, and implementation of the *SWMP*. This MCM is designed to give the public the opportunity to include their opinions in the implementation of this *SPDES* general permit.

1. Public Involvement/Participation

a. Annually, the *MS4 Operator* must provide an opportunity for public involvement/participation in the development and implementation of the *SWMP*. The *MS4 Operator* must document the public involvement/participation opportunities in the *SWMP Plan*. The opportunities for public involvement/participation are as follows:

i. Citizen advisory group on *stormwater* management;

ii. Public hearings or meetings;

iii. Citizen volunteers to educate other individuals about the *SWMP*;

iv. Coordination with other pre-existing public involvement/participation opportunities;

v. Reporting concerns about activities or behaviors observed; or

vi. Stewardship activities.

b. Annually, the *MS4 Operator* must inform the public of the opportunity (Part VI.B.1.a.) for their involvement/participation in the development and implementation of the *SWMP* and how they can become involved. The *MS4 Operator* must document the method for distribution of this information in the *SWMP Plan*. The methods for distribution are as follows:

i. Public notice;

ii. Printed materials (e.g., mail inserts, brochures and newsletters);

iii. Electronic materials (e.g., websites, email listservs);

iv. Mass media (e.g., newspapers, public service announcements on radio or cable);

v. Workshops or focus groups;

vi. Displays in public areas (e.g., town halls, library, parks); or

vii. Social Media (e.g., Facebook, Twitter, blogs).

c. Within six (6) months of the EDC, the *MS4 Operator* must identify a local point of contact to receive and respond to public concerns regarding *stormwater* management and compliance with permit requirements. The name or title of this individual, with contact information, must be published on public outreach and public participation materials and documented in the *SWMP Plan*.

2. Public Notice and Input Requirements

a. Public Notice and Input Requirements for *SWMP Plan*

Annually, the *MS4 Operator* must provide an opportunity for the public to review and comment on the publicly available *SWMP Plan* (Part IV.B.2.b.). The public must have the ability to ask questions and submit comments on the *SWMP Plan*. The completion of this permit requirement must be documented in the *SWMP Plan*. This requirement may be satisfied by Part VI.B.1.

b. Public Notice and Input Requirements for Draft Annual Report

i. Annually, the *MS4 Operator* must provide an opportunity for the public to review and comment on the draft Annual Report. The completion of this permit requirement must be documented in the *SWMP Plan*. This requirement may be satisfied by either:

a) Presentation of the draft Annual Report at a regular meeting of an existing board (e.g., administrative, planning, zoning) or a separate meeting specifically for *stormwater*, as designated by the *MS4* or if requested by the public. The public must have the ability to ask

questions about and make comments on the draft annual report during that presentation; or

b) Posting of the draft Annual Report on a public website. The website must provide information on the timeframes and procedures to submit comments and/or request a meeting. However, if a public meeting is requested by two or more persons, the *MS4 Operator* must hold such a meeting.

c. Consideration of Public Input

i. Annually, the *MS4 Operator* must include a summary of comments received on the *SWMP Plan* and draft Annual Report in the *SWMP Plan*.

ii. Within thirty (30) days of when public input is received, the *MS4 Operator* must update the *SWMP Plan*, where appropriate, based on the public input received.

C. MCM 3 - *Illicit Discharge* Detection and Elimination

The *MS4 Operator* must *develop*, implement, and enforce a program which systematically detects, tracks down, and eliminates *illicit discharges* to the *MS4*. This MCM is designed to manage the *MS4* so it is not conveying *pollutants* associated with flows other than those directly attributable to *stormwater* runoff.

1. *Illicit Discharge* Detection

a. Public Reporting of *Illicit Discharges*

i. Within six (6) months of the EDC, the *MS4 Operator* must establish and document in the *SWMP Plan* an email or phone number (with message recording capability) for the public to report *illicit discharges*.

ii. Within thirty (30) days of an *illicit discharge*, the *MS4 Operator* must document each report of an *illicit discharge* in the *SWMP Plan* with the following information:

a) Date of the report;

b) Location of the *illicit discharge;*

c) Nature of the *illicit discharge;*

d) Follow up actions taken or needed (including response times); and

e) Inspection outcomes and any enforcement taken.

b. Monitoring Locations

The monitoring locations used to detect *illicit discharges* are identified as follows:

i. *MS4 outfalls;*[13]

[13] *MS4 outfall*s can be found at a *municipal facility*.

ii. *Interconnections*;[14] and
iii. *Municipal facility intraconnections*.[15]

c. Monitoring Locations Inventory

i. Within three (3) years of the EDC, the *MS4 Operator* must *develop* and maintain an inventory of the monitoring locations in the *SWMP Plan*. The following information must be included in the inventory:[16]

a) Inventory information for *MS4 outfall*s

i) ID;
ii) Prioritization (high or low) (Part VI.C.1.d.);
iii) Type of monitoring location (Part VI.C.1.b.);
iv) Name of *MS4 Operator's municipal facility*, if located at a *municipal facility*;[17]
v) Receiving waterbody name and class (mapped in accordance with Part IV.D.1.e.ii.a));
vi) Receiving waterbody WI/PWL Segment ID (mapped in accordance with Part IV.D.1.e.ii.b));
vii) Land use in drainage area;
viii) Type of conveyance (open drainage or closed pipe);
ix) Material;
x) Shape;
xi) Dimensions;
xii) Submerged in water; and
xiii) Submerged in sediment.

b) Inventory information for *interconnections*

i) ID;
ii) Prioritization (high or low) (Part VI.C.1.d.);
iii) Type of monitoring location (Part VI.C.1.b.);
iv) Name of *MS4 Operator* receiving *discharge* or private storm system;
v) Name of *MS4 Operator*'s *municipal facility*, if located at a *municipal facility*; and
vi) Receiving waterbody name and class (mapped in accordance with Part IV.D.1.e.ii.a)).

c) Inventory information for *municipal facility intraconnections*

i) ID;
ii) Prioritization (high or low) (Part VI.C.1.d.);

[14] *Interconnections* can be found at a *municipal facility*.
[15] *Municipal facility intraconnections* can be found only at a *municipal facility*.
[16] The information included in the inventory is collected during inspections on the Monitoring Locations Inspection and Sampling Field Sheet (Appendix D) unless otherwise specified by the permit conditions.
[17] This information is collected as part of the *municipal facility* inventory.

iii) Type of monitoring location (Part VI.C.1.b.);
iv) Name of *MS4 Operator*'s *municipal facility*; and
v) Receiving waterbody name and class (mapped in accordance with Part IV.D.1.e.ii.a)).

ii. Annually, the *MS4 Operator* must update the inventory if monitoring locations are created or discovered.

d. Monitoring Locations Prioritization

i. Within three (3) years of the EDC, the *MS4 Operator* must prioritize monitoring locations which are included in the monitoring locations inventory (Part VI.C.1.c.) as follows:
a) High priority monitoring locations include monitoring locations:
i) At a high priority *municipal facility*, as defined in Part VI.F.2.c;
ii) *Discharging* to impaired waters (subject to Part VIII. requirements; mapped in accordance with Part IV.D.1.e.ii.b));
iii) *Discharging* within a TMDL watershed (subject to Part IX. requirements; mapped in accordance with Part IV.D.1.e.ii.c));
iv) *Discharging* to waters with Class AA-S, A-S, AA, A, B, SA, or SB (mapped in accordance with Part IV.D.1.e.ii.a)); and/or
v) Confirmed citizen complaints on three or more separate occasions in the last twelve (12) months.
b) All other monitoring locations are considered low priority.

ii. Within thirty (30) days of when a monitoring location is constructed or the *MS4 Operator* discovers it, the *MS4 Operator* must prioritize those monitoring locations; and

iii. Annually, after the initial prioritization (Part VI.C.1.d.i.), the *MS4 Operator* must update the monitoring location prioritization in the inventory (Part VI.C.1.c.) based on information gathered as part of the monitoring location inspection and sampling program (Part VI.C.1.e.). The completion of this permit requirement must be documented in the *SWMP Plan*.

e. Monitoring Locations Inspection and Sampling Program

Within two (2) years of the EDC, the *MS4 Operator* must *develop* and implement a monitoring locations inspection and sampling program. The monitoring locations inspection and sampling program must be documented in the *SWMP Plan* specifying:

i. The monitoring locations inspection and sampling procedures including:

a) During *dry weather,*[18] one (1) inspection of each monitoring location identified in the inventory (Part VI.C.1.c.) every five (5) years following the most recent inspection;

b) Documentation of all monitoring location inspections, including any sampling results, using the Monitoring Locations Inspection and Sampling Field Sheet (Appendix D) or an equivalent form containing the same information and include the completed monitoring location inspections and sampling results in the *SWMP Plan* (e.g., the completed Monitoring Locations Inspection and Sampling Field Sheets);

c) Provisions to sample all monitoring locations which had inspections which resulted in a *suspect* or *obvious illicit discharge* characterization. The sampling requirement is based on the number and severity of *physical indicators present in the flow* to better inform track down procedures (Part VI.C.2.). If the source of the *illicit discharge* is clear and discernable (e.g., sewage), sampling is not necessary;

d) Sampling may be done with field test kits or field instrumentation that are sufficiently sensitive to detect the parameter below the sampling action level used[19] and are not subject to 40 CFR Part 136 requirements for approved methods and certified laboratories;

e) Provisions to initiate, or cause to initiate,[20] track down procedures (Part VI.C.2.a.), in accordance with the timeframes specified in Part VI.C.2.a.iii, for monitoring locations with an overall characterization[21] as *suspect illicit discharge* or *obvious illicit discharge* or that exceed any sampling action level used;

f) Provisions to re-inspect the monitoring location within thirty (30) days of initial inspection if there is a *physical indicator not related to flow*, potentially indicative of *intermittent* or *transitory discharges,* utilizing techniques described in Chapter 12.6 of the Center for Watershed Protection Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assistance, October 2004 (CWP 2004) or equivalent.

    i) If those same physical indicators persist, the *MS4 Operator* must initiate *illicit discharge* track down procedures (Part VI.C.2.a.).

[18] MS4 Operators can reference the Center for Watershed Protection Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assistance, October 2004 (CWP 2004) for other factors to consider when determining when to conduct monitoring location inspection and sampling.
[19] Refer to Chapter 12 of the CWP 2004 for parameters, sampling action levels, and procedures.
[20] If track down is conducted by individuals or entities other than those conducting the monitoring locations inspections.
[21] Reference to the Monitoring Locations Inspection and Sampling Field Sheet, adapted from CWP 2004, Section 6: Overall Monitoring Location Characterization based on the Relative Severity Index of physical indicators for flowing monitoring locations only.

ii. The training provisions for the *MS4 Operator*'s monitoring locations inspection and sampling procedures (Part VI.C.1.e.i.).

a) If new staff are added, training on the *MS4 Operator*'s monitoring locations inspection and sampling procedures (Part VI.C.1.e.i.) must be given prior to conducting monitoring locations inspections and sampling procedures;

b) For existing staff, training on the *MS4 Operator*'s monitoring locations inspection and sampling procedures (Part VI.C.1.e.i.) must be given prior to conducting monitoring locations inspections and sampling and once every five (5) years, thereafter; and

c) If the monitoring locations inspection and sampling procedures (Part VI.C.1.e.i.) are updated (Part VI.C.1.e.iv.), training on the updates must be given to all staff prior to conducting monitoring locations inspections and sampling.

iii. The names, titles, and contact information for the individuals who have received monitoring locations inspection and sampling procedures training and update annually; and

iv. Annually, by April 1, the *MS4 Operator* must:

a) Review and update the monitoring location inspection and sampling procedures (Part VI.C.1.e.i.) based on monitoring location inspection results (e.g., trends, patterns, areas with *illicit discharges*, and common problems); and

b) Document the completion of this requirement in the *SWMP Plan*.

2. *Illicit Discharge* Track Down Program

Within two (2) years of the EDC, the *MS4 Operator* must *develop* and implement an *illicit discharge* track down program to identify the source of *illicit discharges* and the responsible party. The *illicit discharge* track down program must be documented in the *SWMP Plan* specifying:

a. The *illicit discharge* track down procedures including:

i. Procedures as described in Chapter 13 of CWP 2004 or equivalent;

ii. Steps taken for *illicit discharge* track down procedures;

iii. The following timeframes to initiate *illicit discharge* track down:

a) Within twenty-four (24) hours of discovery, the *MS4 Operator* must initiate track down procedures for flowing *MS4* monitoring locations with *obvious illicit discharges;*[22]

[22] Reference to the Monitoring Locations Inspection and Sampling Field Sheet, adapted from CWP 2004, Section 6: Overall Monitoring Location Characterization based on the Relative Severity Index of physical indicators for flowing monitoring locations only.

b) Within two (2) hours of discovery, the *MS4 Operator* must initiate track down procedures for *obvious illicit discharges* of sanitary wastewater that would affect bathing areas during bathing season, shell fishing areas or public water intakes and report orally or electronically to the Regional Water Engineer and local health department; and

c) Within five (5) days of discovery, the *MS4 Operator* must initiate track down procedures for *suspect illicit discharges*.

b. The training provisions for the *MS4 Operator*'s *illicit discharge* track down procedures (Part VI.C.2.a.).

i. If new staff are added, training on the *MS4 Operator*'s *illicit discharge* track down procedures (Part VI.C.2.a.) must be given prior to conducting *illicit discharge* track downs;

ii. For existing staff, training on the *MS4 Operator*'s *illicit discharge* track down procedures (Part VI.C.2.a.) must be given prior to *conducting illicit discharge* track downs and once every five (5) years, thereafter; and

iii. If the *illicit discharge* track down procedures (Part VI.C.2.a.) are updated (Part VI.C.2.d.), training on the updates must be given to all staff prior to conducting *illicit discharge* track downs.

c. The names, titles, and contact information for the individuals who have received *illicit discharge* track down procedures training and update annually; and

d. Annually, by April 1, the *MS4 Operator* must:

i. Review and update the *illicit discharge* track down procedures (Part VI.C.2.a.); and

ii. Document the completion of this requirement in the *SWMP Plan*.

3. *Illicit Discharge* Elimination Program

Within two (2) years of the EDC, the *MS4 Operator* must *develop* and implement an *illicit discharge* elimination program. The *illicit discharge* elimination program must be documented in the *SWMP Plan* specifying:

a. The *illicit discharge* elimination procedures including:

i. Provisions for escalating enforcement and tracking, both consistent with the ERP required in Part IV.F. of this *SPDES* general permit;

ii. Provisions to confirm the corrective actions have been taken;

iii. Steps taken for *illicit discharge* elimination procedures; and

iv. The following timeframes for *illicit discharge* elimination:

a) Within twenty-four (24) hours of identification of an *illicit discharge* that has a reasonable likelihood of adversely affecting human health or the environment, the *MS4 Operator* must eliminate the *illicit discharge*;

b) Within five (5) days of identification of an *illicit discharge* that does not have a reasonable likelihood of adversely affecting human health or the environment, the *MS4 Operator* must eliminate the *illicit discharge;* and

c) Where elimination of an *illicit discharge* within the specified timeframes (Part VI.C.3.a.iv.) is not possible, the *MS4 Operator* must notify the Regional Water Engineer.

b. The training provisions for the *MS4 Operator*'s *illicit discharge* elimination procedures (Part VI.C.3.a.).

i. If new staff are added, training on the *MS4 Operator*'s *illicit discharge* elimination procedures (Part VI.C.3.a.) must be given prior to conducting *illicit discharge* eliminations;

ii. For existing staff, training on the *MS4 Operator*'s *illicit discharge* elimination procedures (Part VI.C.3.a.) must be given prior to conducting *illicit discharge* eliminations and once every five (5) years, thereafter; and

iii. If the *illicit discharge* elimination procedures (Part VI.C.3.a.) are updated (Part VI.C.3.d.), training on the updates must be given to all staff prior to conducting *illicit discharge* eliminations.

c. The names, titles, and contact information for the individuals who have received *illicit discharge* elimination procedures training and update annually; and

d. Annually, by April 1, the *MS4 Operator* must:

i. Review and update the *illicit discharge* elimination procedures (Part VI.C.3.a.); and

ii. Document the completion of this requirement in the *SWMP Plan*.

D. MCM 4 - Construction Site *Stormwater* Runoff Control

The *MS4 Operator* must *develop*, implement, and enforce a program to ensure construction sites are effectively controlled. This MCM is designed to prevent *pollutants* from construction related activities,[23] as well as promote the proper planning and installation of post-construction *SMPs*.

1. Applicable Construction Activities/Projects/Sites

a. The construction site *stormwater* runoff control program must address *stormwater* runoff to the *MS4* from sites with *construction activities* that:

i. Result in a total land disturbance of greater than or equal to one acre; or

[23] Projects that comply with the terms and conditions of the CGP or an individual *SPDES* permit for *stormwater* for which they obtained coverage and local erosion and sediment control requirements are effectively controlled.

ii. Disturb less than one acre if part of a larger common plan of development or sale.

b. For *construction activities* where the *MS4 Operator* is listed as the owner/operator on the Notice of Intent for coverage under the CGP:

i. The *MS4 Operator* must ensure compliance with the CGP; and

ii. The additional requirements for construction oversight described in Part VI.D.6 through Part VI.D.9 are not required.

2. Public Reporting of Construction Site Complaints

a. Within six (6) months of the EDC, the *MS4 Operator* must establish and document in the *SWMP Plan* an email or phone number (with message recording capability) for the public to report complaints related to construction *stormwater* activity.

b. The *MS4 Operator* must document reports of construction site complaints in the *SWMP Plan* with the following information:

i. Date of the report;

ii. Location of the construction site;

iii. Nature of complaint;

iv. Follow up actions taken or needed; and

v. Inspection outcomes and any enforcement taken.

3. Construction Oversight Program

Within one (1) year of the EDC, the *MS4 Operator* must *develop* and implement a construction oversight program. The construction oversight program must be documented in the *SWMP Plan* specifying:

a. The construction oversight procedures including:

i. When the construction site *stormwater* control program applies (Part VI.D.1.);

ii. What types of *construction activity* require a SWPPP;

iii. The procedures for submission of SWPPPs;

iv. SWPPP review requirements (Part VI.D.6.)

v. Pre-construction oversight requirements (Part VI.D.7.)

vi. Construction site inspection requirements (Part VI.D.8.);

vii. Construction site close-out requirements (Part VI.D.9.);

viii. Enforcement process/expectations for compliance; and

ix. Other procedures associated with the control of *stormwater* runoff from applicable *construction activities*.

b. The training provisions for the *MS4 Operator*'s construction oversight procedures (Part VI.D.3.a.).
    i. If new staff are added, training on the *MS4 Operator*'s construction oversight procedures (Part VI.D.3.a.) must be given prior to conducting any construction oversight activities;
    ii. For existing staff, training on the *MS4 Operator*'s construction oversight procedures (Part VI.D.3.a.) must be given prior to conducting any construction oversight activities and once every five (5) years, thereafter; and
    iii. If the construction oversight procedures (Part VI.D.3.a.) are updated (Part VI.D.3.a.), training on the updates must be given to all staff prior to conducting construction oversight.
c. The names, titles, and contact information for the individuals who have received construction oversight training and update annually;
d. Procedures to ensure those involved in the *construction activity* itself (e.g., contractor, subcontractor, *qualified inspector*, SWPPP reviewers) have received four (4) hours of *Department* endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District, or other *Department* endorsed entity; and
e. Annually, by April 1, the *MS4 Operator* must:
    i. Review and update the construction oversight procedures (Part VI.D.3.a.); and
    ii. Document the completion of this requirement in the *SWMP Plan*.

4. Construction Site Inventory & Inspection Tracking

a. Within six (6) months of the EDC, the *MS4 Operator* must *develop* and maintain an inventory of all applicable construction sites (Part VI.D.1.a.) in the *SWMP Plan*. The following information must be included in the inventory:
    i. Location of the construction site;
    ii. Owner/operator contact information, if other than the *MS4 Operator*;
    iii. Receiving waterbody name and class (mapped in accordance with Part IV.D.1.e.ii.a));
    iv. Receiving waterbody WI/PWL Segment ID (mapped in accordance with Part IV.D.1.e.ii.b));
    v. Prioritization (high or low) (Part VI.D.5.);
    vi. Construction project *SPDES* identification number;
    vii. SWPPP approval date;
    viii. Inspection history, including dates and ratings (satisfactory, marginal, or unsatisfactory, when available); and

ix. Current status of the construction site/project (i.e., active, temporarily shut down, complete[24]).

b. Annually, the *MS4 Operator* must update the inventory if construction projects are approved or completed.

5. Construction Site Prioritization

a. Within one (1) year of the EDC, the *MS4 Operator* must prioritize all construction sites which are included in the construction site inventory (Part VI.D.4.) as follows:

i. High priority construction sites include construction sites:

a) With a direct conveyance (e.g., channel, ditch, storm sewer) to a *surface water of the State* that is:

i) Listed in Appendix C with silt/sediment, phosphorus, or nitrogen as the POC;

ii) Classified as AA-S, AA, or A (mapped in accordance with Part IV.D.1.e.ii.a)); or

iii) Classified with a trout (T) or trout spawning (TS) designation (mapped in accordance with Part IV.D.1.e.ii.a));

b) With greater than five (5) acres of disturbed earth at any one time;

c) With earth disturbance within one hundred (100) feet of any lake or pond (mapped in accordance with Part IV.D.1.e.ii.b)); and/or

d) Within fifty (50) feet of any rivers or streams (mapped in accordance with Part IV.D.1.e.ii.b));

ii. All other construction sites are considered low priority.

b. Within thirty (30) days of when a construction site becomes active, the *MS4 Operator* must prioritize those construction sites; and

c. Annually, after the initial prioritization (Part VI.D.5.a.), the *MS4 Operator* must update the construction site prioritization in the inventory (Part VI.D.4.a.) based on information gathered as part of the construction oversight program (Part VI.D.3.). The completion of this permit requirement must be documented in the *SWMP Plan*.

i. If the prioritization of the construction site changes priority based on information gathered as part of the construction oversight program, the *MS4 Operator* must comply with the requirements that apply to that prioritization.

[24] Construction projects listed on the inventory must be inspected and tracked as described in Part VI.D.8. until a final site inspection has been completed as specified in Part VI.D.9. and the construction site status changes to complete.

6. SWPPP Review

The *MS4 Operator* must:

a. Ensure individual(s), responsible for reviewing SWPPPs for acceptance, receive:

   i. Four (4) hours of *Department* endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District, or other *Department* endorsed entity. This training must be completed within three (3) years of the EDC and every three (3) years thereafter.

   ii. Document the completion of this requirement in the *SWMP Plan*.

b. Ensure SWPPP reviewers receive this training (Part VI.D.6.a.) prior to conducting SWPPP reviews for acceptance.

   i. Individuals without these trainings cannot review SWPPPs for acceptance.

   ii. Individuals who meet the definition of a *qualified professional* or *qualified inspector* are exempt from this requirement.

c. Ensure individuals responsible for reviewing SWPPPs review all SWPPPs for applicable *construction activities* (Part VI.D.1.) and for conformance with the requirements of the CGP, including:

   i. Erosion and sediment controls must be reviewed for conformance with the NYS E&SC 2016, or equivalent;

   ii. Individuals responsible for review of post-construction *SMPs* must be *qualified professionals* or under the supervision of a *qualified professional*; and

   iii. Post-construction *SMPs* must be reviewed for conformance with the NYS SWMDM 2015 or equivalent, including:

      a) All post-construction *SMPs* must meet the *sizing criteria* contained in the CGP and NYS SWMDM 2015.

      b) Deviations from the performance criteria of the NYS SWMDM 2015 must demonstrate that they are equivalent.

      c) The SWPPP must include an O&M plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction *SMP*. The SWPPP must identify the entity that will be responsible for the long-term operation and maintenance of each practice.

d. In the *SWMP Plan*, document and update annually the names, titles, and contact information for the individuals who have received the trainings listed in Part VI.D.6.a.

e. In the *SWMP Plan*, document the SWPPP review including the information found in Part III.B. of the CGP;

f. Prioritize new *construction activities* (Part VI.D.5.a.); and

g. Notify construction site owner/operators that their SWPPP has been accepted using the *MS4* SWPPP Acceptance Form[25] created by the *Department* and required by the CGP, signed in accordance with Part X.J.

7. Pre-Construction Meeting

Prior to commencement of *construction activities*, the *MS4 Operator* must ensure a pre-construction meeting is conducted. The date and content of the pre-construction inspection/meeting must be documented in the *SWMP Plan*. The owner/operator listed on the CGP NOI (if different from the *MS4 Operator*), the *MS4 Operator*, contractor(s) responsible for implementing the SWPPP for the *construction activity,* and the *qualified inspector* (if required for the *construction activity* by Part IV.C. the CGP) must attend the meeting in order to:

a. Confirm the approved project has received, or will receive[26], coverage under the CGP or an individual *SPDES* permit;

b. Verify contractors and subcontractors selected by the owner/operator of the *construction activity* have identified at least one individual that has received four (4) hours of *Department* endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District or other endorsed entity as required by the CGP and Part VI.D.3.d; and

c. Review the construction oversight program (Part VI.D.3.) and expectations for compliance.

8. Construction Site Inspections

The *MS4 Operator* must:

a. Ensure individuals(s), responsible for construction site inspections, receive:

   i. Four (4) hours of *Department* endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District, or other *Department* endorsed entity. This training must be complete, within three (3) years of the EDC and every three (3) years thereafter.

   ii. Document the completion of this requirement in the *SWMP Plan*.

b. Ensure all *MS4* Construction Site Inspectors receive this training prior to conducting construction site inspections.

   i. Individuals without these trainings cannot inspect construction sites.

   ii. Individuals who meet the definition of a *qualified professional* or *qualified inspector* are exempt from this requirement.

[25] The *MS4* SWPPP Acceptance Form can be found on the Department's website.

[26] Preconstruction meetings may occur prior to the issuance of the MS4 SWPP Acceptance Form, however, the MS4 Operator must confirm coverage under the CGP will be applied for by the construction site owner/operator prior to commencement of construction of *construction activities*.

c. Annually inspect all sites with *construction activity* identified in the inventory (Part VI.D.4.) during active construction after the pre-construction meeting (Part VI.D.7.), or sooner if deficiencies are noted that require attention.

   i. Follow up to construction site inspections must confirm corrective actions are completed within timeframes established by the CGP and the *MS4 Operator's* ERP (Part IV.F.1.).

d. In the *SWMP Plan*, document and update annually the names, titles, and contact information for the individuals who have received the trainings listed in Part VI.D.8.a.

e. Document all inspections using the Construction Site Inspection Report Form (Appendix D) or an equivalent form containing the same information. The *MS4 Operator* must include the completed Construction Site Inspection Reports in the *SWMP Plan*.

9. Construction Site Close-out

a. The *MS4 Operator* must ensure a final construction site inspection is conducted and documentation of the final construction site inspection must be maintained in the *SWMP Plan*. The final construction site inspection must be documented using the Construction Site Inspection Report Form (Appendix D), or an equivalent form containing the same information, or accept the construction site owner/operator's *qualified inspector* final inspection certification required by the CGP.

b. The Notice of Termination (NOT)[27] must be signed by the *MS4 Operator* as required by the CGP for projects determined to be complete. The NOT must be signed in accordance with Part X.J.

E. MCM 5 – Post-Construction *Stormwater* Management

The *MS4 Operator* must *develop*, implement, and enforce a program to ensure proper operation and maintenance of post construction *SMPs* for new or redeveloped sites. This MCM is designed to promote the long-term performance of post-construction *SMPs* in removing *pollutants* from *stormwater* runoff.

1. Applicable Post-Construction *SMPs*

The post-construction *SMP* program must address *stormwater* runoff to the *MS4* from *publicly owned/operated* and *privately owned/operated* post-construction *SMPs* that meet the following:

a. Post-construction *SMPs* that have been installed as part of any CGP covered construction site or individual *SPDES* permit (since March 10, 2003); and

[27] The NOT can be found on the Department's website.

b. All new post-construction *SMPs* constructed as part of the construction site *stormwater* runoff control program (Part VI.D.).

2. Post-Construction *SMP* Inventory & Inspection Tracking[28]

a. The *MS4 Operators* continuing coverage must:

i. Maintain the inventory from previous iterations of this *SPDES* general permit for post-construction *SMPs* installed after March 10, 2003; and

ii. *Develop* the inventory for post-construction *SMPs* installed after March 10, 2003 including post-construction *SMPs:*

a) As they are approved or discovered; or

b) After the owner/operator of the *construction activity* has filed the NOT with the *Department* (Part VI.D.9.b.).

b. The newly designated *MS4 Operators* must *develop* and maintain the inventory for post-construction *SMPs* installed after March 10, 2003 including post-construction *SMPs:*

i. As they are approved or discovered; or

ii. After the owner/operator of the *construction activity* has filed the NOT with the *Department* (Part VI.D.9.b.).

c. Annually, the MS4 Operator must update the inventory of post-construction SMPs to include the post-construction *SMPs* in Part VI.E.2.a. and Part VI.E.2.b.

d. Within five (5) years of the EDC, the following information must be included in the inventory either by using the *MS4 Operator* maintenance records or by verification of maintenance records provided by the owner of the post-construction *SMP*:

i. Street address or tax parcel;

ii. Type;[29]

iii. Receiving waterbody name and class (mapped in accordance with Part IV.D.1.e.ii.a));

iv. Receiving waterbody WI/PWL Segment ID (mapped in accordance with Part IV.D.1.e.ii.b));

v. Date of installation (if available) or discovery;

vi. Ownership;

vii. Responsible party for maintenance;

[28] Post-construction *SMPs* can be found at a *municipal facility*.
[29] Post-construction *SMP* types are defined in the New York State Department of Environmental Conservation Maintenance Guidance: Stormwater Management Practices, March 31, 2017 (NYS DEC Maintenance Guidance 2017).

viii. Contact information for party responsible for maintenance;

ix. Location of documentation depicting O&M requirements and legal agreements for post-construction *SMP*;

x. Frequency for inspection of post-construction *SMP*, as specified in the New York State Department of Environmental Conservation Maintenance Guidance: Stormwater Management Practices, March 31, 2017 (NYS DEC Maintenance Guidance 2017) or as specified in the O&M plan contained in the approved SWPPP (Part VI.D.6.);

xi. Reason for installation (e.g., new development, redevelopment, *retrofit*, flood control), if known;

xii. Date of last inspection;

xiii. Inspection results; and

xiv. Any corrective actions identified and completed.

e. *MS4 Operators* must document the inventory of post-construction *SMPs* in the *SWMP Plan*.

3. SWPPP Review

For post-construction *SMP* SWPPP review requirements, see Part VI.D.6.

4. Post-Construction *SMP* Inspection & Maintenance Program

Within one (1) year of the EDC, the *MS4 Operator* must *develop* and implement a post-construction *SMP* inspection and maintenance program. The post-construction *SMP* inspection and maintenance program must be documented in the *SWMP Plan* specifying:

a. The post-construction *SMP* inspection and maintenance procedures including:

i. Provisions to ensure that each post-construction *SMP* identified in the post-construction *SMP* inventory (Part VI.E.2.) is inspected at the frequency specified in the NYS DEC Maintenance Guidance 2017 or as specified in the O&M plan contained in the approved SWPPP (Part VI.D.6.), if available;

a) The *MS4 Operator* can only accept Level 1 inspections (NYS DEC Maintenance Guidance 2017) by private owners inspecting post-construction *SMPs*.

ii. Documentation of post-construction *SMP* inspections using the Post-Construction SMP Inspection Checklist[30] or an equivalent form containing the same information. The *MS4 Operator* must include the completed

[30] The *Department* developed checklist forms specific to each post-construction *SMP* designed to assist *MS4 Operators* in conducting inspections and maintenance activities of standard practices. The Post-Construction SMP Inspection Checklist, March 31, 2017, can be found on the Department's website.

post-construction *SMP* inspections (i.e., the completed Post-Construction SMP Inspection Checklist) in the *SWMP Plan*;

iii. Provisions to initiate follow-up actions (i.e., maintenance, repair, or higher-level inspection) within thirty (30) days of post-construction *SMP* inspection; and

iv. Provisions to initiate enforcement within sixty (60) days of the inspection if follow-up actions are not complete.

b. The training provisions for the *MS4 Operator*'s post-construction *SMP* inspection and maintenance procedures (Part VI.E.4.a.).

i. If new staff are added, training on the *MS4 Operator*'s post-construction *SMP* inspection and maintenance procedures (Part VI.E.4.a.) and procedures outlined in the *Department* endorsed program must be given prior to conducting any post-construction *SMP* inspection and maintenance;

ii. For existing staff, training on the *MS4 Operator*'s post-construction *SMP* inspection and maintenance procedures (Part VI.E.4.a.) and procedures outlined in the *Department* endorsed program must be given prior to conducting any post-construction *SMP* inspection and maintenance and once every five (5) years, thereafter; and

iii. If the post-construction *SMP* inspection and maintenance procedures (Part VI.E.4.a.) are updated (Part VI.E.4.d.), training on the updates must be given to all staff prior to conducting post-construction *SMP* inspection and maintenance.

c. The names, titles, and contact information for the individuals who have received post-construction *SMP* inspection and maintenance procedures training and update annually; and

d. Annually, by April 1, the *MS4 Operator* must:

i. Review and update the post-construction *SMP* inspection and maintenance procedures (Part VI.E.4.a.); and

ii. Document the completion of this requirement in the *SWMP Plan*.

F. MCM 6 – Pollution Prevention and Good Housekeeping

The *MS4 Operator* must *develop* and implement a pollution prevention and good housekeeping program for *municipal facilities* and *municipal operations* to minimize *pollutant discharges*. This MCM is designed to ensure the *MS4 Operator*'s own activities do not contribute *pollutants* to *surface waters of the State*.

1. *Best Management Practices (BMPs)* for *Municipal Facilities & Operations*

Within three (3) years of the EDC, the *MS4 Operator* must incorporate *best management practices* (*BMPs*) into the *municipal facility* program *and municipal operations* program to minimize the *discharge* of *pollutants* associated with *municipal facilities* and *municipal operations, respectively*. The *BMPs* to be considered are as follows and must be documented in the *SWMP Plan*:

a. Minimize Exposure

i. Exposure of materials to rain, snow, snowmelt, and runoff must be minimized, unless not technologically possible or not economically practicable and achievable in light of best industry practices, including areas used for loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations, with the following *BMP*s:

a) Locate materials and activities inside or protect them with storm resistant coverings;

b) Use grading, berming, or curbing to prevent runoff of contaminated flows and divert run-on away from these areas;

c) Locate materials, equipment, and activities so leaks and spills are contained in existing containment and diversion systems;

d) Clean up spills and leaks promptly using dry methods (e.g., absorbents) to prevent the *discharge* of *pollutants*;

e) Store leaky vehicles and equipment indoors or, if stored outdoors, use drip pans and absorbents;

f) Use spill/overflow protection equipment;

g) Perform all vehicle and/or equipment cleaning operations indoors, under cover, or in bermed areas that prevent runoff and run-on and also captures any overspray;

h) Drain fluids, indoors or under cover, from equipment and vehicles that will be decommissioned, and, for any equipment and vehicles that will remain unused for extended periods of time, inspect at least monthly for leaks; and/or

i) Minimize exposure of chemicals by replacing with a less toxic alternative (e.g., use non-hazardous cleaners).

ii. *No Exposure* Certification for High Priority *Municipal Facilities*

a) *Municipal facilities* may qualify for *No Exposure* Certification (Appendix D) when all activities and materials are completely sheltered from exposure to rain, snow, snowmelt and/or runoff.

b) High priority *municipal* facilities (Part VI.F.2.c.i.a)) with uncovered parking areas for vehicles awaiting maintenance may be considered a low priority *municipal facility* (Part VI.F.2.c.i.c)) if only routine maintenance is performed inside and all other n*o exposure* criteria are met.

c) *Municipal* facilities accepting or repairing disabled vehicles and/or vehicles that have been involved in accidents are not eligible for the *No Exposure* Certification.

d) *Municipal* facilities must maintain the *No Exposure* Certification and document in the *SWMP Plan*. The *No Exposure* Certification ceases to apply when activities or materials become exposed.

b. Follow a Preventive Maintenance Program

i. Implement a preventative maintenance program that includes routine inspection, testing, maintenance, and repair of all fueling areas, vehicles and equipment and systems to prevent leaks, spills and other releases. This includes:

a) Performing inspections and preventive maintenance of *stormwater* drainage, source controls, treatment systems, and plant equipment and systems;

b) Maintaining non-structural *BMPs* (e.g., keep spill response supplies available, personnel appropriately trained, containment measures, covering fuel areas); and

c) Ensure vehicle washwater is not *discharged* to the *MS4* or to *surface waters of the State*. Wash equipment/vehicles in a designated and/or covered area where washwater is collected to be recycled or *discharged* to the sanitary sewer (Part I.B.2.d.).

ii. Routine maintenance must be performed to ensure *BMPs* are operating properly.

iii. When a *BMP* is not functioning to its designed effectiveness and needs repair or replacement:

a) Maintenance must be performed before the next anticipated storm event, or as necessary to maintain the continued effectiveness of *stormwater* controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable; and

b) Interim measures must be taken to prevent or minimize the *discharge* of *pollutants* until the final repair or replacement is implemented,

including cleaning up any contaminated surfaces so that the material will not be *discharged* during subsequent storm events.

c. Spill Prevention and Response Procedures

i. Minimize the potential for leaks, spills and other releases that may be exposed to *stormwater* and *develop* plans for effective response to such spills if or when they occur. At a minimum, the *MS4 Operator* must:
   a) Store materials in appropriate containers;
   b) Label containers (e.g., “Used Oil,” “Spent Solvents,” “Fertilizers and Pesticides”) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur;
   c) Implement procedures for material storage and handling, including the use of secondary containment and barriers between material storage and traffic areas, or a similarly effective means designed to prevent the *discharge* of *pollutants* from these areas;
   d) *Develop* procedures for stopping, containing, and cleaning up leaks, spills, and other releases. As appropriate, execute such procedures as soon as possible;
   e) Keep spill kits on-site, located near areas where spills may occur or where a rapid response can be made;
   f) *Develop* procedures for notification of the appropriate facility personnel, emergency response agencies, and regulatory agencies when a leak, spill, or other release occurs. If possible, one of these individuals should be a member of the *stormwater* pollution prevention team (Part VI.F.2.d.i.a)). Any spills must be reported in accordance with 6 NYCRR 750-2.7; and
   g) Following any spill or release, the *MS4 Operator* must evaluate the adequacy of the *BMPs* identified in the *municipal facility* specific SWPPP. If the *BMPs* are inadequate, the SWPPP must be updated to identify new *BMPs* that will prevent reoccurrence and improve the emergency response to such releases.

ii. Measures for cleaning up spills or leaks must be consistent with applicable petroleum bulk storage, chemical bulk storage, or hazardous waste management regulations at 6 NYCRR Parts 596-599, 613 and 370-373.

iii. This *SPDES* general permit does not relieve the *MS4 Operator* of any reporting or other requirements related to spills or other releases of petroleum or hazardous substances. Any spill of a hazardous substance must be reported in accordance with 6 NYCRR 597.4. Any spill of petroleum must be reported in accordance with 6 NYCRR 613.6 or 17 NYCRR 32.3.

d. Erosion and Sediment Controls[31]

i. Stabilize exposed areas and control runoff using structural and/or non-structural controls to minimize onsite erosion and sedimentation.

ii. The *MS4 Operator* must consider:

a) Structural and/or non-structural controls found in the NYS E&SC 2016;

b) Areas that, due to topography, land disturbance (e.g., construction), or other factors, have potential for significant soil erosion;

c) Whether structural, vegetative, and/or stabilization *BMPs* are needed to limit erosion;

d) Whether velocity dissipation devices (or equivalent measures) are needed at *discharge* locations and along the length of any channel to provide a non-erosive flow velocity from the structure to a water course; and

e) Address erosion or areas with poor vegetative cover, especially if the erosion is within fifty (50) feet of a *surface water of the State*.

e. Manage Vegetated Areas and Open Space on *Municipal* Property

i. Maintain vegetated areas on *MS4 Operator* owned/operated property and right of ways:

a) Specify proper use, storage, and disposal of pesticides, herbicides, and fertilizers including minimizing the use of these products and using only in accordance manufacturer's instruction;

b) Use lawn maintenance and landscaping practices that are protective of water quality. Protective practices include: reduced mowing frequencies; proper disposal of lawn clippings; and use of alternative landscaping materials (e.g., drought resistant planting);

c) Place pet waste disposal containers and signage concerning the proper collection and disposal of pet waste at all parks and open space where pets are permitted; and

d) Address waterfowl congregation areas where needed to reduce waterfowl droppings from entering the *MS4*.

f. Salt[32] Storage Piles or Pile Containing Salt

Enclose or cover storage piles of salt, or piles containing salt, used for deicing or maintenance of paved surfaces, except during loading, unloading, and handling. Implement appropriate measures (e.g., good housekeeping, routine sweeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile.

[31] The use of the term "controls" in Part VI.F.1.d. aligns with the use of the term "controls" in the CGP.

[32] For purposes of this *SPDES* general permit, salt means any chloride-containing material used to treat paved surfaces for deicing, including sodium chloride, calcium chloride, magnesium chloride, and brine solutions.

g. Waste, Garbage, and Floatable Debris

i. Keep all dumpster lids closed when not in use. For dumpsters and roll off boxes that do not have lids and could leak, ensure that *discharges* have a control (e.g., secondary containment, treatment); and

ii. Keep exposed areas free of waste, garbage, and debris or intercept them before they are *discharged*:

a) Manage trash containers at parks and open space (scheduled cleanings; sufficient number);

b) Pick up trash and debris on *MS4 Operator* owned/operated property and rights of way; and

c) Clean out *catch basins* within the appropriate timeframes (Part VI.F.3.c.iii.).

h. Alternative Implementation Options

When alternative implementation options (Part IV.A.1.) are utilized, require the parties performing *municipal operations* as contracted services, including but not limited to street sweeping, snow removal, and lawn/grounds care, to meet permit requirements as the requirements apply to the activity performed.

2. *Municipal Facilities*[33]

a. *Municipal Facility* Program

Within three (3) years of the EDC, the *MS4 Operator* must *develop* and implement a *municipal facility* program. The *municipal facility* program must be documented in the *SWMP Plan* specifying:

i. The *municipal facility* procedures including:

a) The *BMPs* (Part VI.F.1.) incorporated into the *municipal facility* program;

b) The high priority *municipal facility* requirements (Part VI.F.2.d.) as applied to the specific *municipal facility*; and

c) The low priority *municipal facility* requirements (Part VI.F.2.e.) as applied to the specific *municipal facility*.

ii. The training provisions for the *MS4 Operator*'s *municipal facility* procedures (Part VI.F.2.a.i.).

a) If new staff are added, training on the *MS4 Operator*'s *municipal facility* procedures (Part VI.F.2.a.i.) must be given prior to conducting *municipal facility* procedures;

b) For existing staff, training on the *MS4 Operator*'s *municipal facility* procedures (Part VI.F.2.a.i.) must be given prior to conducting

[33] *Municipal facilities* that have coverage under a separate *SPDES* permit (either individual or MSGP) must comply with the terms and conditions of that permit and the requirements set forth in this Part are not applicable.

municipal facility procedures and once every five (5) years, thereafter; and

c) If the *municipal facility* procedures (Part VI.F.2.a.i.) are updated (Part VI.F.2.a.iv.), training on the updates must be given to all staff prior to conducting *municipal facility* procedures.

iii. The names, titles, and contact information for the individuals who have received *municipal facility* training and update annually; and

iv. Annually, by April 1, the *MS4 Operator* must:

a) Review and update the *municipal facility* procedures (Part VI.F.2.a.i.); and

b) Document the completion of this requirement in the *SWMP Plan*.

b. *Municipal Facility* Inventory

i. Within two (2) years of the EDC, the *MS4 Operator* must *develop* and maintain an inventory of all *municipal* facilities in the *SWMP* Plan. The following information must be included in the inventory:

a) Name of *municipal facility*;

b) Street address;

c) Type of *municipal facility*;

d) Prioritization (high or low) (Part VI.F.2.c.);

e) Receiving waterbody name and class (mapped in accordance with Part IV.D.1.e.ii.a)) ;

f) Receiving waterbody WI/PWL Segment ID (mapped in accordance with Part IV.D.1.e.ii.b));

g) Contact information;

h) Responsible department;

i) Location of SWPPP (if high priority; when completed);

j) Type of activities present on site;

k) Size of facility (acres);

l) Date of last assessment;

m) *BMPs* identified; and

n) Projected date of next comprehensive site assessment (Part VI.F.2.d.ii.c) or Part VI.F.2.e.ii.c), depending on the *municipal facility* prioritization (Part VI.F.2.c.)).

ii. Annually, the *MS4 Operator* must update the inventory if new *municipal* facilities are added.

c. *Municipal Facility* Prioritization

i. Within three (3) years of the EDC, the *MS4 Operator* must prioritize all known *municipal* facilities as follows:

a) High priority *municipal facilities* include *municipal* facilities that have one or more of the following on site and exposed to *stormwater*:

i) Storage of chemicals, salt, petroleum, pesticides, fertilizers, anti-freeze, lead-acid batteries, tires, waste/debris;

ii) Fueling stations; and/or

iii) Vehicle or equipment maintenance/repair.

b) Low priority *municipal facilities* include any *municipal* facilities that do not meet the criteria for a high priority (Part VI.F.2.c.i.a)) *municipal facility*.

c) High priority *municipal facilities* (Part IV.F.2.c.i.a)) which qualify for a *No Exposure* Certification (Part VI.F.1.a.ii.) are low priority *municipal* facilities.

ii. Within thirty (30) days of when a *municipal facility* is added to the inventory, the *MS4 Operator* must prioritize those *municipal* facilities; and

iii. Annually, after the initial prioritization (Part VI.F.2.c.i.), the *MS4 Operator* must update the *municipal facility* prioritization in the inventory (Part VI.F.2.b.i.) based on information gathered as part of the *municipal facility* program (Part VI.F.2.a.), including cases where a *No Exposure* Certification (Part VI.F.1.a.ii.) ceases to apply. The completion of this permit requirement must be documented in the *SWMP Plan*.

d. High Priority *Municipal Facility* Requirements

i. Municipal Facility Specific SWPPP

Within five (5) years of the EDC, *MS4 Operators* must *develop* and implement a *municipal facility* specific SWPPP for each high priority *municipal facility* (Part VI.F.2.c.i.a)) and retain a copy of the *municipal facility* specific SWPPP on site of the respective *municipal facility*. The SWPPP must contain:

a) *Stormwater* Pollution Prevention Team

The *municipal facility* specific SWPPP must identify the individuals (by name and/or title) and their role/responsibilities in *developing*, implementing, maintaining, and revising the *municipal facility* specific SWPPP. The activities and responsibilities of the team must address all aspects of the *municipal facility* specific SWPPP.

b) General Site Description

A written description of the nature of the activities occurring at the *municipal facility* with a potential to *discharge pollutants*, type of

pollutants expected, and location of key features as detailed in the site map (Part VI.F.2.d.i.e)).

c) Summary of potential *pollutant* sources

The *municipal facility* specific SWPPP must identify each area at the *municipal facility* where materials or activities are exposed to *stormwater* or from which authorized non-*stormwater discharges* (Part I.A.3.) originate, including any potential *pollutant* sources for which the *municipal facility* has reporting requirements under the Emergency Planning and Community Right-To-Know Act (EPCRA), Section 313.

i) Materials or activities include: machinery; raw materials; intermediate products; byproducts; final products or waste products; and, material handling activities which includes storage, loading and unloading, transportation or conveyance of any raw material, intermediate product, final product or waste product.

ii) For each separate area identified, the description must include:

(a) Activities - A list of the activities occurring in the area (e.g., material storage, equipment fueling and cleaning);

(b) *Pollutants* - A list of the associated *pollutant(s)* for each activity. The *pollutant(s)* list must include all materials that are exposed to *stormwater*; and

(c) Potential for presence in *stormwater* - For each area of the *municipal facility* that generates *stormwater discharges,* a prediction of the direction of flow, and the likelihood of the activity to contaminate the *stormwater discharge*. Factors to consider include the toxicity of chemicals, quantity of chemicals used, produced or *discharge*d, the likelihood of contact with *stormwater*; and history of leaks or spills of toxic or hazardous *pollutants*.

d) Spills and Releases

For areas that are exposed to precipitation or that otherwise drain to a *stormwater* conveyance to be covered under this *SPDES* general permit, the *municipal facility* specific SWPPP must include a list of spills or releases[34] of petroleum and hazardous substances or other *pollutants*, including unauthorized *non-stormwater discharges*, that may adversely affect water quality that occurred during the last three-year period. The list must be updated when spills or releases occur.

e) Site Map

[34] This may also include releases of petroleum or hazardous substances that are not in excess of reporting quantities but which may still cause or contribute to significant water quality impairment.

The *municipal facility* specific SWPPP must include a site map identifying the following, as applicable:

i) Property boundaries and size in acres;

ii) Location and extent of significant structures (including materials shelters), and impervious surfaces;

iii) Monitoring locations (mapped in accordance with Part IV.D.2.a.i.) with its approximate *sewershed*. Each monitoring location must be labeled with the monitoring location identification;

iv) Location of all post-construction *SMPs* (mapped in accordance with Part IV.D.2.a.iv.) and *MS4* infrastructure (mapped in accordance with Part IV.D.2.b.i.);

v) Locations of *discharges* authorized under other *SPDES* permits;

vi) Locations where potential spills or releases can contribute to *pollutants* in *stormwater discharges* and their accompanying drainage points;

vii) Locations of haul and access roads;

viii) Rail cars and tracks;

ix) Arrows showing direction of *stormwater* flow;

x) Location of all receiving waters in the immediate vicinity of the *municipal facility*, indicating if any of the waters are impaired and, if so, whether the waters have *TMDLs* established for them (mapped in accordance with Part IV.D.1.e.ii.);

xi) Locations where *stormwater* flows have significant potential to cause erosion;

xii) Location and source of run-on from adjacent property containing significant quantities of *pollutants* and/or volume of concern to the *municipal facility*; and

xiii) Locations of the following areas where such areas are exposed to precipitation or *stormwater*:

(a) Fueling stations;
(b) Vehicle and equipment maintenance and/or cleaning areas;
(c) Loading/unloading areas;
(d) Locations used for the treatment, storage or disposal of wastes;
(e) Liquid storage tanks;
(f) Processing and storage areas;
(g) Locations where significant materials, fuel or chemicals are stored and transferred;
(h) Locations where vehicles and/or machinery are stored when not in use
(i) Transfer areas for substances in bulk;

(j) Location and description of non-*stormwater discharges* (Part I.A.3.);
(k) Locations where spills[35] or leaks have occurred; and
(l) Locations of all existing structural *BMP*s.

f) *Stormwater Best Management Practices (BMPs)*

The *municipal facility* specific SWPPP must document the location and type of *BMPs* implemented at the *municipal facility* (Part VI.F.1.). The *municipal facility* specific SWPPP must describe how each *BMP* is being implemented for all the potential *pollutant* sources.

g) *Municipal facility* assessments
The *municipal facility* specific SWPPP must include a schedule for completing and recording results of routine and comprehensive site assessments (Part VI.F.2.d.ii.c)).

ii. Municipal Facility Assessments

a) Wet Weather Visual Monitoring

i) Once every five (5) years, the *MS4 Operator* must conduct wet weather visual monitoring of the monitoring locations (Part VI.C.1.b.) and other sites of *stormwater* leaving the site that are *discharging stormwater* from fueling areas, storage areas, vehicle and equipment maintenance/fueling areas, material handling areas and similar potential *pollutant* generating areas (Part VI.F.2.d.i.e)xiii)).

(a) All samples must be collected from *discharges* resulting from a *qualifying storm event*. The storm event must be documented using the Storm Event Data Form (Appendix D) and kept with the *municipal facility* specific SWPPP. The sample must be taken during the first thirty (30) minutes (or as soon as practical, but not to exceed one hour) of the *discharge* at the monitoring location.

(b) No analytical tests are required to be performed on the samples for the purpose of meeting the visual monitoring requirements.

(c) The visual examination must document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and any other obvious indicators of *stormwater* pollution.

(d) The visual examination of the sample must be conducted in a well-lit area.

[35] A spill includes: any spill of a hazardous substance that must be reported in accordance with 6 NYCRR 597.4 and any spill of petroleum that must be reported in accordance with 6 NYCRR 613.6 or 17 NYCRR 32.3.

(e) Where practicable, the same individual should carry out the collection and examination of *discharges* for the entire permit term for consistency.

(f) The *MS4 Operator* must document the visual examination using the Visual Monitoring Form (Appendix D) and keep it with the *municipal facility* specific SWPPP to record:

(i) Monitoring location ID;

(ii) Examination date and time;

(iii) Personnel conducting the examination;

(iv) Nature of the *discharge* (runoff or snowmelt);

(v) Visual quality of the *stormwater discharge* including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of *stormwater* pollution; and

(vi) Probable sources of any observed *stormwater* contamination.

(vii) Corrective and follow up actions – If the visual examination indicates the presence of color, odor, floating solids, settled solids, suspended solids, foam, oil sheen, or other indicators of *stormwater* pollution, the *MS4 Operator* must, at minimum, complete and document the following actions:

(1) Evaluate the facility for potential sources;

(2) Remedy the problems identified;

(3) Revise the *municipal facility* specific SWPPP; and

(4) Perform an additional visual inspection during the first *qualifying storm event* following implementation of the corrective action. If the first *qualifying storm event* does not occur until the next visual monitoring period, this follow up action may be used as the next visual inspection.

b) The monitoring locations inspection and sampling program must be implemented at the *municipal facility* (Part VI.C.1.e.).

c) Comprehensive Site Assessments

i) Once every five (5) years following the most recent assessment, the *MS4 Operator* must complete a comprehensive site assessment for each high priority *municipal facility* as identified in the inventory (Part VI.F.2.b.) using the Municipal Facility Assessment Form (Appendix D) or an equivalent form containing

the same information, and document in the *municipal facility* specific SWPPP and *SWMP Plan* that:

(a) The *municipal facility* is in compliance with the terms and conditions of this *SPDES* general permit;

(b) Deficiencies were identified and all reasonable steps will be taken to minimize any *discharge* in violation of the permit, which has a reasonable likelihood of adversely affecting human health or the environment;

(i) Within twenty-four (24) hours, the *MS4 Operator* must prepare a schedule that includes corrective actions and specific interim milestones to be implemented until the corrective action is implemented; or

(c) Deficiencies were identified and all reasonable steps will be taken to minimize any *discharge* in violation of the permit, which does not have a reasonable likelihood of adversely affecting human health or the environment;

(i) Within seven (7) days, the *MS4 Operator* must prepare a schedule that includes corrective actions and specific interim milestones to be implemented until the corrective action is implemented.

e. Low Priority *Municipal Facility* Requirements

i. The *MS4 Operator* must identify procedures outlining *BMPs* for the types of activities that occur at the low priority *municipal* facilities as described in Part VI.F.1. A *municipal facility* specific SWPPP is not required.

ii. *Municipal Facility* Assessments

a) Low priority *municipal* facilities are not required to conduct wet weather visual monitoring.

b) The monitoring locations inspection and sampling program must be implemented at the *municipal facility* (Part VI.C.1.e.).

c) Comprehensive Site Assessments

i) Once every five (5) years following the most recent assessment, the *MS4 Operator* must complete a comprehensive site assessment for each low priority *municipal facility* as identified in the inventory (Part VI.F.2.b.) using the Municipal Facility Assessment Form (Appendix D) or an equivalent form containing the same information, and document in the *SWMP Plan* that:

(a) The *municipal facility* is in compliance with the terms and conditions of this *SPDES* general permit;

(b) Deficiencies were identified and all reasonable steps will be taken to minimize any *discharge* in violation of the permit, which

has a reasonable likelihood of adversely affecting human health or the environment;

(i) Within twenty-four (24) hours, the *MS4 Operator* must prepare a schedule that includes corrective actions and specific interim milestones to be implemented until the corrective action is implemented; or

(c) Deficiencies were identified and all reasonable steps will be to minimize any *discharge* in violation of the permit, which does not have a reasonable likelihood of adversely affecting human health or the environment;

(i) Within seven (7) days, the *MS4 Operator* must prepare a schedule that includes corrective actions and specific interim milestones to be implemented until the corrective action is implemented.

3. *Municipal Operations* & Maintenance

a. *Municipal Operations* Program

Municipal operations are: street and bridge maintenance; winter road maintenance; *MS4* maintenance; open space maintenance; solid waste management; new construction and land disturbances; right-of-way maintenance; marine operations; or hydrologic habitat modification.

Within three (3) years of the EDC, the *MS4 Operator* must *develop* and implement a *municipal operations* program. The *municipal operations* program must be documented in the *SWMP Plan* specifying:

i. The *municipal operations* procedures including:

a) The *BMPs* (Part VI.F.1.) incorporated into the *municipal operations* program;

b) The *municipal operations* corrective actions requirements (Part VI.F.3.b.);

c) *Catch basin* inspection and maintenance requirements (Part VI.F.3.c.);

d) Roads, bridges, parking lots, and right of way maintenance requirements (Part VI.F.3.d.); and

e) All other *municipal operations* maintenance requirements.

ii. The training provisions for the *MS4 Operator*'s *municipal operations* procedures (Part VI.F.3.a.i.).

a) If new staff are added, training on the *MS4 Operator*'s *municipal operations* procedures (Part VI.F.3.a.i.) must be given prior to conducting *municipal operations* procedures;

b) For existing staff, training on the *MS4 Operator*'s *municipal operations* procedures (Part VI.F.3.a.i.) must be given prior to conducting *municipal operations* procedures and once every five (5) years, thereafter; and

c) If the *municipal operations* procedures (Part VI.F.3.a.i.) are updated (Part VI.F.3.a.iv.), training on the updates must be given to all staff prior to conducting *municipal operations* procedures.

iii. The names, titles, and contact information for the individuals who have received *municipal operations* training and update annually; and

iv. Annually, by April 1, the *MS4 Operator* must:

a) Review and update the *municipal operations* procedures (Part VI.F.3.a.i.); and

c) Document the completion of this requirement in the *SWMP Plan*.

b. *Municipal Operations* Corrective Actions

i. For *municipal operations*, *MS4 Operators* must either:

a) Ensure compliance with the terms and conditions of this *SPDES* general permit; or

b) Implement corrective actions according to the following schedule and, after implementation, ensure the operations are in compliance with the terms and conditions of this *SPDES* general permit:

i) Within twenty-four (24) hours of discovery for situations that have a reasonable likelihood of adversely affecting human health or the environment;

ii) Initiated within seven (7) days of inspection and completed within thirty (30) days of inspection for situations that do not have a reasonable likelihood of adversely affecting human health or the environment; and

iii) For corrective actions that require special funding or construction that will take longer than thirty (30) days to complete, a schedule must be prepared that specifies interim milestones that will ensure compliance in the shortest reasonable time.

c. *Catch Basin* Inspection and Maintenance

Within three (3) years of the EDC, the MS4 Operator must:

i. Identify when *catch basin* inspection is needed with consideration for:

a) Areas with *construction activities* (mapped in accordance with Part IV.D.2.a.iii.);

b) Residential, commercial, and industrial areas (mapped in accordance with Part IV.D.1.d.iii.);

c) Recurring or history of issues; or

d) Confirmed citizen complaints on three or more separate occasions in the last twelve (12) months.

ii. Inventory *catch basin* inspection information including:

a) Date of inspection;

b) Approximate level of trash, sediment, and/or debris captured at time of clean-out (no trash, sediment, and/or debris, <50% of the depth of the *sump*, >50% of the depth of the *sump*);

c) Depth of structure;

d) Depth of *sump*; and

e) Date of clean out, if applicable (Part VI.F.3.c.iii.).

iii. Based on inspection results, clean out *catch basins* within the following timeframes:

a) Within six (6) months after the *catch basin* inspection, *catch basins* which had trash, sediment, and/or debris exceeding 50% of the depth of the *sump* as a result of a *catch basin* inspection must be cleaned out;

b) Within one (1) year after the *catch basin* inspection, *catch basins* which had trash, sediment, and/or debris at less than 50% of the depth of the *sump* as a result of a *catch basin* inspection must be cleaned out; and

c) MS4 Operators are not required to clean out *catch basins* if the *catch basins* are operating properly and:

i. There is no trash, sediment, and/or debris in the *catch basin*; or

ii. The *sump* depth of the *catch basin* is less than or equal to two (2) feet.

iv. Properly manage (handling and disposal) materials removed from *catch basins* during clean out so that:

a) Water removed during the *catch basin* cleaning process will not reenter the *MS4* or *surface waters of the State*;

b) Material removed from *catch basins* is disposed of in accordance with any applicable environmental laws and regulations; and

c) Material removed during the *catch basin* cleaning process will not reenter the *MS4* or *surface waters of the State*.

v. Determine if there are signs/evidence of *illicit discharges* and procedures for referral/follow-up if *illicit discharges* are encountered.

d. Roads, Bridges, Parking Lots, & Right of Way Maintenance

i. Sweeping

Within six (6) months of the EDC, the *MS4 Operator* must *develop* and implement procedures for sweeping and/or cleaning *municipal* streets, bridges, parking lots, and right of ways owned/operated by the *MS4 Operator*. The procedures and completion of permit requirements must be documented in the *SWMP Plan* specifying:

a) All roads, bridges, parking lots, and right of ways must be swept and/or cleaned once every five (5) years in the spring (following winter activities such as sanding). This requirement is not applicable to:

   i) Uncurbed roads with no *catch basins*;

   ii) High-speed limited access highways; or

   iii) Roads defined as interstates, freeways and expressways, or arterials by the United States Department of Transportation, Federal Highway Administration, Highway Functional Classification Concepts, Criteria and Procedures, 2013.

b) Annually, from April 1 through October 31, roads in business and commercial areas must be swept. This requirement is not applicable to:

   i) Uncurbed roads with no *catch basins*;

   ii) High-speed limited access highways; or

   iii) Roads defined as interstates, freeways and expressways, or arterials by the USDOT 2013.

ii. Maintenance

Within five (5) years of the EDC, in addition to the *BMPs* (Part VI.F.1.), the *MS4 Operator* must implement the following provisions:

a) Pave, mark, and seal in dry conditions;

b) Stage road operations and maintenance activity (e.g., patching, potholes) to reduce the potential discharge of pollutants to the *MS4* or *surface waters of the State*;

c) Restrict the use of herbicides/pesticide application to roadside vegetation; and

d) Contain *pollutants* associated with bridge maintenance activities (e.g., paint chips, dust, cleaning products, other debris).

iii. Winter Road Maintenance

Within five (5) years of the EDC, in addition to the *BMPs* (Part VI.F.1.), the *MS4 Operator* must implement the following provisions:

a) Routinely calibrate equipment to control salt/sand application rates; and

b) Ensure that routine snow disposal activities comply with the Division of Water Technical and Operation Guidance Series 5.1.11, Snow Disposal.[36]

[36] The Division of Water Technical and Operation Guidance Series 5.1.11, Snow Disposal can be found on the Department's website.

Part VII. Minimum Control Measures (MCMs) for *Traditional Non-Land Use Control & Non-Traditional MS4 Operators*

In addition to the requirements contained in Part I. through Part V*, traditional non-land use* and *non-traditional MS4 Operators* must comply with the MCMs contained in this Part. These *MS4 Operators* should consider their public to be:

- Employees (i.e., staff, faculty);
- User population/visitors;
- Students;
- Tenants; and
- Contractors & developers working for *MS4 Operator*.

A. MCM1 – Public Education and Outreach Program

The *MS4 Operator* must *develop* and implement an education and outreach program to increase public awareness of *pollutant* generating activities and behaviors. This MCM is designed to inform the public about the impacts of *stormwater* on water quality, the general sources of *stormwater pollutants*, and the steps the general public can take to reduce *pollutants* in *stormwater* runoff.

1. Development

a. Focus Areas

Within three (3) years of the EDC, the *MS4 Operator* must identify and document the focus areas in the *SWMP Plan*. The focus areas to be considered are as follows:

i. Areas *discharging* to waters with Class AA-S, A-S, AA, A, B, SA, or SB (mapped in accordance with Part IV.D.1.e.ii.a));

ii. *Sewersheds* for impaired waters listed in Appendix C (subject to Part VIII. requirements; mapped in accordance with Part IV.D.1.c. for *MS4 Operators* continuing coverage and Part IV.D.2.a.ii. for newly designated *MS4 Operators*);

iii. *TMDL* watersheds (subject to Part IX. requirements; mapped in accordance with Part IV.D.1.e.ii.c));

iv. Areas with *construction activities*;

v. Areas with on-site wastewater systems (subject to Part VIII. or Part IX. requirements);

vi. Residential, commercial, and industrial areas (mapped in accordance with Part IV.D.1.e.iii.);

vii. *Stormwater hotspots*; and

viii. Areas with *illicit discharges*.

b. Target Audiences and Associated *Pollutant* Generating Activities

Within three (3) years of the EDC, the *MS4 Operator* must identify and document the applicable target audience(s) and associated *pollutant* generating activities that the outreach and education will address for each focus area identified by the *MS4 Operator* in Part VII.A.1.a. in the *SWMP Plan*. The target audiences are as follows:

i. Residents;

ii. Commercial:[37] Business owners and staff;

iii. Institutions:[38] Managers, staff, and students;

iv. Construction: Developers, contractors, and design professionals;

v. Industrial:[39] Owners and staff; and

vi. *MS4 Operator*'s *municipal* staff.

c. Education and Outreach Topics

Within three (3) years of the EDC, the *MS4 Operator* must identify and document in the *SWMP Plan* the education and outreach topics and how the education and outreach topics will reduce the potential for *pollutants* to be generated by the target audience(s) (Part VII.A.1.b.) for the focus area(s) (Part VII.A.1.a.).

e. *Illicit Discharge* Education

Within six (6) months of the EDC, the *MS4 Operator* must make information related to the prevention of *illicit discharges*, available to *municipal* employees, businesses, and the public and document the completion of this requirement in the *SWMP Plan*. The information related to the prevention of illicit discharges must include the following:

i. What types of *discharges* are allowable (Part I.A.3.);

ii. What is an *illicit discharge* and why is it prohibited (Part VII.C.);

iii. The environmental hazards associated with *illicit discharges* and improper disposal of waste;

iv. Proper handling and disposal practices for the most common behaviors within the community (e.g., septic care, car washing, household hazardous waste, swimming pool draining, or other activities resulting in *illicit discharges* to the *MS4*); and

v. How to report *illicit discharges* they may observe (Part VII.C.1.a.).

[37] Business, retail stores, and restaurants.
[38] Hospitals, churches, colleges, and schools.
[39] Factories, recyclers, auto-salvage, and mines.

2. Implementation and Frequency

a. Distribution Method of Educational Messages

Once every five (5) years, the *MS4 Operator* must identify and document in the *SWMP Plan* which of the following method(s) are used for the distribution of educational messages:

i. Printed materials (e.g., mail inserts, brochures, and newsletters);

ii. Electronic materials (e.g., websites, email listservs);

iii. Mass media (e.g., newspapers, public service announcements on radio or cable);

iv. Workshops or focus groups;

v. Displays in public areas (e.g., town halls, library, parks); or

vi. Social Media (e.g., Facebook, Twitter, blogs).

b. Frequency

Following the completion of Part VII.A.1.a, Part VII.A.1.b, and Part VII.A.1.c, within five (5) years of the EDC, and once every five (5) years, thereafter, the *MS4 Operator* must:

i. Deliver an educational message to each target audience(s) (Part VII.A.1.b.) for each focus area(s) (Part VII.A.1.a.) based on the defined education and outreach topic(s) (Part VII.A.1.c.); and

ii. Document the completion of this requirement in the *SWMP Plan*.

c. Updates to the Public Education and Outreach Program

Following the completion of Part VII.A.1.a, Part VII.A.1.b, and Part VII.A.1.c, annually, by April 1, the *MS4 Operator* must:

i. Review and update the focus areas, target audiences, and/or education and outreach topics; and

ii. Document the completion of this requirement in the *SWMP Plan*.

B. MCM 2 - Public Involvement/Participation

The *MS4 Operator* must provide opportunities to involve the public in the development, review, and implementation of the *SWMP*. This MCM is designed to give the public the opportunity to include their opinions in the implementation of this *SPDES* general permit.

1. Public Involvement/Participation

a. Annually, the *MS4 Operator* must provide an opportunity for public involvement/participation in the development and implementation of the *SWMP*. The *MS4 Operator* must document the public involvement/participation opportunities in the *SWMP* Plan. The opportunities for public involvement/participation are as follows:

i. Citizen advisory group on *stormwater* management;

ii. Public hearings or meetings;

iii. Citizen volunteers to educate other individuals about the *SWMP*;

iv. Coordination with other pre-existing public involvement/participation opportunities;

v. Reporting concerns about activities or behaviors observed; or

vi. Stewardship activities.

b. Annually, the *MS4 Operator* must inform the public of the opportunity (Part VII.B.1.a.) for their involvement/participation in the development and implementation of the *SWMP* and how they can become involved. The *MS4 Operator* must document the method for distribution of this information in the *SWMP Plan*. The methods for distribution are as follows:

i. Public notice;

ii. Printed materials (e.g., mail inserts, brochures and newsletters);

iii. Electronic materials (e.g., websites, email listservs);

iv. Mass media (e.g., newspapers, public service announcements on radio or cable);

v. Workshops or focus groups;

vi. Displays in public areas (e.g., town halls, library, parks); or

vii. Social Media (e.g., Facebook, Twitter, blogs).

c. Within six (6) months of the EDC, the *MS4 Operator* must identify a local point of contact to receive and respond to public concerns regarding *stormwater* management and compliance with permit requirements. The name or title of this individual, with contact information, must be published on public outreach and public participation materials and documented in the *SWMP Plan*.

2. Public Notice and Input Requirements

a. Public Notice and Input Requirements for *SWMP Plan*

Annually, the *MS4 Operator* must provide an opportunity for the public to review and comment on the publicly available *SWMP Plan* (Part IV.B.2.b.). The public must have the ability to ask questions and submit comments on the *SWMP Plan*. The completion of this permit requirement must be documented in the *SWMP Plan*. This requirement may be satisfied by Part VII.B.1.

b. Public Notice and Input Requirements for Draft Annual Report

i. Annually, the *MS4 Operator* must provide an opportunity for the public to review and comment on the draft Annual Report. The completion of this permit requirement must be documented in the *SWMP Plan*. This requirement may be satisfied by either:

a) Presentation of the draft Annual Report at a regular meeting of an existing board (e.g., administrative, planning, zoning) or a separate meeting specifically for *stormwater*, as designated by the *MS4* or if requested by the public. The public must have the ability to ask questions about and make comments on the draft annual report during that presentation; or

b) Posting of the draft Annual Report on a public website. The website must provide information on the timeframes and procedures to submit comments and/or request a meeting. However, if a public meeting is requested by two or more persons, the *MS4 Operator* must hold such a meeting.

c. Consideration of Public Input

i. Annually, the *MS4 Operator* must include a summary of comments received on the *SWMP Plan* and draft Annual Report in the *SWMP Plan*.

ii. Within thirty (30) days of when public input is received, the *MS4 Operator* must update the *SWMP Plan*, where appropriate, based on the public input received.

C. MCM 3 - *Illicit Discharge* Detection and Elimination

The *MS4 Operator* must *develop*, implement, and enforce a program which systematically detects, tracks down, and eliminates *illicit discharges* to the *MS4*. This MCM is designed to manage the *MS4* so it is not conveying *pollutants* associated with flows other than those directly attributable to *stormwater* runoff.

1. *Illicit Discharge* Detection

a. Public Reporting of *Illicit Discharges*

i. Within six (6) months of the EDC, the *MS4 Operator* must establish and document in the *SWMP Plan* an email or phone number (with message recording capability) for the public to report *illicit discharges*.

ii. Within thirty (30) days of an *illicit discharge*, the *MS4 Operator* must document each report of an *illicit discharge* in the *SWMP Plan* with the following information:

a) Date of the report;

b) Location of the *illicit discharge;*

c) Nature of the *illicit discharge;*

d) Follow up actions taken or needed (including response times); and

e) Inspection outcomes and any enforcement taken.

b. Monitoring Locations

The monitoring locations used to detect *illicit discharges* are identified as follows:

i. *MS4 outfalls;*[40]
ii. *Interconnections*;[41] and
iii. *Municipal facility intraconnections*.[42]

c. Monitoring Locations Inventory

i. Within three (3) years of the EDC, the *MS4 Operator* must *develop* and maintain an inventory of the monitoring locations in the *SWMP Plan*. The following information must be included in the inventory:[43]

a) Inventory information for *MS4 outfall*s

i) ID;
ii) Prioritization (high or low) (Part VII.C.1.d.);
iii) Type of monitoring location (Part VII.C.1.b.);
iv) Name of *MS4 Operator's municipal facility*, if located at a *municipal facility*;[44]
v) Receiving waterbody name and class (mapped in accordance with Part IV.D.1.e.ii.a));
vi) Receiving waterbody WI/PWL Segment ID (mapped in accordance with Part IV.D.1.e.ii.b));
vii) Land use in drainage area;
viii) Type of conveyance (open drainage or closed pipe);
ix) Material;
x) Shape;
xi) Dimensions;
xii) Submerged in water; and
xiii) Submerged in sediment.

b) Inventory information for *interconnections*

i) ID;
ii) Prioritization (high or low) (Part VII.C.1.d.);
iii) Type of monitoring location (Part VII.C.1.b.);
iv) Name of *MS4 Operator* receiving *discharge* or private storm system;

[40] *MS4 outfall*s can be found at a *municipal facility*.
[41] *Interconnections* can be found a *municipal facility*.
[42] *Municipal facility intraconnections* can be found only at a *municipal facility*.
[43] The information included in the inventory is collected during inspections on the Monitoring Locations Inspection and Sampling Field Sheet (Appendix D) unless otherwise specified by the permit conditions.
[44] This information is collected as part of the *municipal facility* inventory.

v) Name of *MS4 Operator*'s *municipal facility*, if located at a *municipal facility*; and
vi) Receiving waterbody name and class (mapped in accordance with Part IV.D.1.e.ii.a)).

c) Inventory information for *municipal facility intraconnections*

i) ID;
ii) Prioritization (high or low) (Part VII.C.1.d.);
iii) Type of monitoring location (Part VII.C.1.b.);
iv) Name of *MS4 Operator*'s *municipal facility*; and
v) Receiving waterbody name and class (mapped in accordance with Part IV.D.1.e.ii.a)).

ii. Annually, the *MS4 Operator* must update the inventory if monitoring locations are created or discovered.

d. Monitoring Locations Prioritization

i. Within three (3) years of the EDC, the *MS4 Operator* must prioritize monitoring locations which are included in the monitoring locations inventory (Part VII.C.1.c.) as follows:

a) High priority monitoring locations include monitoring locations:

vi) At a high priority *municipal facility*, as defined in Part VII.F.2.c;

vii) *Discharging* to impaired waters (subject to Part VIII. requirements; mapped in accordance with Part IV.D.1.e.ii.b));

viii) *Discharging* within a TMDL watershed (subject to Part IX. requirements; mapped in accordance with Part IV.D.1.e.ii.c));

ix) *Discharging* to waters with Class AA-S, A-S, AA, A, B, SA, or SB (mapped in accordance with Part IV.D.1.e.ii.a)); and/or

x) Confirmed citizen complaints on three or more separate occasions in the last twelve (12) months.

b) All other monitoring locations are considered low priority.

ii. Within thirty (30) days of when a monitoring location is constructed or the *MS4 Operator* discovers it, the *MS4 Operator* must prioritize those monitoring locations; and

iii. Annually, after the initial prioritization (Part VII.C.1.d.i.), the *MS4 Operator* must update the monitoring location prioritization in the inventory (Part VII.C.1.c.) based on information gathered as part of the monitoring location inspection and sampling program (Part VII.C.1.e.). The completion of this permit requirement must be documented in the *SWMP Plan*.

e. Monitoring Locations Inspection and Sampling Program

Within two (2) years of the EDC, the *MS4 Operator* must *develop* and implement a monitoring locations inspection and sampling program. The monitoring locations inspection and sampling program must be documented in the *SWMP Plan* specifying:

i. The monitoring locations inspection and sampling procedures including:

a) During *dry weather,*[45] one (1) inspection of each monitoring location identified in the inventory (Part VII.C.1.c.) every five (5) years following the most recent inspection;

b) Documentation of all monitoring location inspections, including any sampling results, using the Monitoring Locations Inspection and Sampling Field Sheet (Appendix D) or an equivalent form containing the same information and include the completed monitoring location inspections and sampling results in the *SWMP Plan* (e.g., the completed Monitoring Locations Inspection and Sampling Field Sheets);

c) Provisions to sample all monitoring locations which had inspections which resulted in a *suspect* or *obvious illicit discharge* characterization. The sampling requirement is based on the number and severity of *physical indicators present in the flow* to better inform track down procedures (Part VII.C.2.). If the source of the *illicit discharge* is clear and discernable (e.g., sewage), sampling is not necessary;

d) Sampling may be done with field test kits or field instrumentation that are sufficiently sensitive to detect the parameter below the sampling action level used[46] and are not subject to 40 CFR Part 136 requirements for approved methods and certified laboratories;

e) Provisions to initiate, or cause to initiate,[47] track down procedures (Part VII.C.2.a.), in accordance with the timeframes specified in Part VII.C.2.a.iii, for monitoring locations with an overall characterization[48] as *suspect illicit discharge* or *obvious illicit discharge* or that exceed any sampling action level used;

f) Provisions to re-inspect the monitoring location within thirty (30) days of initial inspection if there is a *physical indicator not related to flow*, potentially indicative of *intermittent* or *transitory discharges,* utilizing techniques described in Chapter 12.6 of the Center for Watershed

[45] MS4 Operators can reference the Center for Watershed Protection Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assistance, October 2004 (CWP 2004) for other factors to consider when determining when to conduct monitoring location inspection and sampling.
[46] Refer to Chapter 12 of the CWP 2004 for parameters, sampling action levels, and procedures.
[47] If track down is conducted by individuals or entities other than those conducting the monitoring locations inspections.
[48] Reference to the Monitoring Locations Inspection and Sampling Field Sheet, adapted from CWP 2004, Section 6: Overall Monitoring Location Characterization based on the Relative Severity Index of physical indicators for flowing monitoring locations only.

Protection Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assistance, October 2004 (CWP 2004) or equivalent.

i) If those same physical indicators persist, the *MS4 Operator* must initiate *illicit discharge* track down procedures (Part VII.C.2.a.).

ii. The training provisions for the *MS4 Operator*'s monitoring locations inspection and sampling procedures (Part VII.C.1.e.i.).

a) If new staff are added, training on the *MS4 Operator*'s monitoring locations inspection and sampling procedures (Part VII.C.1.e.i.) must be given prior to conducting monitoring locations inspections and sampling procedures;

b) For existing staff, training on the *MS4 Operator*'s monitoring locations inspection and sampling procedures (Part VII.C.1.e.i.) must be given prior to conducting monitoring locations inspections and sampling and once every five (5) years, thereafter; and

c) If the monitoring locations inspection and sampling procedures (Part VII.C.1.e.i.) are updated (Part VII.C.1.e.iv.), training on the updates must be given to all staff prior to conducting monitoring locations inspections and sampling.

iii. The names, titles, and contact information for the individuals who have received monitoring locations inspection and sampling procedures training and update annually; and

iv. Annually, by April 1, the *MS4 Operator* must:

a) Review and update the monitoring location inspection and sampling procedures (Part VII.C.1.e.i.) based on monitoring location inspection results (e.g., trends, patterns, areas with *illicit discharges*, and common problems); and

b) Document the completion of this requirement in the *SWMP Plan*.

2. *Illicit Discharge* Track Down Program

Within two (2) years of the EDC, the *MS4 Operator* must *develop* and implement an *illicit discharge* track down program to identify the source of *illicit discharges* and the responsible party. The *illicit discharge* track down program must be documented in the *SWMP Plan* specifying:

a. The *illicit discharge* track down procedures including:

i. Procedures as described in Chapter 13 of CWP 2004 or equivalent;

ii. Steps taken for *illicit discharge* track down procedures;

iii. The following timeframes to initiate *illicit discharge* track down:

a) Within twenty-four (24) hours of discovery, the *MS4 Operator* must initiate track down procedures for flowing *MS4* monitoring locations with *obvious illicit discharges;*[49]

b) Within two (2) hours of discovery, the *MS4 Operator* must initiate track down procedures for *obvious illicit discharges* of sanitary wastewater that would affect bathing areas during bathing season, shell fishing areas or public water intakes and report orally or electronically to the Regional Water Engineer and local health department; and

c) Within five (5) days of discovery, the *MS4 Operator* must initiate track down procedures for *suspect illicit discharges*.

b. The training provisions for the *MS4 Operator*'s *illicit discharge* track down procedures (Part VII.C.2.a.).

i. If new staff are added, training on the *MS4 Operator*'s *illicit discharge* track down procedures (Part VII.C.2.a.) must be given prior to conducting *illicit discharge* track downs;

ii. For existing staff, training on the *MS4 Operator*'s *illicit discharge* track down procedures (Part VII.C.2.a.) must be given prior to *conducting illicit discharge* track downs and once every five (5) years, thereafter; and

iii. If the *illicit discharge* track down procedures (Part VII.C.2.a.) are updated (Part VII.C.2.d.), training on the updates must be given to all staff prior to conducting *illicit discharge* track downs.

c. The names, titles, and contact information for the individuals who have received *illicit discharge* track down procedures training and update annually; and

d. Annually, by April 1, the *MS4 Operator* must:

i. Review and update the *illicit discharge* track down procedures (Part VII.C.2.a.); and

ii. Document the completion of this requirement in the *SWMP Plan*.

3. *Illicit Discharge* Elimination Program

Within two (2) years of the EDC, the *MS4 Operator* must *develop* and implement an *illicit discharge* elimination program. The *illicit discharge* elimination program must be documented in the *SWMP Plan* specifying:

a. The *illicit discharge* elimination procedures including:

i. Provisions for escalating enforcement and tracking, both consistent with the ERP required in Part IV.F. of this *SPDES* general permit;

ii. Provisions to confirm the corrective actions have been taken;

[49] Reference to the Monitoring Locations Inspection and Sampling Field Sheet, adapted from CWP 2004, Section 6: Overall Monitoring Location Characterization based on the Relative Severity Index of physical indicators for flowing monitoring locations only.

iii. Steps taken for *illicit discharge* elimination procedures; and

iv. The following timeframes for *illicit discharge* elimination:

a) Within twenty-four (24) hours of identification of an *illicit discharge* that has a reasonable likelihood of adversely affecting human health or the environment, the *MS4 Operator* must eliminate the *illicit discharge*;

b) Within five (5) days of identification of an *illicit discharge* that does not have a reasonable likelihood of adversely affecting human health or the environment, the *MS4 Operator* must eliminate the *illicit discharge;* and

c) Where elimination of an *illicit discharge* within the specified timeframes (Part VII.C.3.a.iv.) is not possible, the *MS4 Operator* must notify the Regional Water Engineer.

b. The training provisions for the *MS4 Operator*'s *illicit discharge* elimination procedures (Part VII.C.3.a.).

i. If new staff are added, training on the *MS4 Operator*'s *illicit discharge* elimination procedures (Part VII.C.3.a.) must be given prior to conducting *illicit discharge* eliminations;

ii. For existing staff, training on the *MS4 Operator*'s *illicit discharge* elimination procedures (Part VII.C.3.a.) must be given prior to conducting *illicit discharge* eliminations and once every five (5) years, thereafter; and

iii. If the *illicit discharge* elimination procedures (Part VII.C.3.a.) are updated (Part VII.C.3.d.), training on the updates must be given to all staff prior to conducting *illicit discharge* eliminations.

c. The names, titles, and contact information for the individuals who have received *illicit discharge* elimination procedures training and update annually; and

d. Annually, by April 1, the *MS4 Operator* must:

i. Review and update the *illicit discharge* elimination procedures (Part VII.C.3.a.); and

ii. Document the completion of this requirement in the *SWMP Plan*.

D. MCM 4 - Construction Site *Stormwater* Runoff Control

The *MS4 Operator* must *develop*, implement, and enforce a program to ensure construction sites are effectively controlled. This MCM is designed to prevent *pollutants* from construction related activities,[50] as well as promote the proper planning and installation of post-construction *SMPs*.

[50] Projects that comply with the terms and conditions of the CGP or an individual *SPDES* permit for *stormwater* for which they obtained coverage and local erosion and sediment control requirements are effectively controlled.

1. Applicable Construction Activities/Projects/Sites

a. The construction site *stormwater* runoff control program must address *stormwater* runoff to the *MS4* from sites with *construction activities* permitted, approved, funded, or owned/operated by the *MS4 Operator* that:

i. Result in a total land disturbance of greater than or equal to one acre; or,

ii. Disturb less than one acre if part of a larger common plan of development or sale.

b. For *construction activities* where the *MS4 Operator* is listed as the owner/operator on the Notice of Intent for coverage under the CGP:

i. The *MS4 Operator* must ensure compliance with the CGP; and

ii. The additional requirements for construction oversight described in Part VII.D.6 through Part VII.D.9 are not required.

2. Public Reporting of Construction Site Complaints

a. Within six (6) months of the EDC, the *MS4 Operator* must establish and document in the *SWMP Plan* an email or phone number (with message recording capability) for the public to report complaints related to construction *stormwater* activity.

b. The *MS4 Operator* must document reports of construction site complaints in the *SWMP Plan* with the following information:

i. Date of the report;

ii. Location of the construction site;

iii. Nature of complaint;

iv. Follow up actions taken or needed; and

v. Inspection outcomes and any enforcement taken.

3. Construction Oversight Program

Within one (1) year of the EDC, the *MS4 Operator* must *develop* and implement a construction oversight program. The construction oversight program must be documented in the *SWMP Plan* specifying:

a. The construction oversight procedures including:

i. When the construction site *stormwater* control program applies (Part VII.D.1.);

ii. What types of *construction activity* require a SWPPP;

iii. The procedures for submission of SWPPPs;

iv. SWPPP review requirements (Part VII.D.6.)

v. Pre-construction oversight requirements (Part VII.D.7.)

vi. Construction site inspection requirements (Part VII.D.8.);

vii. Construction site close-out requirements (Part VII.D.9.);

viii. Enforcement process/expectations for compliance; and

ix. Other procedures associated with the control of *stormwater* runoff from applicable *construction activities*.

b. The training provisions for the *MS4 Operator*'s construction oversight procedures (Part VII.D.3.a.).

i. If new staff are added, training on the *MS4 Operator*'s construction oversight procedures (Part VII.D.3.a.) must be given prior to conducting any construction oversight activities;

ii. For existing staff, training on the *MS4 Operator*'s construction oversight procedures (Part VII.D.3.a.) must be given prior to conducting any construction oversight activities and once every five (5) years, thereafter; and

iii. If the construction oversight procedures (Part VII.D.3.a.) are updated (Part VII.D.3.a.), training on the updates must be given to all staff prior to conducting construction oversight.

c. The names, titles, and contact information for the individuals who have received construction oversight training and update annually;

d. Procedures to ensure those involved in the *construction activity* itself (e.g., contractor, subcontractor, *qualified inspector*, SWPPP reviewers) have received four (4) hours of *Department* endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District, or other *Department* endorsed entity; and

e. Annually, by April 1, the *MS4 Operator* must:

i. Review and update the construction oversight procedures (Part VII.D.3.a.); and

ii. Document the completion of this requirement in the *SWMP Plan*.

4. Construction Site Inventory & Inspection Tracking

a. Within six (6) months of the EDC, the *MS4 Operator* must *develop* and maintain an inventory of all applicable construction sites (Part VII.D.1.a.) in the *SWMP Plan*. The following information must be included in the inventory:

i. Location of the construction site;

ii. Owner/operator contact information, if other than the *MS4 Operator*;

iii. Receiving waterbody name and class (mapped in accordance with Part IV.D.1.e.ii.a));

iv. Receiving waterbody WI/PWL Segment ID (mapped in accordance with Part IV.D.1.e.ii.b));

v. Prioritization (high or low) (Part VII.D.5.);

vi. Construction project *SPDES* identification number;

vii. SWPPP approval date;

viii. Inspection history, including dates and ratings (satisfactory, marginal, or unsatisfactory, when available); and

ix. Current status of the construction site/project (i.e., active, temporarily shut down, complete[51]).

b. Annually, the *MS4 Operator* must update the inventory if construction projects are approved or completed.

5. Construction Site Prioritization

a. Within one (1) year of the EDC, the *MS4 Operator* must prioritize all construction sites which are included in the construction site inventory (Part VII.D.4.) as follows:

i. High priority construction sites include construction sites:

a) With a direct conveyance (e.g., channel, ditch, storm sewer) to a *surface water of the State* that is:

i) Listed in Appendix C with silt/sediment, phosphorus, or nitrogen as the POC;

ii) Classified as AA-S, AA, or A (mapped in accordance with Part IV.D.1.e.ii.a)); or

iii) Classified with a trout (T) or trout spawning (TS) designation (mapped in accordance with Part IV.D.1.e.ii.a));

b) With greater than five (5) acres of disturbed earth at any one time;

c) With earth disturbance within one hundred (100) feet of any lake or pond (mapped in accordance with Part IV.D.1.e.ii.b)); and/or

d) Within fifty (50) feet of any rivers or streams (mapped in accordance with Part IV.D.1.e.ii.b));

ii. All other construction sites are considered low priority.

b. Within thirty (30) days of when a construction site becomes active, the *MS4 Operator* must prioritize those construction sites; and

c. Annually, after the initial prioritization (Part VII.D.5.a.), the *MS4 Operator* must update the construction site prioritization in the inventory (Part VII.D.4.a.) based on information gathered as part of the construction oversight program (Part VII.D.3.). The completion of this permit requirement must be documented in the *SWMP Plan*.

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[51] Construction projects listed on the inventory must be inspected and tracked as described in Part VII.D.8. until a final site inspection has been completed as specified in Part VII.D.9. and the construction site status changes to complete.

i. If the prioritization of the construction site changes priority based on information gathered as part of the construction oversight program, the *MS4 Operator* must comply with the requirements that apply to that prioritization.

6. SWPPP Review

The *MS4 Operator* must:

a. Ensure individual(s), responsible for reviewing SWPPPs for acceptance, receive:

i. Four (4) hours of *Department* endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District, or other *Department* endorsed entity. This training must be completed within three (3) years of the EDC and every three (3) years thereafter.

ii. Document the completion of this requirement in the *SWMP Plan*.

b. Ensure SWPPP reviewers receive this training (Part VII.D.6.a.) prior to conducting SWPPP reviews for acceptance.

i. Individuals without these trainings cannot review SWPPPs for acceptance.

ii. Individuals who meet the definition of a *qualified professional* or *qualified inspector* are exempt from this requirement.

c. Ensure individuals responsible for reviewing SWPPPs review all SWPPPs for applicable *construction activities* (Part VII.D.1.) and for conformance with the requirements of the CGP, including:

i. Erosion and sediment controls must be reviewed for conformance with the NYS E&SC 2016, or equivalent;

ii. Individuals responsible for review of post-construction *SMPs* must be *qualified professionals* or under the supervision of a *qualified professional*; and

iii. Post-construction *SMPs* must be reviewed for conformance with the NYS SWMDM 2015 or equivalent, including:

a) All post-construction *SMPs* must meet the *sizing criteria* contained in the CGP and NYS SWMDM 2015.

b) Deviations from the performance criteria of the NYS SWMDM 2015 must demonstrate that they are equivalent.

c) The SWPPP must include an O&M plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction *SMP*. The SWPPP must identify the entity that will be responsible for the long-term operation and maintenance of each practice.

d. In the *SWMP Plan*, document and update annually the names, titles, and contact information for the individuals who have received the trainings listed in Part VII.D.6.a.

e. In the *SWMP Plan*, document the SWPPP review including the information found in Part III.B. of the CGP;

f. Prioritize new *construction activities* (Part VII.D.5.a.); and

g. Notify construction site owner/operators that their SWPPP has been accepted using the *MS4* SWPPP Acceptance Form[52] created by the *Department* and required by the CGP, signed in accordance with Part X.J.

7. Pre-Construction Meeting

Prior to commencement of *construction activities*, the *MS4 Operator* must ensure a pre-construction meeting is conducted. The date and content of the pre-construction inspection/meeting must be documented in the *SWMP Plan*. The owner/operator listed on the CGP NOI (if different from the *MS4 Operator*), the *MS4 Operator*, contractor(s) responsible for implementing the SWPPP for the *construction activity,* and the *qualified inspector* (if required for the *construction activity* by Part IV.C. the CGP) must attend the meeting in order to:

a. Confirm the approved project has received, or will receive[53], coverage under the CGP or an individual *SPDES* permit;

b. Verify contractors and subcontractors selected by the owner/operator of the *construction activity* have identified at least one individual that has received four (4) hours of *Department* endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District or other endorsed entity as required by the CGP and Part VII.D.3.d; and

c. Review the construction oversight program (Part VII.D.3.) and expectations for compliance.

8. Construction Site Inspections

The *MS4 Operator* must:

a. Ensure individuals(s), responsible for construction site inspections, receive:

   i. Four (4) hours of *Department* endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District, or other *Department* endorsed entity. This training must be complete, within three (3) years of the EDC and every three (3) years thereafter.

   ii. Document the completion of this requirement in the *SWMP Plan*.

[52] The *MS4* SWPPP Acceptance Form can be found on the Department's website.

[53] Preconstruction meetings may occur prior to the issuance of the MS4 SWPP Acceptance Form, however, the MS4 Operator must confirm coverage under the CGP will be applied for by the construction site owner/operator prior to commencement of construction of *construction activities*.

b. Ensure all *MS4* Construction Site Inspectors receive this training prior to conducting construction site inspections.

   i. Individuals without these trainings cannot inspect construction sites.

   ii. Individuals who meet the definition of a *qualified professional* or *qualified inspector* are exempt from this requirement.

c. Annually inspect all sites with *construction activity* identified in the inventory (Part VII.D.4.) during active construction after the pre-construction meeting (Part VII.D.7.), or sooner if deficiencies are noted that require attention.

   i. Follow up to construction site inspections must confirm corrective actions are completed within timeframes established by the CGP and the MS4 Operator's ERP (Part IV.F.1.).

d. In the *SWMP Plan*, document and update annually the names, titles, and contact information for the individuals who have received the trainings listed in Part VII.D.8.a.

e. Document all inspections using the Construction Site Inspection Report Form (Appendix D) or an equivalent form containing the same information. The *MS4 Operator* must include the completed Construction Site Inspection Reports in the *SWMP Plan*.

9. Construction Site Close-out

a. The *MS4 Operator* must ensure a final construction site inspection is conducted and documentation of the final construction site inspection must be maintained in the *SWMP Plan*. The final construction site inspection must be documented using the Construction Site Inspection Report Form (Appendix D), or an equivalent form containing the same information, or accept the construction site owner/operator's *qualified inspector* final inspection certification required by the CGP.

b. The Notice of Termination (NOT)[54] must be signed by the *MS4 Operator* as required by the CGP for projects determined to be complete. The NOT must be signed in accordance with Part X.J.

E. MCM 5 – Post-Construction *Stormwater* Management

The *MS4 Operator* must *develop*, implement, and enforce a program to ensure proper operation and maintenance of post-construction *SMPs* for new or redeveloped sites. This MCM is designed to promote the long-term performance of post-construction *SMPs* in removing *pollutants* from *stormwater* runoff.

[54] The NOT can be found on the Department's website.

1. Applicable Post-Construction *SMPs*

The post-construction *SMP program* must address *stormwater* runoff to the *MS4* from *publicly owned/operated* post-construction *SMPs* that meet the following:

a. Post-construction *SMPs* that have been installed as part of any CGP covered construction site or individual *SPDES* permit (since March 10, 2003); and

b. All new post-construction *SMPs* constructed as part of the construction site *stormwater* runoff control program (Part VII.D.).

2. Post-Construction *SMP* Inventory & Inspection Tracking[55]

a. The *MS4 Operators* continuing coverage must:

   i. Maintain the inventory from previous iterations of this *SPDES* general permit for post-construction *SMPs* installed after March 10, 2003; and

   ii. *Develop* the inventory for post-construction *SMPs* installed after March 10, 2003 including post-construction *SMPs:*

      a) As they are approved or discovered; or

      b) After the owner/operator of the *construction activity* has filed the NOT with the *Department* (Part VII.D.9.b.).

b. The newly designated *MS4 Operators* must *develop* and maintain the inventory for post-construction *SMPs* installed after March 10, 2003 including post-construction *SMPs:*

   i. As they are approved or discovered; or

   ii. After the owner/operator of the *construction activity* has filed the NOT with the *Department* (Part VII.D.9.b.).

c. Annually, the MS4 Operator must update the inventory of post-construction SMPs to include the post-construction *SMPs* in Part VII.E.2.a. and Part VII.E.2.b.

d. Within five (5) years of the EDC, the following information must be included in the inventory either by using the *MS4 Operator* maintenance records or by verification of maintenance records provided by the owner of the post-construction *SMP*:

   i. Street address or tax parcel;

   ii. Type;[56]

   iii. Receiving waterbody name and class (mapped in accordance with Part IV.D.1.e.ii.a));

[55] Post-construction *SMPs* can be found at a *municipal facility*.
[56] Post-construction *SMP* types are defined in the New York State Department of Environmental Conservation Maintenance Guidance: Stormwater Management Practices, March 31, 2017 (NYS DEC Maintenance Guidance 2017).

iv. Receiving waterbody WI/PWL Segment ID (mapped in accordance with Part IV.D.1.e.ii.b));

v. Date of installation (if available) or discovery;

vi. Ownership;

vii. Responsible party for maintenance;

viii. Contact information for party responsible for maintenance;

ix. Location of documentation depicting O&M requirements and legal agreements for post-construction *SMP*;

x. Frequency for inspection of post-construction *SMP*, as specified in the New York State Department of Environmental Conservation Maintenance Guidance: Stormwater Management Practices, March 31, 2017 (NYS DEC Maintenance Guidance 2017) or as specified in the O&M plan contained in the approved SWPPP (Part VII.D.6.);

xi. Reason for installation (e.g., new development, redevelopment, *retrofit*, flood control), if known;

xii. Date of last inspection;

xiii. Inspection results; and

xiv. Any corrective actions identified and completed.

e. *MS4 Operators* must document the inventory of post-construction *SMPs* in the *SWMP Plan*.

3. SWPPP Review

For post-construction *SMP* SWPPP review requirements, see Part VII.D.6.

4. Post-Construction *SMP* Inspection & Maintenance Program

Within one (1) year of the EDC, the *MS4 Operator* must *develop* and implement a post-construction *SMP* inspection and maintenance program. The post-construction *SMP* inspection and maintenance program must be documented in the *SWMP Plan* specifying:

a. The post-construction *SMP* inspection and maintenance procedures including:

i. Provisions to ensure that each post-construction *SMP* identified in the post-construction *SMP* inventory (Part VII.E.2.) is inspected at the frequency specified in the NYS DEC Maintenance Guidance 2017 or as specified in the O&M plan contained in the approved SWPPP (Part VII.D.6.), if available;

ii. Documentation of post-construction *SMP* inspections using the Post-Construction SMP Inspection Checklist[57] or an equivalent form containing the same information. The *MS4 Operator* must include the completed post-construction *SMP* inspections (i.e., the completed Post-Construction SMP Inspection Checklist) in the *SWMP Plan*;

iii. Provisions to initiate follow-up actions (i.e., maintenance, repair, or higher-level inspection) within thirty (30) days of post-construction *SMP* inspection; and

iv. Provisions to initiate enforcement within sixty (60) days of the inspection if follow-up actions are not complete.

b. The training provisions for the *MS4 Operator*'s post-construction *SMP* inspection and maintenance procedures (Part VII.E.4.a.).

i. If new staff are added, training on the *MS4 Operator*'s post-construction *SMP* inspection and maintenance procedures (Part VII.E.4.a.) and procedures outlined in the *Department* endorsed program must be given prior to conducting any post-construction *SMP* inspection and maintenance;

ii. For existing staff, training on the *MS4 Operator*'s post-construction *SMP* inspection and maintenance procedures (Part VII.E.4.a.) and procedures outlined in the *Department* endorsed program must be given prior to conducting any post-construction *SMP* inspection and maintenance and once every five (5) years, thereafter; and

iii. If the post-construction *SMP* inspection and maintenance procedures (Part VII.E.4.a.) are updated (Part VII.E.4.d.), training on the updates must be given to all staff prior to conducting post-construction *SMP* inspection and maintenance.

c. The names, titles, and contact information for the individuals who have received post-construction *SMP* inspection and maintenance procedures training and update annually; and

d. Annually, by April 1, the *MS4 Operator* must:

i. Review and update the post-construction *SMP* inspection and maintenance procedures (Part VII.E.4.a.); and

ii. Document the completion of this requirement in the *SWMP Plan*.

F. MCM 6 – Pollution Prevention and Good Housekeeping

The *MS4 Operator* must *develop* and implement a pollution prevention and good housekeeping program for *municipal facilities* and *municipal operations* to minimize

[57] The *Department* developed checklist forms specific to each post-construction *SMP* designed to assist *MS4 Operators* in conducting inspections and maintenance activities of standard practices. The Post-Construction SMP Inspection Checklist, March 31, 2017, can be found on the Department's website.

pollutant discharges. This MCM is designed to ensure the *MS4 Operator*'s own activities do not contribute *pollutants* to *surface waters of the State*.

1. *Best Management Practices (BMPs)* for *Municipal Facilities & Operations*

Within three (3) years of the EDC, the *MS4 Operator* must incorporate *best management practices* (*BMPs*) into the *municipal facility* program *and municipal operations* program to minimize the *discharge* of *pollutants* associated with *municipal facilities* and *municipal operations, respectively*. The *BMPs* to be considered are as follows and must be documented in the *SWMP Plan*:

a. Minimize Exposure

i. Exposure of materials to rain, snow, snowmelt, and runoff must be minimized, unless not technologically possible or not economically practicable and achievable in light of best industry practices, including areas used for loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations, with the following *BMP*s:

a) Locate materials and activities inside or protect them with storm resistant coverings;

b) Use grading, berming, or curbing to prevent runoff of contaminated flows and divert run-on away from these areas;

c) Locate materials, equipment, and activities so leaks and spills are contained in existing containment and diversion systems;

d) Clean up spills and leaks promptly using dry methods (e.g., absorbents) to prevent the *discharge* of *pollutants*;

e) Store leaky vehicles and equipment indoors or, if stored outdoors, use drip pans and absorbents;

f) Use spill/overflow protection equipment;

g) Perform all vehicle and/or equipment cleaning operations indoors, under cover, or in bermed areas that prevent runoff and run-on and also captures any overspray;

h) Drain fluids, indoors or under cover, from equipment and vehicles that will be decommissioned, and, for any equipment and vehicles that will remain unused for extended periods of time, inspect at least monthly for leaks; and/or

i) Minimize exposure of chemicals by replacing with a less toxic alternative (e.g., use non-hazardous cleaners).

ii. *No Exposure* Certification for High Priority *Municipal Facilities*

a) *Municipal facilities* may qualify for *No Exposure* Certification (Appendix D) when all activities and materials are completely sheltered from exposure to rain, snow, snowmelt and/or runoff.

b) High priority *municipal facilities* (Part VII.F.2.c.i.a)) with uncovered parking areas for vehicles awaiting maintenance may be considered a low priority *municipal facility* (Part VII.F.2.c.i.c)) if only routine maintenance is performed inside and all other n*o exposure* criteria are met.

c) *Municipal facilities* accepting or repairing disabled vehicles and/or vehicles that have been involved in accidents are not eligible for the *No Exposure* Certification.

d) *Municipal facilities* must maintain the *No Exposure* Certification and document in the *SWMP Plan*. The *No Exposure* Certification ceases to apply when activities or materials become exposed.

b. Follow a Preventive Maintenance Program

i. Implement a preventative maintenance program that includes routine inspection, testing, maintenance, and repair of all fueling areas, vehicles and equipment and systems to prevent leaks, spills and other releases. This includes:

a) Performing inspections and preventive maintenance of *stormwater* drainage, source controls, treatment systems, and plant equipment and systems;

b) Maintaining non-structural *BMPs* (e.g., keep spill response supplies available, personnel appropriately trained, containment measures, covering fuel areas); and

c) Ensure vehicle washwater is not *discharged* to the *MS4* or to *surface waters of the State*. Wash equipment/vehicles in a designated and/or covered area where washwater is collected to be recycled or *discharged* to the sanitary sewer (Part I.B.2.d.).

ii. Routine maintenance must be performed to ensure *BMPs* are operating properly.

iii. When a *BMP* is not functioning to its designed effectiveness and needs repair or replacement:

a) Maintenance must be performed before the next anticipated storm event, or as necessary to maintain the continued effectiveness of *stormwater* controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable; and

b) Interim measures must be taken to prevent or minimize the *discharge* of *pollutants* until the final repair or replacement is implemented, including cleaning up any contaminated surfaces so that the material will not be *discharged* during subsequent storm events.

c. Spill Prevention and Response Procedures

i. Minimize the potential for leaks, spills and other releases that may be exposed to *stormwater* and *develop* plans for effective response to such spills if or when they occur. At a minimum, the *MS4 Operator* must:
   a) Store materials in appropriate containers;
   b) Label containers (e.g., "Used Oil," "Spent Solvents," "Fertilizers and Pesticides") that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur;
   c) Implement procedures for material storage and handling, including the use of secondary containment and barriers between material storage and traffic areas, or a similarly effective means designed to prevent the *discharge* of *pollutants* from these areas;
   d) *Develop* procedures for stopping, containing, and cleaning up leaks, spills, and other releases. As appropriate, execute such procedures as soon as possible;
   e) Keep spill kits on-site, located near areas where spills may occur or where a rapid response can be made;
   f) *Develop* procedures for notification of the appropriate facility personnel, emergency response agencies, and regulatory agencies when a leak, spill, or other release occurs. If possible, one of these individuals should be a member of the *stormwater* pollution prevention team (Part VII.F.2.d.i.a)). Any spills must be reported in accordance with 6 NYCRR 750-2.7; and
   g) Following any spill or release, the *MS4 Operator* must evaluate the adequacy of the *BMPs* identified in the *municipal facility* specific SWPPP. If the *BMPs* are inadequate, the SWPPP must be updated to identify new *BMPs* that will prevent reoccurrence and improve the emergency response to such releases.

ii. Measures for cleaning up spills or leaks must be consistent with applicable petroleum bulk storage, chemical bulk storage, or hazardous waste management regulations at 6 NYCRR Parts 596-599, 613 and 370-373.

iii. This *SPDES* general permit does not relieve the *MS4 Operator* of any reporting or other requirements related to spills or other releases of petroleum or hazardous substances. Any spill of a hazardous substance must be reported in accordance with 6 NYCRR 597.4. Any spill of petroleum must be reported in accordance with 6 NYCRR 613.6 or 17 NYCRR 32.3.

d. Erosion and Sediment Controls[58]

i. Stabilize exposed areas and control runoff using structural and/or non-structural controls to minimize onsite erosion and sedimentation.

[58] The use of the term "controls" in Part VII.F.1.d. aligns with the use of the term "controls" in the CGP.

ii. The *MS4 Operator* must consider:

a) Structural and/or non-structural controls found in the NYS E&SC 2016;

b) Areas that, due to topography, land disturbance (e.g., construction), or other factors, have potential for significant soil erosion;

c) Whether structural, vegetative, and/or stabilization *BMPs* are needed to limit erosion;

d) Whether velocity dissipation devices (or equivalent measures) are needed at *discharge* locations and along the length of any channel to provide a non-erosive flow velocity from the structure to a water course; and

e) Address erosion or areas with poor vegetative cover, especially if the erosion is within fifty (50) feet of a *surface water of the State*.

e. Manage Vegetated Areas and Open Space on *Municipal* Property

i. Maintain vegetated areas on *MS4 Operator* owned/operated property and right of ways:

a) Specify proper use, storage, and disposal of pesticides, herbicides, and fertilizers including minimizing the use of these products and using only in accordance manufacturer's instruction;

b) Use lawn maintenance and landscaping practices that are protective of water quality. Protective practices include: reduced mowing frequencies; proper disposal of lawn clippings; and use of alternative landscaping materials (e.g., drought resistant planting);

c) Place pet waste disposal containers and signage concerning the proper collection and disposal of pet waste at all parks and open space where pets are permitted; and

d) Address waterfowl congregation areas where needed to reduce waterfowl droppings from entering the *MS4*.

f. Salt[59] Storage Piles or Pile Containing Salt

Enclose or cover storage piles of salt, or piles containing salt, used for deicing or maintenance of paved surfaces, except during loading, unloading, and handling. Implement appropriate measures (e.g., good housekeeping, routine sweeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile.

g. Waste, Garbage, and Floatable Debris

i. Keep all dumpster lids closed when not in use. For dumpsters and roll off boxes that do not have lids and could leak, ensure that *discharges* have a control (e.g., secondary containment, treatment); and

[59] For purposes of this *SPDES* general permit, salt means any chloride-containing material used to treat paved surfaces for deicing, including sodium chloride, calcium chloride, magnesium chloride, and brine solutions.

ii. Keep exposed areas free of waste, garbage, and debris or intercept them before they are *discharged*:

a) Manage trash containers at parks and open space (scheduled cleanings; sufficient number);

b) Pick up trash and debris on *MS4 Operator* owned/operated property and rights of way; and

c) Clean out *catch basins* within the appropriate timeframes (Part VII.F.3.c.iii.).

h. Alternative Implementation Options

When alternative implementation options (Part IV.A.1.) are utilized, require the parties performing *municipal operations* as contracted services, including but not limited to street sweeping, snow removal, and lawn/grounds care, to meet permit requirements as the requirements apply to the activity performed.

2. *Municipal Facilities*[60]

a. *Municipal Facility* Program

Within three (3) years of the EDC, the *MS4 Operator* must *develop* and implement a *municipal facility* program. The *municipal facility* program must be documented in the *SWMP Plan* specifying:

i. The *municipal facility* procedures including:

a) The *BMPs* (Part VII.F.1.) incorporated into the *municipal facility* program;

b) The high priority *municipal facility* requirements (Part VII.F.2.d.) as applied to the specific *municipal facility*; and

c) The low priority *municipal facility* requirements (Part VII.F.2.e.) as applied to the specific *municipal facility*.

ii. The training provisions for the *MS4 Operator*'s *municipal facility* procedures (Part VII.F.2.a.i.).

a) If new staff are added, training on the *MS4 Operator*'s *municipal facility* procedures (Part VII.F.2.a.i.) must be given prior to conducting *municipal facility* procedures;

b) For existing staff, training on the *MS4 Operator*'s *municipal facility* procedures (Part VII.F.2.a.i.) must be given prior to conducting *municipal facility* procedures and once every five (5) years, thereafter; and

[60] *Municipal facilities* that have coverage under a separate *SPDES* permit (either individual or MSGP) must comply with the terms and conditions of that permit and the requirements set forth in this Part are not applicable.

c) If the *municipal facility* procedures (Part VII.F.2.a.i.) are updated (Part VII.F.2.a.iv.), training on the updates must be given to all staff prior to conducting *municipal facility* procedures.

iii. The names, titles, and contact information for the individuals who have received *municipal facility* training and update annually; and

iv. Annually, by April 1, the *MS4 Operator* must:

a) Review and update the *municipal facility* procedures (Part VII.F.2.a.i.); and

b) Document the completion of this requirement in the *SWMP Plan*.

b. *Municipal Facility* Inventory

i. Within two (2) years of the EDC, the *MS4 Operator* must *develop* and maintain an inventory of all *municipal* facilities in the *SWMP* Plan. The following information must be included in the inventory:

a) Name of *municipal facility*;

b) Street address;

c) Type of *municipal facility*;

d) Prioritization (high or low) (Part VII.F.2.c.);

e) Receiving waterbody name and class (mapped in accordance with Part IV.D.1.e.ii.a));

f) Receiving waterbody WI/PWL Segment ID (mapped in accordance with Part IV.D.1.e.ii.b));

g) Contact information;

h) Responsible department;

i) Location of SWPPP (if high priority; when completed);

j) Type of activities present on site;

k) Size of facility (acres);

l) Date of last assessment;

m) *BMPs* identified; and

n) Projected date of next comprehensive site assessment (Part VII.F.2.d.ii.c) or Part VII.F.2.e.ii.c), depending on the *municipal facility* prioritization (Part VII.F.2.c.)).

ii. Annually, the *MS4 Operator* must update the inventory if new *municipal* facilities are added.

c. *Municipal Facility* Prioritization

i. Within three (3) years of the EDC, the *MS4 Operator* must prioritize all known *municipal* facilities as follows:

a) High priority *municipal* facilities include *municipal* facilities that have one or more of the following on site and exposed to *stormwater*:

i) Storage of chemicals, salt, petroleum, pesticides, fertilizers, anti-freeze, lead-acid batteries, tires, waste/debris;

ii) Fueling stations; and/or

iii) Vehicle or equipment maintenance/repair.

b) Low priority *municipal* facilities include any *municipal* facilities that do not meet the criteria for a high priority (Part VII.F.2.c.i.a)) *municipal facility*.

c) High priority *municipal* facilities (Part IV.F.2.c.i.a)) which qualify for a *No Exposure* Certification (Part VII.F.1.a.ii.) are low priority *municipal* facilities.

ii. Within thirty (30) days of when a *municipal facility* is added to the inventory, the *MS4 Operator* must prioritize those *municipal* facilities; and

iii. Annually, after the initial prioritization (Part VII.F.2.c.i.), the *MS4 Operator* must update the *municipal facility* prioritization in the inventory (Part VII.F.2.b.i.) based on information gathered as part of the *municipal facility* program (Part VII.F.2.a.), including cases where a *No Exposure* Certification (Part VII.F.1.a.ii.) ceases to apply. The completion of this permit requirement must be documented in the *SWMP Plan*.

d. High Priority *Municipal Facility* Requirements

i. Municipal Facility Specific SWPPP

Within five (5) years of the EDC, *MS4 Operators* must *develop* and implement a *municipal facility* specific SWPPP for each high priority *municipal facility* (Part VII.F.2.c.i.a)) and retain a copy of the *municipal facility* specific SWPPP on site of the respective *municipal facility*. The SWPPP must contain:

a) *Stormwater* Pollution Prevention Team

The *municipal facility* specific SWPPP must identify the individuals (by name and/or title) and their role/responsibilities in *developing*, implementing, maintaining, and revising the *municipal facility* specific SWPPP. The activities and responsibilities of the team must address all aspects of the *municipal facility* specific SWPPP.

b) General Site Description

A written description of the nature of the activities occurring at the *municipal facility* with a potential to *discharge pollutants*, type of *pollutants* expected, and location of key features as detailed in the site map (Part VII.F.2.d.i.e)).

c) Summary of potential *pollutant* sources

The *municipal facility* specific SWPPP must identify each area at the *municipal facility* where materials or activities are exposed to *stormwater* or from which authorized non-*stormwater discharges* (Part I.A.3.) originate, including any potential *pollutant* sources for which the *municipal facility* has reporting requirements under the Emergency Planning and Community Right-To-Know Act (EPCRA), Section 313.

i) Materials or activities include: machinery; raw materials; intermediate products; byproducts; final products or waste products; and material handling activities which includes storage, loading and unloading, transportation or conveyance of any raw material, intermediate product, final product or waste product.

ii) For each separate area identified, the description must include:

(a) Activities - A list of the activities occurring in the area (e.g., material storage, equipment fueling and cleaning);

(b) *Pollutants* - A list of the associated *pollutant(s)* for each activity. The *pollutant(s)* list must include all materials that are exposed to *stormwater*; and

(c) Potential for presence in *stormwater* - For each area of the *municipal facility* that generates *stormwater discharges,* a prediction of the direction of flow, and the likelihood of the activity to contaminate the *stormwater discharge*. Factors to consider include the toxicity of chemicals, quantity of chemicals used, produced or *discharge*d, the likelihood of contact with *stormwater*; and history of leaks or spills of toxic or hazardous *pollutants*.

d) Spills and Releases

For areas that are exposed to precipitation or that otherwise drain to a *stormwater* conveyance to be covered under this *SPDES* general permit, the *municipal facility* specific SWPPP must include a list of spills or releases[61] of petroleum and hazardous substances or other *pollutants*, including unauthorized *non-stormwater discharges,* that may adversely affect water quality that occurred during the last three-year period. The list must be updated when spills or releases occur.

e) Site Map

The *municipal facility* specific SWPPP must include a site map identifying the following, as applicable:

i) Property boundaries and size in acres;

[61] This may also include releases of petroleum or hazardous substances that are not in excess of reporting quantities but which may still cause or contribute to significant water quality impairment.

ii) Location and extent of significant structures (including materials shelters), and impervious surfaces;

iii) Monitoring locations (mapped in accordance with Part IV.D.2.a.i.) with its approximate *sewershed*. Each monitoring location must be labeled with the monitoring location identification;

iv) Location of all post-construction *SMPs* (mapped in accordance with Part IV.D.2.a.iv.) and *MS4* infrastructure (mapped in accordance with Part IV.D.2.b.i.);

v) Locations of *discharges* authorized under other *SPDES* permits;

vi) Locations where potential spills or releases can contribute to *pollutants* in *stormwater discharges* and their accompanying drainage points;

vii) Locations of haul and access roads;

viii) Rail cars and tracks;

ix) Arrows showing direction of *stormwater* flow;

x) Location of all receiving waters in the immediate vicinity of the *municipal facility*, indicating if any of the waters are impaired and, if so, whether the waters have *TMDLs* established for them (mapped in accordance with Part IV.D.1.e.ii.);

xi) Locations where *stormwater* flows have significant potential to cause erosion;

xii) Location and source of run-on from adjacent property containing significant quantities of *pollutants* and/or volume of concern to the *municipal facility*; and

xiii) Locations of the following areas where such areas are exposed to precipitation or *stormwater*:

(a) Fueling stations;
(b) Vehicle and equipment maintenance and/or cleaning areas;
(c) Loading/unloading areas;
(d) Locations used for the treatment, storage or disposal of wastes;
(e) Liquid storage tanks;
(f) Processing and storage areas;
(g) Locations where significant materials, fuel or chemicals are stored and transferred;
(h) Locations where vehicles and/or machinery are stored when not in use
(i) Transfer areas for substances in bulk;
(j) Location and description of non-*stormwater discharges* (Part I.A.3.);

(k) Locations where spills[62] or leaks have occurred; and
(l) Locations of all existing structural *BMP*s.

f) *Stormwater Best Management Practices (BMPs)*

The *municipal facility* specific SWPPP must document the location and type of *BMPs* implemented at the *municipal facility* (Part VII.F.1). The *municipal facility* specific SWPPP must describe how each *BMP* is being implemented for all the potential *pollutant* sources.

g) *Municipal facility* assessments
The *municipal facility* specific SWPPP must include a schedule for completing and recording results of routine and comprehensive site assessments (Part VII.F.2.d.ii.c)).

ii. Municipal Facility Assessments

a) Wet Weather Visual Monitoring

i) Once every five (5) years, the *MS4 Operator* must conduct wet weather visual monitoring of the monitoring locations (Part VII.C.1.b.) and other sites of *stormwater* leaving the site that are *discharging stormwater* from fueling areas, storage areas, vehicle and equipment maintenance/fueling areas, material handling areas and similar potential *pollutant* generating areas (Part VII.F.2.d.i.e)xiii)).

(a) All samples must be collected from *discharges* resulting from a *qualifying storm event*. The storm event must be documented using the Storm Event Data Form (Appendix D) and kept with the *municipal facility* specific SWPPP. The sample must be taken during the first thirty (30) minutes (or as soon as practical, but not to exceed one hour) of the *discharge* at the monitoring location.

(b) No analytical tests are required to be performed on the samples for the purpose of meeting the visual monitoring requirements.

(c) The visual examination must document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and any other obvious indicators of *stormwater* pollution.

(d) The visual examination of the sample must be conducted in a well-lit area.

(e) Where practicable, the same individual should carry out the collection and examination of *discharges* for the entire permit term for consistency.

[62] A spill includes: any spill of a hazardous substance that must be reported in accordance with 6 NYCRR 597.4 and any spill of petroleum that must be reported in accordance with 6 NYCRR 613.6 or 17 NYCRR 32.3.

(f) The *MS4 Operator* must document the visual examination using the Visual Monitoring Form (Appendix D) and keep it with the *municipal facility* specific SWPPP to record:

(i) Monitoring location ID;

(ii) Examination date and time;

(iii) Personnel conducting the examination;

(iv) Nature of the *discharge* (runoff or snowmelt);

(v) Visual quality of the *stormwater discharge* including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of *stormwater* pollution; and

(vi) Probable sources of any observed *stormwater* contamination.

(vii) Corrective and follow up actions – If the visual examination indicates the presence of color, odor, floating solids, settled solids, suspended solids, foam, oil sheen, or other indicators of *stormwater* pollution, the *MS4 Operator* must, at minimum, complete and document the following actions:

(1) Evaluate the facility for potential sources;

(2) Remedy the problems identified;

(3) Revise the *municipal facility* specific SWPPP; and

(4) Perform an additional visual inspection during the first *qualifying storm event* following implementation of the corrective action. If the first *qualifying storm event* does not occur until the next visual monitoring period, this follow up action may be used as the next visual inspection.

b) The monitoring locations inspection and sampling program must be implemented at the *municipal facility* (Part VII.C.1.e.).

c) Comprehensive Site Assessments

i) Once every five (5) years following the most recent assessment, the *MS4 Operator* must complete a comprehensive site assessment for each high priority *municipal facility* as identified in the inventory (Part VII.F.2.b.) using the Municipal Facility Assessment Form (Appendix D) or an equivalent form containing the same information, and document in the *municipal facility* specific SWPPP and *SWMP Plan* that:

(a) The *municipal facility* is in compliance with the terms and conditions of this *SPDES* general permit;

(b) Deficiencies were identified and all reasonable steps will be taken to minimize any *discharge* in violation of the permit, which has a reasonable likelihood of adversely affecting human health or the environment;

(i) Within twenty-four (24) hours, the *MS4 Operator* must prepare a schedule that includes corrective actions and specific interim milestones to be implemented until the corrective action is implemented; or

(c) Deficiencies were identified and all reasonable steps will be taken to minimize any *discharge* in violation of the permit, which does not have a reasonable likelihood of adversely affecting human health or the environment;

(i) Within seven (7) days, the *MS4 Operator* must prepare a schedule that includes corrective actions and specific interim milestones to be implemented until the corrective action is implemented.

e. Low Priority *Municipal Facility* Requirements

i. The *MS4 Operator* must identify procedures outlining *BMPs* for the types of activities that occur at the low priority *municipal* facilities as described in Part VII.F.1. A *municipal facility* specific SWPPP is not required.

ii. *Municipal Facility* Assessments

a) Low priority *municipal* facilities are not required to conduct wet weather visual monitoring.

b) The monitoring locations inspection and sampling program must be implemented at the *municipal facility* (Part VII.C.1.e.).

c) Comprehensive Site Assessments

i) Once every five (5) years following the most recent assessment, the *MS4 Operator* must complete a comprehensive site assessment for each low priority *municipal facility* as identified in the inventory (Part VII.F.2.b.) using the Municipal Facility Assessment Form (Appendix D) or an equivalent form containing the same information, and document in the *SWMP Plan* that:

(a) The *municipal facility* is in compliance with the terms and conditions of this *SPDES* general permit;

(b) Deficiencies were identified and all reasonable steps will be taken to minimize any *discharge* in violation of the permit, which has a reasonable likelihood of adversely affecting human health or the environment;

(i) Within twenty-four (24) hours, the *MS4 Operator* must prepare a schedule that includes corrective actions and specific interim milestones to be implemented until the corrective action is implemented; or

(c) Deficiencies were identified and all reasonable steps will be to minimize any *discharge* in violation of the permit, which does not have a reasonable likelihood of adversely affecting human health or the environment;

(i) Within seven (7) days, the *MS4 Operator* must prepare a schedule that includes corrective actions and specific interim milestones to be implemented until the corrective action is implemented.

3. *Municipal Operations* & Maintenance

a. *Municipal Operations* Program

Municipal operations are: street and bridge maintenance; winter road maintenance; *MS4* maintenance; open space maintenance; solid waste management; new construction and land disturbances; right-of-way maintenance; marine operations; or hydrologic habitat modification.

Within three (3) years of the EDC, the *MS4 Operator* must *develop* and implement a *municipal operations* program. The *municipal operations* program must be documented in the *SWMP Plan* specifying:

i. The *municipal operations* procedures including:
   a) The *BMPs* (Part VII.F.1.) incorporated into the *municipal operations* program;
   b) The *municipal operations* corrective actions requirements (Part VII.F.3.b.);
   c) *Catch basin* inspection and maintenance requirements (Part VII.F.3.c.);
   d) Roads, bridges, parking lots, and right of way maintenance requirements (Part VII.F.3.d.); and
   e) All other *municipal operations* maintenance requirements.

ii. The training provisions for the *MS4 Operator*'s *municipal operations* procedures (Part VII.F.3.a.i.).
   a) If new staff are added, training on the *MS4 Operator*'s *municipal operations* procedures (Part VII.F.3.a.i.) must be given prior to conducting *municipal operations* procedures;
   b) For existing staff, training on the *MS4 Operator*'s *municipal operations* procedures (Part VII.F.3.a.i.) must be given prior to conducting

municipal operations procedures and once every five (5) years, thereafter; and

c) If the *municipal operations* procedures (Part VII.F.3.a.i.) are updated (Part VII.F.3.a.iv.), training on the updates must be given to all staff prior to conducting *municipal operations* procedures.

iii. The names, titles, and contact information for the individuals who have received *municipal operations* training and update annually; and

iv. Annually, by April 1, the *MS4 Operator* must:

a) Review and update the *municipal operations* procedures (Part VII.F.3.a.i.); and

b) Document the completion of this requirement in the *SWMP Plan*.

b. *Municipal Operations* Corrective Actions

i. For *municipal operations*, *MS4 Operators* must either:

a) Ensure compliance with the terms and conditions of this *SPDES* general permit; or

b) Implement corrective actions according to the following schedule and, after implementation, ensure the operations are in compliance with the terms and conditions of this *SPDES* general permit:

i) Within twenty-four (24) hours of discovery for situations that have a reasonable likelihood of adversely affecting human health or the environment;

ii) Initiated within seven (7) days of inspection and completed within thirty (30) days of inspection for situations that do not have a reasonable likelihood of adversely affecting human health or the environment; and

iii) For corrective actions that require special funding or construction that will take longer than thirty (30) days to complete, a schedule must be prepared that specifies interim milestones that will ensure compliance in the shortest reasonable time.

c. *Catch Basin* Inspection and Maintenance

Within three (3) years of the EDC, the MS4 Operator must:

i. Identify when *catch basin* inspection is needed with consideration for:

a) Areas with *construction activities* (mapped in accordance with Part IV.D.2.a.iii.);

b) Residential, commercial, and industrial areas (mapped in accordance with Part IV.D.1.d.iii.);

c) Recurring or history of issues; or

d) Confirmed citizen complaints on three or more separate occasions in the last twelve (12) months.

ii. Inventory *catch basin* inspection information including:

a) Date of inspection;

b) Approximate level of trash, sediment, and/or debris captured at time of clean-out (no trash, sediment, and/or debris, <50% of the depth of the *sump*, >50% of the depth of the *sump*);

c) Depth of structure;

d) Depth of *sump*; and

e) Date of clean out, if applicable (Part VII.F.3.c.iii.).

iii. Based on inspection results, clean out *catch basins* within the following timeframes:

a) Within six (6) months after the *catch basin* inspection, *catch basins* which had trash, sediment, and/or debris exceeding 50% of the depth of the *sump* as a result of a *catch basin* inspection must be cleaned out;

b) Within one (1) year after the *catch basin* inspection, *catch basins* which had trash, sediment, and/or debris at less than 50% of the depth of the *sump* as a result of a *catch basin* inspection must be cleaned out; and

c) MS4 Operators are not required to clean out *catch basins* if the *catch basins* are operating properly and:

i. There is no trash, sediment, and/or debris in the *catch basin*; or

ii. The *sump* depth of the *catch basin* is less than or equal to two (2) feet.

iv. Properly manage (handling and disposal) materials removed from *catch basins* during clean out so that:

a) Water removed during the *catch basin* cleaning process will not reenter the *MS4* or *surface waters of the State*;

b) Material removed from *catch basins* is disposed of in accordance with any applicable environmental laws and regulations; and

c) Material removed during the *catch basin* cleaning process will not reenter the *MS4* or *surface waters of the State*.

v. Determine if there are signs/evidence of *illicit discharges* and procedures for referral/follow-up if *illicit discharges* are encountered.

d. Roads, Bridges, Parking Lots, & Right of Way Maintenance

i. Sweeping

Within six (6) months of the EDC, the *MS4 Operator* must *develop* and implement procedures for sweeping and/or cleaning *municipal* streets, bridges, parking lots, and right of ways owned/operated by the *MS4 Operator*. The procedures and completion of permit requirements must be documented in the *SWMP Plan* specifying:

a) All roads, bridges, parking lots, and right of ways must be swept and/or cleaned once every five (5) years in the spring (following winter activities such as sanding). This requirement is not applicable to:

   i) Uncurbed roads with no *catch basins*;

   ii) High-speed limited access highways; or

   iii) Roads defined as interstates, freeways and expressways, or arterials by the United States Department of Transportation, Federal Highway Administration, Highway Functional Classification Concepts, Criteria and Procedures, 2013.

b) Annually, from April 1 through October 31, roads in business and commercial areas must be swept. This requirement is not applicable to:

   i) Uncurbed roads with no *catch basins*;

   ii) High-speed limited access highways; or

   iii) Roads defined as interstates, freeways and expressways, or arterials by the USDOT 2013.

ii. Maintenance

Within five (5) years of the EDC, in addition to the *BMPs* (Part VII.F.1.), the *MS4 Operator* must implement the following provisions:

a) Pave, mark, and seal in dry conditions;

b) Stage road operations and maintenance activity (e.g., patching, potholes) to reduce the potential discharge of pollutants to the *MS4* or *surface waters of the State*;

c) Restrict the use of herbicides/pesticide application to roadside vegetation; and

d) Contain *pollutants* associated with bridge maintenance activities (e.g., paint chips, dust, cleaning products, other debris).

iii. Winter Road Maintenance

Within five (5) years of the EDC, in addition to the *BMPs* (Part VII.F.1.), the *MS4 Operator* must implement the following provisions:

a) Routinely calibrate equipment to control salt/sand application rates; and

b) Ensure that routine snow disposal activities comply with the Division of Water Technical and Operation Guidance Series 5.1.11, Snow Disposal.[63]

[63] The Division of Water Technical and Operation Guidance Series 5.1.11, Snow Disposal can be found on the Department's website.

Part VIII. Enhanced Requirements for Impaired Waters

Part VIII. requirements must be implemented in addition to the applicable requirements of the six (6) MCMs in Part VI. or Part VII, depending on the *MS4 Operator* type. Part VIII. requirements apply in the *sewersheds* which *discharge* to waters impaired for phosphorus, silt/sediment, pathogens, nitrogen, or floatables (Appendix C). *MS4 outfalls* are in the *automatically designated area*. *ADA MS4 outfalls* are in the *additionally designated area* subject to Criterion 3 of the Additional Designation Criteria (Appendix B).

MS4 Operator's subject to Part VIII. that implement pollutant specific *BMPs* after the EDC but prior to *MS4* infrastructure and *sewershed* mapping can use those *BMPs* to satisfy the permit requirements in this section.

The Part VIII. requirements, applicable to the *POC*, must be incorporated in the *MS4 Operator*'s *SWMP* and *SWMP Plan*.

A. *Pollutant* Specific BMPs for Phosphorus

Part VIII.A. must be implemented for all phosphorus impaired waters listed in Appendix C.

1. Mapping

In accordance with the timeframes listed below, the *MS4 Operator* must update, in geographic information system (GIS) format with a scale of 1:24,000 or finer, the comprehensive system mapping (Part IV.D.) to include:

a. Within three (3) years of the EDC, *MS4* infrastructure mapping requirements (Part IV.D.2.b.i.) and *sewersheds* for each:
   i. *MS4 outfall;* and
   ii. *ADA MS4 outfall.*
b. Within three (3) years of the EDC, the following information for each *MS4 outfall*:
   i. Retail and wholesale plant nurseries (including big box stores);
   ii. Commercial lawn care facilities; and
   iii. Golf courses.
c. Within three (3) years of the EDC, *ADA MS4 outfalls.*

2. Public Education and Outreach

a. Within six (6) months of the EDC, the *MS4 Operator* must make available information on how the impairment is being addressed by implementation of the MS4 Operator's local law or legal mechanism with content equivalent to the model local law (Part IV.E.1 and Part IV.E.2.). *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

b. Following the completion of Part VIII.A.1, twice a year, once from March to August and once from September to February, the *MS4 Operator* must provide educational messages with information specific to phosphorus to the applicable target audiences within the *sewersheds* for impaired waters listed in Appendix C focus area, identified in Part VI.A.1.b. or Part VII.A.1.b, depending on the MS4 Operator type. The *SWMP Plan* must be updated with changes made to public education and outreach program (Part VI.A or Part VII.A, depending on the *MS4 Operator* type). *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

3. Public Involvement/Participation

No additional requirements.

4. *Illicit Discharge* Detection and Elimination

Following the completion of Part VIII.A.1, within five (5) years of the EDC, the MS4 Operator must include on the *MS4 outfall* inventory (Part VI.C.1.c. or Part VII.C.1.c, depending on the MS4 Operator type) the number of each item identified in Part VIII.A.1.b. for each associated *MS4 outfall*.

5. Construction Site *Stormwater* Runoff Control

For Following the completion of Part VIII.A.1, high priority construction sites must be inspected during active construction after the pre-construction meeting (Part VI.D.7. or Part VII.D.7, depending on the *MS4 Operator* type).

a. If the *MS4 Operator* is completing the inspection, the construction site must be inspected every ninety (90) days; or

b. If the *MS4 Operator* utilizes the *qualified inspector's* weekly inspection reports, as required by the CGP, to satisfy this requirement, the *MS4 Operator* must inspect the construction site once every six (6) months, or sooner if any deficiencies are noted that require attention.

MS4 Operators must document the construction site inspections in the *SWMP Plan*.

6. Post-Construction *Stormwater* Management

No additional requirements.

7. Pollution Prevention and Good Housekeeping

Following the completion of Part VIII.A.1:

a. Annually, from April 1 through October 31, all streets located in *sewersheds discharging* to phosphorus impaired segments must be swept. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*. This requirement is not applicable to:

   i. Uncurbed roads with no *catch basins*;

ii. High-speed limited access highways; or

iii. Roads defined as interstates, freeways and expressways, or arterials by the United States Department of Transportation, Federal Highway Administration, Highway Functional Classification Concepts, Criteria and Procedures, 2013.

b. Within six (6) months of *MS4 outfall* inspection, the *MS4 Operator* must initiate actions to repair all *MS4 outfall* protection and/or bank stability problems identified during the inspection. Repairs must be completed in accordance with the NYS E&SC 2016. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

8. Planned Upgrades to *Municipal Facilities* in *Sewersheds* to Impaired Waters

Incorporate, where feasible,[64] cost-effective runoff reduction techniques[65] during planned *municipal* upgrades including *municipal* right of ways (e.g., bioswales, green streets, porous pavement, replacement of closed drainage with grass swales, replacement of the existing islands in the parking lots with bioretention or curb cuts to route the flow through below-grade infiltration areas or other low-cost improvements that provide runoff treatment or reduction).

B. *Pollutant* Specific BMPs for Silt/Sediment

Part VIII.B. must be implemented for all silt/sediment impaired waters listed in Appendix C.

1. Mapping

In accordance with the timeframes listed below, the *MS4 Operator* must update, in geographic information system (GIS) format with a scale of 1:24,000 or finer, the comprehensive system mapping (Part IV.D.) to include:

a. Within three (3) years of the EDC, *MS4* infrastructure mapping requirements (Part IV.D.2.b.i.) and *sewersheds* for each:

i. *MS4 outfall;* and

ii. *ADA MS4 outfall.*

b. Within three (3) years of the EDC, facilities with *SPDES* permit coverage under the MSGP with *stormwater discharges* applicable under Sector C, E, L, or J with facility contact.

c. Within three (3) years of the EDC, *ADA MS4 outfalls.*

[64] Consideration of feasibility should include type of land use or *municipal operation*, suitability of soils, presence of utilities, potential for exacerbating existing contamination problems, safety issues, maintenance requirements, and expected lifespans of available technologies.

[65] Runoff reduction techniques can be found in Chapters 4 and 5 of the NYS SWMDM 2015.

2. Public Education and Outreach

a. Within six (6) months of the EDC, the *MS4 Operator* must make available information on how the impairment is being addressed by implementation of the MS4 Operator's local law or legal mechanism with content equivalent to the model local law (Part IV.E.1 and Part IV.E.2.). *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

b. Following the completion of Part VIII.B.1, each year of active construction, the *MS4 Operator* must educate individuals involved in *construction activity* (e.g., contractor, subcontractor, qualified inspector, SWPPP reviewers) within the *sewershed* boundary on the use of post-construction *SMPs* that are intended to collect and separate silt and sediment debris from *stormwater* before *discharging* to waters of the State (e.g., sediment forebays) as detailed in the NYS SWMDM 2015. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

3. Public Involvement/Participation

No additional requirements.

4. *Illicit Discharge* Detection and Elimination

Following the completion of Part VIII.B.1, within five (5) years of the EDC, the MS4 Operator must include on the *MS4 outfall* inventory (Part VI.C.1.c. or Part VII.C.1.c, depending on the MS4 Operator type) the number of each item identified in Part VIII.B.1.b. for each associated *MS4 outfall*.

5. Construction Site *Stormwater* Runoff Control

Following the completion of Part VIII.B.1, high priority construction sites must be inspected during active construction after the pre-construction meeting (Part VI.D.7. or Part VII.D.7, depending on the *MS4 Operator* type).

a. If the *MS4 Operator* is completing the inspection, the construction site must be inspected every ninety (90) days; or

b. If the *MS4 Operator* utilizes the *qualified inspector's* weekly inspection reports, as required by the CGP, to satisfy this requirement, the *MS4 Operator* must inspect the construction site once every six (6) months, or sooner if any deficiencies are noted that require attention.

MS4 Operators must document the construction site inspections in the *SWMP Plan*.

6. Post-Construction *Stormwater* Management

No additional requirements.

7. Pollution Prevention and Good Housekeeping

Following the completion of Part VIII.B.1:

a. Annually, from April 1 through October 31, all streets located in *sewersheds discharging* to silt/sediment impaired segments must be swept. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*. This requirement is not applicable to:

   i. Uncurbed roads with no *catch basins*;

   ii. High-speed limited access highways; or

   iii. Roads defined as interstates, freeways and expressways, or arterials by the United States Department of Transportation, Federal Highway Administration, Highway Functional Classification Concepts, Criteria and Procedures, 2013.

b. For areas within the *sewershed* that are compacted, poorly drained, contain areas of exposed soil, or nutrient deficient, the *MS4 Operator* must:

   i. Refer to Section 4 of the NYS E&SC 2016 for Soil Stabilization practices, and follow BMP procedures; and

   ii. *Develop* and implement procedures for watering and maintenance of implemented BMPs appropriate to establish root and vegetative cover, utilizing products which provide critical support to vegetation and soil stabilization.

   MS4 Operators must document the completion of this requirement in the *SWMP Plan*.

c. Within six (6) months of *MS4 outfall* inspection, the *MS4 Operator* must initiate actions to repair all *MS4 outfall* protection and/or bank stability problems identified during the inspection. Repairs must be completed in accordance with the NYS E&SC 2016. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

8. Planned Upgrades to *Municipal Facilities* in *Sewersheds* to Impaired Waters

Incorporate, where feasible,[66] cost-effective runoff reduction techniques[67] during planned *municipal* upgrades including *municipal* right of ways (e.g., bioswales, green streets, porous pavement, replacement of closed drainage with grass swales, replacement of the existing islands in the parking lots with bioretention or curb cuts to route the flow through below-grade infiltration areas or other low-cost improvements that provide runoff treatment or reduction).

[66] Consideration of feasibility should include type of land use or *municipal operation*, suitability of soils, presence of utilities, potential for exacerbating existing contamination problems, safety issues, maintenance requirements, and expected lifespans of available technologies.

[67] Runoff reduction techniques can be found in Chapters 4 and 5 of the NYS SWMDM 2015.

C. *Pollutant* Specific BMPs for Pathogens

Part VIII.C. must be implemented for all pathogen impaired waters listed in Appendix C.

1. Mapping

In accordance with the timeframes listed below, the *MS4 Operator* must update, in geographic information system (GIS) format with a scale of 1:24,000 or finer, the comprehensive system mapping (Part IV.D.) to include:

a. Within three (3) years of the EDC, *MS4* infrastructure mapping requirements (Part IV.D.2.b.i.) and *sewersheds* for each:

   i. *MS4 outfall;* and

   ii. *ADA MS4 outfall.*

b. Within three (3) years of the EDC, the following information for each *MS4 outfall*:

   i. Areas with a history of sanitary sewer overflows;

   ii. Waterfowl congregation areas on *municipal* property or right of way;

   iii. Areas where pets/domestic animals may frequent (i.e., public trails, dog parks, and zoos); and

   iv. Waste disposal areas (e.g., active landfills, transfer stations).

c. Within three (3) years of the EDC, *ADA MS4 outfalls.*

2. Public Education and Outreach

a. Within six (6) months of the EDC, the *MS4 Operator* must make available information on any how the impairment is being addressed by implementation of the MS4 Operator's local law or legal mechanism with content equivalent to the model local law (Part IV.E.1 and Part IV.E.2.). *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

b. Following the completion of Part VIII.C.1, twice a year, once from March to August and once from September to February, the *MS4 Operator* must provide educational messages with information specific to pathogens to the applicable target audiences within the *sewersheds* for impaired waters listed in Appendix C focus area, identified in Part VI.A.1.b. or Part VII.A.1.b, depending on the MS4 Operator type. The *SWMP Plan* must be updated with changes made to public education and outreach program (Part VI.A. or Part VII.A, depending on the *MS4 Operator* type). *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

3. Public Involvement/Participation

No additional requirements.

4. *Illicit Discharge* Detection and Elimination

Following the completion of Part VIII.C.1, within five (5) years of the EDC, the MS4 Operator must include on the *MS4 outfall* inventory (Part VI.C.1.c. or Part VII.C.1.c, depending on the MS4 Operator type) the number of each item identified in Part VIII.C.1.b. for each associated *MS4 outfall*.

5. Construction Site *Stormwater* Runoff Control

No additional requirements.

6. Post-Construction *Stormwater* Management

No additional requirements.

7. Pollution Prevention and Good Housekeeping

Following the completion of Part VIII.C.1:

a. *Infrastructure Maintenance*

i. Annually, from April 1 through October 31, all streets located in *sewersheds discharging* to pathogen impaired segments must be swept. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*. This requirement is not applicable to:

a) Uncurbed roads with no *catch basins*;

b) High-speed limited access highways; or

c) Roads defined as interstates, freeways and expressways, or arterials by the United States Department of Transportation, Federal Highway Administration, Highway Functional Classification Concepts, Criteria and Procedures, 2013.

ii. Within six (6) months of *MS4 outfall* inspection, the *MS4 Operator* must initiate actions to repair all *MS4 outfall* protection and/or bank stability problems identified during the inspection. Repairs must be completed in accordance with the NYS E&SC 2016. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

b. *Wildlife Control*

i. Within six (6) months of the EDC, the *MS4 Operator* must identify *municipal facilities* with nuisance bird populations that have the potential to contribute pathogens (e.g., Canada Geese) and document those *municipal facilities* in the *SWMP Plan*.

ii. Within six (6) months of the EDC, signage must be available at these municipal facilities, instructing the public not to feed wildlife. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

iii. Within six (6) months of the EDC, the *MS4 Operator* must remove accumulated trash and debris from *municipal* facilities when necessary to

eliminate potential food sources for wildlife. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

iv. Within one (1) year of the EDC, *MS4 Operators* must evaluate the effectiveness of deterrents, population controls, and other measures that may reduce bird related pathogen contributions and document the results of the evaluation in the *SWMP Plan*.

c. Animal Waste Control

Within one (1) year of the EDC, the *MS4 Operator* must make dog waste receptacles available in areas where pets/domestic animals may frequent (e.g., public trails, dog parks). *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

8. Planned Upgrades to *Municipal Facilities* in *Sewersheds* to Impaired Waters

Incorporate, where feasible,[68] cost-effective runoff reduction techniques[69] during planned *municipal* upgrades including *municipal* right of ways (e.g., bioswales, green streets, porous pavement, replacement of closed drainage with grass swales, replacement of the existing islands in the parking lots with bioretention or curb cuts to route the flow through below-grade infiltration areas or other low-cost improvements that provide runoff treatment or reduction).

D. *Pollutant* Specific BMPs for Nitrogen

Part VIII.D. must be implemented for all nitrogen impaired waters listed in Appendix C.

1. Mapping

In accordance with the timeframes listed below, the *MS4 Operator* must update, in geographic information system (GIS) format with a scale of 1:24,000 or finer, the comprehensive system mapping (Part IV.D.) to include:

a. Within three (3) years of the EDC, *MS4* infrastructure mapping requirements (Part IV.D.2.b.i.) and *sewersheds* for each:

i. *MS4 outfall;* and

ii. *ADA MS4 outfall.*

b. Within three (3) years of the EDC, the following information for each *MS4 outfall*:

i. Retail and wholesale plant nurseries (including big box stores);

ii. Commercial lawn care facilities; and

[68] Consideration of feasibility should include type of land use or *municipal operation*, suitability of soils, presence of utilities, potential for exacerbating existing contamination problems, safety issues, maintenance requirements, and expected lifespans of available technologies.

[69] Runoff reduction techniques can be found in Chapters 4 and 5 of the NYS SWMDM 2015.

iii. Golf courses.

c. Within three (3) years of the EDC, *ADA MS4 outfalls.*

2. Public Education and Outreach

a. Within six (6) months of the EDC, the *MS4 Operator* must make available information on any how the impairment is being addressed by implementation of the MS4 Operator's local law or legal mechanism with content equivalent to the model local law (Part IV.E.1 and Part IV.E.2.). *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

b. Following the completion of Part VIII.D.1, twice a year, once from March to August and once from September to February, the *MS4 Operator* must provide educational messages with information specific to nitrogen to the applicable target audiences within the *sewersheds* for impaired waters listed in Appendix C focus area, identified in Part VI.A.1.b. or Part VII.A.1.b, depending on the MS4 Operator type. The *SWMP Plan* must be updated with changes made to public education and outreach program (Part VI.A or Part VII.A, depending on the *MS4 Operator* type). *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

3. Public Involvement/Participation

No additional requirements.

4. *Illicit Discharge* Detection and Elimination

Following the completion of Part VIII.D.1 , within five (5) years of the EDC, the MS4 Operator must include on the *MS4 outfall* inventory (Part VI.C.1.c. or Part VII.C.1.c, depending on the MS4 Operator type) the number of each item identified in Part VIII.D.1.b for each associated *MS4 outfall*.

5. Construction Site *Stormwater* Runoff Control

Following the completion of Part VIII.D.1, high priority construction sites must be inspected during active construction after the pre-construction meeting (Part VI.D.7. or Part VII.D.7, depending on the *MS4 Operator* type).

a. If the *MS4 Operator* is completing the inspection, the construction site must be inspected every ninety (90) days; or

b. If the *MS4 Operator* utilizes the *qualified inspector's* weekly inspection reports, as required by the CGP, to satisfy this requirement, the *MS4 Operator* must inspect the construction site once every six (6) months, or sooner if any deficiencies are noted that require attention.

MS4 Operators must document the construction site inspections in the *SWMP Plan*.

6. Post-Construction *Stormwater* Management

No additional requirements.

7. Pollution Prevention and Good Housekeeping

Following the completion of Part VIII.D.1:

a. Annually, from April 1 through October 31, all streets located in *sewersheds discharging* to nitrogen impaired segments must be swept. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*. This requirement is not applicable to:

   i. Uncurbed roads with no *catch basins*;

   ii. High-speed limited access highways; or

   iii. Roads defined as interstates, freeways and expressways, or arterials by the United States Department of Transportation, Federal Highway Administration, Highway Functional Classification Concepts, Criteria and Procedures, 2013.

b. Within six (6) months of *MS4 outfall* inspection, the *MS4 Operator* must initiate actions to repair all *MS4 outfall* protection and/or bank stability problems identified during the inspection. Repairs must be completed in accordance with the NYS E&SC 2016. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

8. Planned Upgrades to *Municipal Facilities* in *Sewersheds* to Impaired Waters

Incorporate, where feasible,[70] cost-effective runoff reduction techniques[71] during planned *municipal* upgrades including *municipal* right of ways (e.g., bioswales, green streets, porous pavement, replacement of closed drainage with grass swales, replacement of the existing islands in the parking lots with bioretention or curb cuts to route the flow through below-grade infiltration areas or other low-cost improvements that provide runoff treatment or reduction).

E. *Pollutant* Specific BMPs for Floatables

Part VIII.E. must be implemented for all floatable impaired waters listed in Appendix C.

1. Mapping

In accordance with the timeframes listed below, the *MS4 Operator* must update, in geographic information system (GIS) format with a scale of 1:24,000 or finer, the comprehensive system mapping (Part IV.D.) to include:

a. Within three (3) years of the EDC, *MS4* infrastructure mapping requirements (Part IV.D.2.b.i.) and *sewersheds* for each:

[70] Consideration of feasibility should include type of land use or *municipal operation*, suitability of soils, presence of utilities, potential for exacerbating existing contamination problems, safety issues, maintenance requirements, and expected lifespans of available technologies.

[71] Runoff reduction techniques can be found in Chapters 4 and 5 of the NYS SWMDM 2015.

i. *MS4 outfall;* and

ii. *ADA MS4 outfall.*

b. Within three (3) years of the EDC, *ADA MS4 outfalls.*

2. Public Education and Outreach

a. Within six (6) months of the EDC, the *MS4 Operator* must make available information on any how the impairment is being addressed by implementation of the MS4 Operator's local law or legal mechanism with content equivalent to the model local law (Part IV.E.1 and Part IV.E.2.). *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

b. Following the completion of Part VIII.E.1, twice a year, once from March to August and once from September to February, the *MS4 Operator* must provide educational messages with information specific to floatables to the applicable target audiences within the *sewersheds* for impaired waters listed in Appendix C focus area, identified in Part VI.A.1.b. or Part VII.A.1.b, depending on the MS4 Operator type. The *SWMP Plan* must be updated with changes made to public education and outreach program (Part VI.A or Part VII.A, depending on the *MS4 Operator* type). *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

3. Public Involvement/Participation

No additional requirements.

4. *Illicit Discharge* Detection and Elimination

No additional requirements.

5. Construction Site *Stormwater* Runoff Control

No additional requirements.

6. Post-Construction *Stormwater* Management

No additional requirements.

7. Pollution Prevention and Good Housekeeping

Following completion of Part VIII.E.1:

a. Annually, from April 1 through October 31, all streets located in *sewersheds discharging* to floatables impaired segments must be swept. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*. This requirement is not applicable to:

i. Uncurbed roads with no *catch basins*;

ii. High-speed limited access highways; or

iii. Roads defined as interstates, freeways and expressways, or arterials by the United States Department of Transportation, Federal Highway Administration, Highway Functional Classification Concepts, Criteria and Procedures, 2013.

b. Within six (6) months of *MS4 outfall* inspection, the *MS4 Operator* must initiate actions to repair all *MS4 outfall* protection and/or bank stability problems identified during the inspection. Repairs must be completed in accordance with the NYS E&SC 2016. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

8. Planned Upgrades to *Municipal Facilities* in *Sewersheds* to Impaired Waters

Incorporate, where feasible,[72] cost-effective runoff reduction techniques[73] during planned *municipal* upgrades including *municipal* right of ways (e.g., bioswales, green streets, porous pavement, replacement of closed drainage with grass swales, replacement of the existing islands in the parking lots with bioretention or curb cuts to route the flow through below-grade infiltration areas or other low-cost improvements that provide runoff treatment or reduction).

[72] Consideration of feasibility should include type of land use or *municipal operation*, suitability of soils, presence of utilities, potential for exacerbating existing contamination problems, safety issues, maintenance requirements, and expected lifespans of available technologies.

[73] Runoff reduction techniques can be found in Chapters 4 and 5 of the NYS SWMDM 2015.

Part IX. Watershed Improvement Strategy Requirements for TMDL Implementation

Part IX. requirements must be implemented in addition to the applicable requirements of the six (6) MCMs in Part VI. or Part VII, depending on the *MS4 Operator* type. Part IX. requirements apply in the watersheds where the *Department* developed implementation plans for which USEPA has approved a TMDL (Table 3). Finalized TMDL implementation plans referenced in this Part are incorporated into and enforceable under this *SPDES* general permit.

MS4 Operator's subject to Part IX. that implement TMDL specific *BMPs* after the EDC but prior to *MS4* infrastructure and *sewershed* mapping can use those *BMPs* to satisfy the permit requirements in this section.

The Part IX. requirements must be incorporated in the *MS4 Operator*'s *SWMP* and *SWMP Plan*.

A. NYC East of Hudson Phosphorus Impaired Watershed *MS4*s

Table 4. Phosphorus Impaired Watershed(s)			
Areas where requirements apply	**New York City East of Hudson (EOH)**		
EPA Approved TMDL	*Phase II Phosphorus TMDLs for Reservoirs in the NYC Watershed, June 2000*	*Total Maximum Daily Load (TMDL) for Phosphorus in Lake Carmel, October 2016*	*Total Maximum Daily Load (TMDL) for Phosphorus in Palmer Lake,[2] March 2015*
Implementation Plan	Croton Watershed Phase II TMDL Implementation Plan (January 2009)		
POC	Phosphorus		
Area where requirements Apply	NYC EOH Watershed		
Achievement of *Pollutant* Load Reduction	Continued *retrofit* implementation to achieve the pollutant load reduction specified in that Phase II Implementation Plan		

MS4 Operators located within the watersheds listed in Table 4 must *develop* and implement the following phosphorus-specific *BMPs* in addition to the Croton Watershed Phase II TMDL Implementation Plan (January 2009) and the applicable requirements in Part VI. or Part VII, depending on the *MS4 Operator* type.

1. Mapping

In accordance with the timeframes listed below, the *MS4 Operator* must update, in geographic information system (GIS) format with a scale of 1:24,000 or finer, the comprehensive system mapping (Part IV.D.) to include:

a. Within three (3) years of the EDC, areas with potential to contribute phosphorus to the TMDL waterbody, which include:
   i. Retail and wholesale plant nurseries (including big box stores);
   ii. Commercial lawn care facilities;
   iii. Golf courses;
   iv. Commercial or industrial yard waste storage areas (e.g., yard waste composting and disposal areas); and
   v. *MS4* infrastructure with a history of issues (e.g., clogged infrastructure, infiltration and inflow (I/I)).

b. Within three (3) years of the EDC, the following information for all post-construction *SMPs* as identified in the post-construction *SMP* inventory (Part VI.E.2. or Part VII.E.2, depending on the *MS4 Operator* type):
   i. Type;[74] and
   ii. Ownership.

2. Public Education and Outreach on *Stormwater* Impacts

a. Within six (6) months of the EDC, the *MS4 Operator* must make available information on how the impairment is being addressed by implementation of the MS4 Operator's local law or legal mechanism with content equivalent to the model local law (Part IV.E.1 and Part IV.E.2.). *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

b. Following the completion of Part IX.A.1, twice a year, once from March to August and once from September to February, the *MS4 Operator* must provide educational messages with information specific to phosphorus to the applicable target audiences within the TMDL watershed focus area, identified in Part VI.A.1.b. or Part VII.A.1.b, depending on the MS4 Operator type. The *SWMP Plan* must be updated with changes made to public education and outreach program (Part VI.A. or Part VII.A, depending on the *MS4 Operator* type). *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

3. Public Involvement/Participation

No additional requirements.

[74] Post-construction *SMP* types are defined in the New York State Department of Environmental Conservation Maintenance Guidance: Stormwater Management Practices, March 31, 2017 (NYS DEC Maintenance Guidance 2017).

4. *Illicit Discharge* Detection and Elimination

a. Inventory of Potential Phosphorus Sources

Following the completion of Part IX.A.1, within five (5) years of the EDC, the MS4 Operator must include on the *MS4 outfall* inventory (Part VI.C.1.c. or Part VII.C.1.c, depending on the MS4 Operator type) the number of each item identified in Part IX.A.1.a. for each associated *MS4 outfall*.

b. On-site wastewater systems

The *MS4 Operator* must *develop*, implement, and enforce a program that ensures on-site wastewater systems (i.e., septic tanks, cesspools, absorption fields or distribution systems) are properly operated and do not contribute *pollutants* to the *MS4*. To ensure this, the *MS4 Operator* must:

i. Once every five (5) years, ensure that residential septic tanks/cesspools are pumped out and system components (i.e., septic tanks, cesspools and installed absorption field) are inspected;

ii. Ensure the following information is collected and document the completion of this requirement in the *SWMP Plan*:

   a) Individual performing inspection;

   b) Inspection date;

   c) Address;

   d) Location of system on property; and

   e) Evidence of failed systems.

iii. Refer failures to the appropriate agency to ensure corrective actions are taken; and

iv. Eliminate *illicit discharges* from on-site wastewater systems to the *MS4* in accordance with the time frames specified in Part VI.C.3. or Part VII.C.3, depending on the *MS4 Operator* type.

5. Construction Site *Stormwater* Runoff Control

a. The *MS4 Operator* must include construction projects that disturb between 5000 square feet (sf) and one (1) acre in the construction site runoff control program as described in Part VI.D. or Part VII.D, depending on the *MS4 Operator* type. Construction projects meeting this threshold are low priority construction sites.

b. The legal authority used to satisfy Part IV.E.2.b. must include the following language:

"Land activity is defined as *construction activity* including clearing, grading, excavating, soil disturbance or placement of fill that results in land disturbance of equal to or greater than 5000 sf and activities disturbing less

than 5000 sf of total land area that are part of a *larger common plan of development or sale* and will occur under one plan."

c. High priority construction sites must be inspected during active construction after the pre-construction meeting (Part VI.D.7. or Part VII.D.7, depending on the *MS4 Operator* type).

   i. If the *MS4 Operator* is completing the inspection, the construction site must be inspected every ninety (90) days; or

   ii. If the *MS4 Operator* utilizes the *qualified inspector's* weekly inspection reports, as required by the CGP, to satisfy this requirement, the *MS4 Operator* must inspect the construction site once every six (6) months, or sooner if any deficiencies are noted that require attention.

MS4 Operators must document the construction site inspections in the *SWMP Plan*.

6. Post-Construction *Stormwater* Management

a. The *MS4 Operator* must require the use of the Enhanced Phosphorus Removal design standards contained in Chapter 10 of the NYS SWMDM 2015 for all new development and redevelopment projects that disturb greater than or equal to one (1) acre and construction projects less than one acre that are part of a larger common plan of development or sale.

b. The legal authority used to satisfy Part IV.E. must also meet the following provisions:

   Land development activities requiring water quantity and quality controls (post-construction *stormwater* runoff controls) must include: "Single-family home construction located in the NYC East of Hudson watershed" and "Single-family residential subdivisions located in the NYC East of Hudson watershed."

c. Requirements for SWPPPs that include post-construction *stormwater* controls must include: "Post-construction *SMPs* in the SWPPP must be designed in conformance with Chapter 10 of the NYS SWMDM 2015 for Enhanced Phosphorus Removal Design Standards."

d. Performance Standards must include the following enhanced stabilization requirements: "For construction sites located in the NYC East of Hudson watershed, where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected must be in conformance with the NYS E&SC 2016."

e. Inspections of land development activities during construction must include requirements for a *qualified inspector* to conduct two (2) site inspections every seven (7) calendar days for single-family homes, and single-family residential, subdivisions within the NYC East of Hudson watersheds.

f. *Retrofit* program

i. All *MS4 Operators* identified within the Croton Watershed Phase II TMDL Implementation Plan, January 2009, must continue to implement the *retrofit* program according to the following schedule:

a) Within one (1) year of the EDC, the *MS4 Operator* must submit to the *Department* a *retrofit* plan that identifies the following:

i) Project name;

ii) Location;

iii) Proposed *retrofit* type;

iv) Anticipated date for construction;

v) Estimated phosphorus reduction (using the criteria in the Croton Watershed Phase II TMDL Implementation Plan, January 2009); and

vi) Estimated total phosphorus reduction for all projects demonstrating they will meet the reduction specified in the Croton Watershed Phase II TMDL Implementation Plan, January 2009.

b) Within five (5) years of the EDC, all *retrofit* projects must be constructed to achieve the five (5) year phosphorus reduction assigned to the *MS4 Operator*, as required by the Croton Watershed Phase II TMDL Implementation Plan, January 2009.

ii. Annually, by December 31, *MS4 Operators* (or *RSE* representing *MS4 Operators* as described in Part III.B.2.b.) must submit to the *Department* any changes made to the *retrofit* plan including the information in Part IX.A.6.e.i.

iii. *MS4 Operators* must document the retrofit program in the *SWMP Plan* specifying:

a) Progress on *retrofit* projects already commenced; and

b) Identification of *retrofit* projects for the upcoming construction season; and

c) Certification that completed retrofit projects have been constructed in accordance with the *retrofit* plans.

7. Pollution Prevention/Good Housekeeping

a. Twice a year, once from March to August and once from September to February, all *catch basins* located in the TMDL watershed(s) must be inspected (Part VI.F.3.c. or Part VII.F.3.c, depending on the MS4 Operator type). *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

b. Following the completion of Part IX.A.1, annually, from April 1 through October 31, all streets located in the TMDL watershed(s) must be swept. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*. This requirement is not applicable to:

   i. Uncurbed roads with no *catch basins*;

   ii. High-speed limited access highways;

   iii. Roads defined as interstates, freeways and expressways, or arterials by the United States Department of Transportation, Federal Highway Administration, Highway Functional Classification Concepts, Criteria and Procedures, 2013.

c. Within six (6) months of *MS4 outfall* inspection, the *MS4 Operator* must initiate actions to repair all *MS4 outfall* protection and/or bank stability problems identified during the inspection. Repairs must be completed in accordance with the NYS E&SC 2016. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan.* Within thirty (30) days of inspection, the *MS4 Operator* must initiate all necessary maintenance and repair activities discovered for *municipally* owned or operated post-construction *SMPs*. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

8. Planned Upgrades to *Municipal Facilities* in Watersheds to Impaired Waters

Incorporate, where feasible,[75] cost-effective runoff reduction techniques[76] during planned *municipal* upgrades including *municipal* right of ways (e.g., bioswales, green streets, porous pavement, replacement of closed drainage with grass swales, replacement of the existing islands in the parking lots with bioretention or curb cuts to route the flow through below-grade infiltration areas or other low-cost improvements that provide runoff treatment or reduction).

[75] Consideration of feasibility should include type of land use or *municipal operation*, suitability of soils, presence of utilities, potential for exacerbating existing contamination problems, safety issues, maintenance requirements, and expected lifespans of available technologies.

[76] Runoff reduction techniques can be found in Chapters 4 and 5 of the NYS SWMDM 2015.

B. Other Phosphorus Impaired Watershed *MS4*s

Table 5. Other Phosphorus Impaired Watersheds			
Area where Requirements Apply	**Greenwood Lake**	**Onondaga Lake**	**Oscawana Lake**
EPA Approved TMDL	*Impaired Waters Restoration Plan for Greenwood Lake – Total Maximum Daily Load for Total Phosphorus, Sept 2005*	*Updated Phosphorus Total Maximum Daily Load for Onondaga Lake, June 2012*	*Total Maximum Daily Load (TMDL) for Phosphorus in Lake Oscawana, September 2008*
Implementation Plan	Greenwood Lake Watershed Phosphorus TMDL Implementation Plan, October 2019	None	None
POC	Phosphorus		
Achievement of *Pollutant* Load Reduction	In accordance with Implementation Plan	In accordance with approved TMDL	In accordance with approved TMDL

MS4 Operators located in the watersheds listed in Table 5 must *develop* and implement the following phosphorus-specific *BMPs* in addition to the applicable Implementation Plan and applicable requirements in Part VI. or Part VII, depending on the *MS4* Operator type:

1. Mapping

In accordance with the timeframes listed below, the *MS4 Operator* must update, in geographic information system (GIS) format with a scale of 1:24,000 or finer, the comprehensive system mapping (Part IV.D.) to include:

a. Within three (3) years of the EDC, include areas with potential to contribute phosphorus to the TMDL waterbody, which include:

   i. Retail and wholesale plant nurseries (including big box stores);

   ii. Commercial lawn care facilities;

   iii. Golf courses; and

   iv. Commercial or industrial yard waste storage areas (e.g., yard waste composting and disposal areas).

b. Within three (3) years of the EDC, include the following information for all post-construction *SMPs* as identified in the post-construction *SMP* inventory (Part VI.E.2. or Part VII.E.2, depending on the *MS4 Operator* type):

i. Type[77]; and

ii. Ownership.

2. Public Education and Outreach on Stormwater Impacts

a. Within six (6) months of the EDC, the *MS4 Operator* must make available information on any how the impairment is being addressed by implementation of the MS4 Operator's local law or legal mechanism with content equivalent to the model local law (Part IV.E.1 and Part IV.E.2.). *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

b. Following the completion of Part IX.B.1, twice a year, once from March to August and once from September to February, the *MS4 Operator* must provide educational messages with information specific to phosphorus to the applicable target audiences within the TMDL watershed focus area, identified in Part VI.A.1.b. or Part VII.A.1.b, depending on the MS4 Operator type. The *SWMP Plan* must be updated with changes made to public education and outreach program (Part VI.A. or Part VII.A, depending on the *MS4 Operator* type). *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

c. Twice a permit term, separated by a minimum of one (1) year, the *MS4 Operator* must educate residential on-site wastewater system users on the on-site wastewater inspection program described in Part IX.B.4.c and proper maintenance practices. The *SWMP Plan* must be updated with changes made to public education and outreach program (Part VI.A or Part VII.A, depending on the *MS4 Operator* type). *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

3. Public Involvement/Participation

No additional requirements.

4. *Illicit Discharge* Detection and Elimination

a. Inventory of Potential Phosphorus Sources

Following the completion of Part IX.B.1, within five (5) years of the EDC, the MS4 Operator must include on the *MS4 outfall* inventory (Part VI.C.1.c. or Part VII.C.1.c, depending on the MS4 Operator type) the number of each item identified in Part VIII.B.1.a. for each associated MS4 outfall.

b. On-site wastewater systems

The *MS4 Operator* (with the exclusion of *MS4 Operators* located in the Onondaga Lake watershed) must *develop*, implement, and enforce a program that ensures residential on-site wastewater systems (i.e., septic tanks,

[77] Post-construction *SMP* types are defined in the New York State Department of Environmental Conservation Maintenance Guidance: Stormwater Management Practices, March 31, 2017 (NYS DEC Maintenance Guidance 2017).

cesspools, absorption fields or distribution systems) are properly operated and do not contribute *pollutants* to the *MS4*. The *MS4 Operator* must:

i. Once every five (5) years, ensure that residential septic tanks/cesspools are pumped out and system components (i.e., septic tanks, cesspools and installed absorption field) are inspected;

ii. Ensure the following information is collected and document the completion of this requirement in the *SWMP Plan*:

a) Individual performing inspection;

b) Inspection date;

c) Address;

d) Location of system on property;

e) Inspection rating (pass/fail);

f) Evidence of failed systems;

iii. Refer failures to the appropriate agency to ensure corrective actions are taken; and

iv. Eliminate *illicit discharges* from on-site wastewater systems to the *MS4* in accordance with the time frames specified in Part VI.C.3. or Part VII.C.3, depending on the *MS4 Operator* type.

5. Construction Site *Stormwater* Runoff Control

High priority construction sites must be inspected during active construction after the pre-construction meeting (Part VI.D.7. or Part VII.D.7, depending on the *MS4 Operator* type).

a. If the *MS4 Operator* is completing the inspection, the construction site must be inspected every ninety (90) days; or

b. If the *MS4 Operator* utilizes the *qualified inspector's* weekly inspection reports, as required by the CGP, to satisfy this requirement, the *MS4 Operator* must inspect the construction site once every six (6) months, or sooner if any deficiencies are noted that require attention.

MS4 Operators must document the construction site inspections in the *SWMP Plan*.

6. Post Construction *Stormwater* Management

a. The *MS4 Operator* must require the use of the Enhanced Phosphorus Removal design standards contained in Chapter 10 of the NYS SWMDM 2015 for all new development and redevelopment projects within the listed watersheds.

b. The legal authority used to satisfy Part IV.E.2.b. must also include the following language requiring the use of the Enhanced Phosphorus Removal

Design Standards in accordance with the NYS SWMDM 2015 for the applicable watershed:

"Land development activities requiring water quantity and quality controls (post-construction *stormwater* runoff controls) must include: "Single-family home construction located in the <insert watershed name> watershed" and "Single-family residential subdivisions located in the <insert watershed name> watershed."

c. Requirements for SWPPPs that include post-construction *stormwater* controls must include: "Post-construction *SMPs* in the SWPPP must be designed in conformance with the Enhanced Phosphorus Removal Design Standards in the NYS SWMDM 2015."

d. Performance Standards must include the following enhanced stabilization requirements: "Where soil disturbance activity has temporarily or permanently ceased, the construction site is located in the *<insert watershed name>* watershed, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected must be in conformance with the Erosion Control Manual."

e. Inspections of land development activities during construction must include requirements for a *qualified inspector* to conduct two (2) site inspections every seven (7) calendar days for single-family homes and subdivisions within the *<insert watershed name>* watersheds.

f. *Retrofit* program

   i. All *MS4 Operators* identified within the Greenwood Lake Watershed Phosphorus TMDL Implementation Plan, October 2019, must continue to implement the *retrofit* program according to the following schedule:

      a) Within one (1) year of the EDC, the *MS4 Operator* must submit to the *Department* a *retrofit* plan that identifies the following:

         i) Project name;

         ii) Location;

         iii) Proposed *retrofit* type;

         iv) Anticipated date for construction;

         v) Estimated phosphorus reduction (using the criteria in the Greenwood Lake Watershed Phosphorus TMDL Implementation Plan, October 2019); and

         vi) Estimated total phosphorus reduction for all projects demonstrating they will meet the reduction specified in the Greenwood Lake Watershed Phosphorus TMDL Implementation Plan, October 2019.

      b) Within five (5) years of the EDC, all *retrofit* projects must be constructed to achieve the five (5) year phosphorus reduction assigned

to the *MS4 Operator*, as required by the Greenwood Lake Watershed Phosphorus TMDL Implementation Plan, October 2019.

ii. Annually, by December 31, *MS4 Operators* (or *RSE* representing *MS4 Operators* as described in Part III.B.2.b.) must submit to the *Department* any changes made to the *retrofit* plan including the information in Part IX.A.6.e.i.

iii. *MS4 Operators* must document the retrofit program in the *SWMP Plan* specifying:

a) Progress on *retrofit* projects already commenced; and

b) Identification of *retrofit* projects for the upcoming construction season; and

c) Certification that completed retrofit projects have been constructed in accordance with the *retrofit* plans.

7. Pollution Prevention/Good Housekeeping

Following the completion of Part IX.B.1:

a. Annually, from April 1 through October 31, all streets located in the TMDL watershed(s) must be swept. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*. This requirement is not applicable to:

i. Uncurbed roads with no *catch basins*;

ii. High-speed limited access highways; or

iii. Roads defined as interstates, freeways and expressways, or arterials by the United States Department of Transportation, Federal Highway Administration, Highway Functional Classification Concepts, Criteria and Procedures, 2013.

b. Within six (6) months of *MS4 outfall* inspection, the *MS4 Operator* must initiate actions to repair all *MS4 outfall* protection and/or bank stability problems identified during the inspection. Repairs must be completed in accordance with the NYS E&SC 2016. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

c. Within thirty (30) days of inspection, the *MS4 Operator* must initiate all necessary maintenance and repair activities discovered for *municipally* owned or operated post-construction *SMPs*. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

8. Planned Upgrades to *Municipal Facilities* in Watersheds to Impaired Waters

Incorporate, where feasible,[78] cost-effective runoff reduction techniques[79] during planned *municipal* upgrades including *municipal* right of ways (e.g., bioswales, green streets, porous pavement, replacement of closed drainage with grass swales, replacement of the existing islands in the parking lots with bioretention or curb cuts to route the flow through below-grade infiltration areas or other low-cost improvements that provide runoff treatment or reduction).

C. Pathogen Impaired Watersheds *MS4*s

No Pathogen TMDL requirements.

D. Nitrogen Impaired Watershed *MS4*s

Table 6. Nitrogen Impaired Watershed(s)	
Area where Requirements Apply	**Peconic**
EPA Approved TMDL	*TMDL for Nitrogen in the Peconic Estuary Program Study Area, Including Waterbodies Currently Impaired Due to Low Dissolved Oxygen: the Lower Peconic River and Tidal Tributaries; Western Flanders Bay and Lower Sawmill Creek; and Meetinghouse Creek, Terry Creek and Tributaries (September 2007)*
Implementation Plan	*TMDL for Nitrogen in the Peconic Estuary Program Study Area, Including Waterbodies Currently Impaired Due to Low Dissolved Oxygen: the Lower Peconic River and Tidal Tributaries; Western Flanders Bay and Lower Sawmill Creek; and Meetinghouse Creek, Terry Creek and Tributaries (September 2007)*
POC	Nitrogen
Pollutant Load Reduction	In accordance with approved TMDL
Waterbodies	Terrys Creek & Tributaries
	Meetinghouse Creek
	Western Flanders Bay & Lower Sawmill Creek
	Lower Peconic River and tidal tributaries

[78] Consideration of feasibility should include type of land use or *municipal operation*, suitability of soils, presence of utilities, potential for exacerbating existing contamination problems, safety issues, maintenance requirements, and expected lifespans of available technologies.

[79] Runoff reduction techniques can be found in Chapters 4 and 5 of the NYS SWMDM 2015.

MS4 Operators located in the watersheds listed in Table 6 must *develop* and implement the following nitrogen-specific *BMPs* in addition to the applicable Implementation Plan and applicable requirements in Part VI. or Part VII, depending on the *MS4 Operator* type:

1. Mapping

Within three (3) years of the EDC, the *MS4 Operator* must update, in geographic information system (GIS) format with a scale of 1:24000 or finer, the comprehensive system mapping (Part IV.D.) to include:

a. Areas with potential to contribute nitrogen to the *TMDL* waterbody, which include:

   i. Retail and wholesale plant nurseries (including big box stores);

   ii. Commercial lawn care facilities;

   iii. Golf courses; and

   iv. Commercial or Industrial yard waste storage areas (e.g., yard waste composting and disposal areas).

b. Information for all post-construction *SMPs* as identified in the post-construction *SMP* inventory (Part VI.E.2. or Part VII.E.2, depending on the *MS4 Operator* type):

   i. Type;[80] and

   ii. Ownership of *SMP*.

2. Public Education and Outreach on *Stormwater* Impacts

a. Within six (6) months of the EDC, the *MS4 Operator* must make available information on any how the impairment is being addressed by implementation of the MS4 Operator's local law or legal mechanism with content equivalent to the model local law (Part IV.E.1 and Part IV.E.2.). *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

b. Following the completion of Part IX.D.1, twice a year, once from March to August and once from September to February, the *MS4 Operator* must provide educational messages with information specific to nitrogen to the applicable target audiences within the TMDL watershed focus area, identified in Part VI.A.1.b. or Part VII.A.1.b, depending on the MS4 Operator type. The *SWMP Plan* must be updated with changes made to public education and outreach program (Part VI.A. or Part VII.A, depending on the *MS4 Operator* type). *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

[80] Post-construction *SMP* types are defined in the New York State Department of Environmental Conservation Maintenance Guidance: Stormwater Management Practices, March 31, 2017 (NYS DEC Maintenance Guidance 2017).

3. Public Involvement/Participation

No additional requirements.

4. *Illicit Discharge* Detection and Elimination

Following the completion of Part IX.D.1, within five (5) years of the EDC, the MS4 Operator must include on the *MS4 outfall* inventory (Part VI.C.1.c. or Part VII.C.1.c, depending on the MS4 Operator type) the number of each item identified in Part VIII.D.1.a. for each associated MS4 outfall.

5. Construction Site *Stormwater* Runoff Control

High priority construction sites must be inspected during active construction after the pre-construction meeting (Part VI.D.7. or Part VII.D.7, depending on the *MS4 Operator* type).

a. If the *MS4 Operator* is completing the inspection, the construction site must be inspected every ninety (90) days; or

b. If the *MS4 Operator* utilizes the *qualified inspector's* weekly inspection reports, as required by the CGP, to satisfy this requirement, the *MS4 Operator* must inspect the construction site once every six (6) months, or sooner if any deficiencies are noted that require attention.

MS4 Operators must document the construction site inspections in the *SWMP Plan*.

6. Post-Construction *Stormwater* Management

The *MS4 Operator* must ensure on-site retention of the 1-year storm or greater from new development or redevelopment projects using runoff reduction techniques[81] selected from the NYS SWMDM 2015.

7. Pollution Prevention/Good Housekeeping

Following the completion of Part IX.D.1:

a. Annually, from April 1 through October 31, all streets located in the TMDL watershed(s) must be swept. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*. This requirement is not applicable to:

   i. Uncurbed roads with no *catch basins*;

   ii. High-speed limited access highways; or

   iii. Roads defined as interstates, freeways and expressways, or arterials by the United States Department of Transportation, Federal Highway Administration, Highway Functional Classification Concepts, Criteria and Procedures, 2013.

[81] Runoff reduction techniques can be found in Chapters 4 and 5 of the NYS SWMDM 2015.

b. Within six (6) months of *MS4 outfall* inspection, the *MS4 Operator* must initiate actions to repair all *MS4 outfall* protection and/or bank stability problems identified during the inspection. Repairs must be completed in accordance with the NYS E&SC 2016. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

c. Within thirty (30) days of inspection, the *MS4 Operator* must initiate all necessary maintenance and repair activities discovered for *municipally* owned or operated post-construction *SMPs*. *MS4 Operators* must document the completion of this requirement in the *SWMP Plan*.

8. Planned Upgrades to *Municipal Facilities* in Watersheds to Impaired Waters

Incorporate, where feasible,[82] cost-effective runoff reduction techniques[68] during planned *municipal* upgrades including *municipal* right of ways (e.g., bioswales, green streets, porous pavement, replacement of closed drainage with grass swales, replacement of the existing islands in the parking lots with bioretention or curb cuts to route the flow through below-grade infiltration areas or other low-cost improvements that provide runoff treatment or reduction).

[82] Consideration of feasibility should include type of land use or *municipal operation*, suitability of soils, presence of utilities, potential for exacerbating existing contamination problems, safety issues, maintenance requirements, and expected lifespans of available technologies.

Part X. Standard Permit Conditions

For the purposes of this *SPDES* general permit, examples of contractors and subcontractors include:

A. Duty to Comply

The owner/operator, and all contractors or subcontractors, must comply with all terms and conditions of this *SPDES* general permit. Any non-compliance with the terms and conditions of this *SPDES* general permit constitutes a violation of the New York State Environmental Conservation Law, and its implementing regulations, and is grounds for enforcement action. Filing of a request for transfer or termination of coverage under this *SPDES* general permit, or a notification of planned changes or anticipated non-compliance, does not limit, diminish or stay compliance with any terms and conditions of this *SPDES* general permit.

B. Need to Halt or Reduce Activity is Not a Defense

The necessity to halt or reduce the activity regulated by this *SPDES* general permit, in order to maintain compliance with the conditions of this *SPDES* general permit, shall not be a defense in an enforcement action.

C. Penalties

There are substantial criminal, civil, and administrative penalties associated with violating the terms and conditions of this *SPDES* general permit. Fines of up to $37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. False Statements

Any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this *SPDES* general permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished in accordance with New York State Environmental Conservation Law §71-1933 and or New York State Penal Law Articles 175 and 210.

E. Reopener Clause

Upon issuance of this *SPDES* general permit, a determination has been made on the basis of a submitted Notice of Intent, plans, or other available information, that compliance with the specified general permit terms and conditions will reasonably protect classified water use and assure compliance with applicable *water quality standards*. Satisfaction of the conditions of this *SPDES* general permit notwithstanding, if operation pursuant to this *SPDES* general permit causes or contributes to a condition in contravention of State *water quality standards* or guidance values, or if the *Department* determines that a modification is necessary to prevent impairment of the best use of the waters or to assure maintenance of *water*

quality standards or compliance with other provisions of New York State Environmental Conservation Law Article 17 or the Clean Water Act, or any regulations adopted pursuant thereto, the *Department* may require such modification and the Commissioner may require abatement action to be taken by the owner/operator and may also prohibit such operation until the modification has been implemented.

F. Duty to Mitigate

The owner/operator, and its contractors and subcontractors, shall take all reasonable steps to minimize or prevent any *discharge* in violation of this *SPDES* general permit which has a reasonable likelihood of adversely affecting human health or the environment.

G. Requiring Another General Permit or Individual *SPDES* Permit

The *Department* may require any discharger authorized to *discharge* in accordance with this *SPDES* general permit to apply for and obtain an individual *SPDES* permit or apply for authorization to *discharge* in accordance with another general permit.

(1) Cases where an individual *SPDES* permit or authorization to *discharge* in accordance with another general permit may be required include, but is not limited to the following:

(i) the discharger is not in compliance with the conditions of this *SPDES* general permit or does not meet the criteria for coverage under this *SPDES* general permit;

(ii) a change has occurred in the availability of demonstrated technology or practices for the control or abatement of *pollutants* applicable to the point source;

(iii) new effluent limitation guidelines or new source performance standards are promulgated that are applicable to point sources authorized to *discharge* in accordance with this *SPDES* general permit;

(iv) existing effluent limitation guidelines or new source performance standards that are applicable to point sources authorized to *discharge* in accordance with this *SPDES* general permit are modified;

(v) a water quality management plan containing requirements applicable to such point sources is approved by the *Department*;

(vi) circumstances have changed since the time of the request to be covered so that the discharger is no longer appropriately controlled under this *SPDES* general permit, or either a temporary or permanent reduction or elimination of the authorized *discharge* is necessary;

(vii) the *discharge* is in violation of section 17-0501 of the New York State Environmental Conservation Law;

(viii) the *discharge*(s) is a significant contributor of *pollutants*. In making this determination, the *Department* may consider the following factors:

(a) the location of the *discharge*(s) with respect to waters of New York State;
(b) the size of the *discharge*(s);
(c) the quantity and nature of the *pollutants discharged* to waters of New York State; and
(d) other relevant factors including compliance with other provisions of New York State Environmental Conservation Law Article 17, or the Clean Water Act.

(1) When the *Department* requires any discharger authorized by this *SPDES* general permit to apply for an individual *SPDES* permit as provided for in this subdivision, it shall notify the discharger in writing that a permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form, a statement setting a time for the owner/operator to file the application for an individual *SPDES* permit, and a deadline, not sooner than 180 days from the owner/operator's receipt of the notification letter, whereby the authorization to discharge under this *SPDES* general permit shall be terminated. The *Department* may grant additional time upon demonstration, to the satisfaction of the Regional Water Engineer, that additional time to apply for an alternative authorization is necessary or where the *Department* has not provided a permit determination in accordance with 6 NYCRR Part 621.

(2) When an individual *SPDES* permit is issued to a discharger authorized to *discharge* under this *SPDES* general permit for the same *discharge*(s), this *SPDES* general permit authorization for outfalls authorized under the individual *SPDES* permit is automatically terminated on the effective date of the individual *SPDES* permit unless termination is earlier in accordance with 6 NYCRR Part 750.

H. Duty to Provide Information

The owner/operator shall furnish to the *Department*, within five (5) business days, unless otherwise set forth by the *Department*, any information that the *Department* may request to determine whether cause exists to determine compliance with this *SPDES* general permit or to determine whether cause exists for requiring an individual *SPDES* permit in accordance with 6 NYCRR 750-1.21l (see G. Requiring Another General Permit or Individual Permit). The owner/operator shall make available to the *Department*, for inspection and copying, or furnish to the *Department* within 25 business days of receipt of a *Department* request for such information, any information retained in accordance with this *SPDES* general permit. Where the owner/operator becomes aware that it failed to submit any relevant facts on the Notice of Intent, or submitted incorrect information in a Notice of Intent or in any report to the *Department*, the owner/operator shall promptly submit such facts or corrected information to the *Department*.

I. Extension

In the event a new *SPDES* general permit is not issued prior to the expiration of this *SPDES* general permit, and this *SPDES* general permit is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, then the owner/operator

with coverage under this *SPDES* general permit may continue to operate and *discharge* in accordance with the terms and conditions of this *SPDES* general permit until a new *SPDES* general permit is issued.

J. Signatories and Certification

The Notice of Intent, Notice of Termination and reports required by this *SPDES* general permit shall be signed as provided in 40 CFR §122.22

(a) All Notices of Intent and Notices of Termination shall be signed as follows:

(1) For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or

(ii) The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for Notice of Intent or Notice of Termination requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

Note: The *Department* does not require specific assignments or delegations of authority to responsible corporate officers identified in 40 CFR §122.22(a)(1)(i). The *Department* will presume that these responsible corporate officers have the requisite authority to sign the Notice of Intent or Notice of Termination unless the corporation has notified the *Department* to the contrary. Corporate procedures governing authority to sign a Notice of Intent or Notice of Termination may provide for assignment or delegation to applicable corporate positions under 40 CFR §122.22(a)(1)(ii) rather than to specific individuals.

(2) For a partnership or sole proprietorship. By a general partner or the proprietor, respectively; or

(3) For a *municipality*, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(i) The chief executive officer of the agency, or

(ii) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

(b) All reports required by this *SPDES* general permit, and other information requested by the *Department* shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in (a);

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company (A duly authorized representative may thus be either a named individual or any individual occupying a named position.), and

(3) The written authorization is submitted to the *Department*.

(c) Changes to authorization. If an authorization under (b) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility or activity, a new authorization satisfying the requirements of (b) must be submitted to the *Department* prior to or together with any reports, information, or applications to be signed by an authorized representative.

(d) Certification. Any person signing a document under (a) or (b) shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(e) Electronic reporting. If documents described in (a) or (b) are submitted electronically by or on behalf of the activity with coverage under this *SPDES* general permit, any person providing the electronic signature for such documents shall meet all relevant requirements of this section, and shall ensure that all of the relevant requirements of 40 CFR Part 3 (including, in all cases, subpart D to Part 3) (Cross-Media Electronic Reporting) and 40 CFR Part 127 (NPDES Electronic Reporting Requirements) are met for that submission.

K. Inspection & Entry

The owner/operator shall allow the *Department*, the USEPA Regional Administrator, the applicable county health department, or any authorized representatives of those entities, upon the presentation of credentials and other documents as may be required by law, to:

(a) enter upon the owner/operator's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this *SPDES* general permit;
(b) have access to and copy, at reasonable times, any records that must be kept under the conditions of this *SPDES* general permit, including records required to be maintained for purposes of operation and maintenance;
(c) inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this *SPDES* general permit;
(d) sample or monitor at reasonable times, for the purposes of assuring *SPDES* general permit compliance or as otherwise authorized by the Clean Water Act or New York State Environmental Conservation Law, any substances or parameters at any location; and
(e) enter upon the property of any contributor to the regulated facility or activity under authority of the owner/operator.

L. Confidentiality of Information

The following shall not be held confidential: this *SPDES* general permit, the fact sheet for this *SPDES* general permit, the name and address of any owner/operator, effluent data, the Notice of Intent, and information regarding the need to obtain an individual permit or an alternative general permit. This includes information submitted on forms themselves and any attachments used to supply information required by the forms (except information submitted on usage of substances). Upon the request of the owner/operator, the *Department* shall make determinations of confidentiality in accordance with 6 NYCRR Part 616, except as set forth in the previous sentence. Any information accorded confidential status shall be disclosed to the Regional Administrator upon his or her written request. Prior to disclosing such information to the Regional Administrator, the *Department* will notify the Regional Administrator of the confidential status of such information.

M. Other Permits May Be Required

Nothing in this *SPDES* general permit relieves the owner/operator from a requirement to obtain any other permits required by law.

N. Property Rights

Coverage under this *SPDES* general permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations, nor does it obviate the necessity of obtaining the assent of any other jurisdiction as required by law for the *discharge* authorized.

O. Compliance with Interstate Standards

If the activity covered by this *SPDES* general permit originates within the jurisdiction of an interstate water pollution control agency, then the activity must also comply

with any applicable effluent standards or *water quality standards* promulgated by that interstate agency and as set forth in this *SPDES* general permit for such activities.

P. Oil & Hazardous Substance Liability

Coverage under this *SPDES* general permit does not affect the imposition of responsibilities upon, or the institution of any legal action against, the owner or operator under section 311 of the Clean Water Act, which shall be in conformance with regulations promulgated pursuant to section 311 governing the applicability of section 311 of the Clean Water Act to *discharges* from facilities with NPDES permits, nor shall such issuance preclude the institution of any legal action or relieve the owner or operator from any responsibilities, liabilities, or penalties to which the owner or operator is or may be subject pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. section 9601 et seq. (CERCLA).

Q. Severability

The provisions of this *SPDES* general permit are severable, and if any provision of the permit, or the application of any provision of the permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.

Appendix A. Acronyms and Definitions

Acronym List

BMP – Best Management Practice

CFR – Code of Federal Regulations

CGP – SPDES General Permit for Stormwater from Construction Activities, GP-0-20-001

CWA – Clean Water Act

ECL – Environmental Conservation Law

EDC – Effective Date of Coverage

EDP– Effective Date of the Permit

eNOI – Electronic Notice of Intent

EPCRA - Emergency Planning and Community Right-To-Know Act

ERP – Enforcement Response Plan

IDDE – Illicit Discharge Detection and Elimination

MCM – Minimum Control Measure

MS4 – Municipal Separate Storm Sewer System

MS4 GP – SPDES General Permit for Stormwater Discharges from the Municipal Separate Storm Sewer Systems, GP-0-24-001

MSGP – SPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity, GP-0-23-001

NOI – Notice of Intent

NPDES – National Pollutant Discharge Elimination System

NYCRR – New York Codes, Rules and Regulations

NYS DEC – New York State Department of Environmental Conservation

O&M – Operations and Maintenance

ORI – Outfall Reconnaissance Inventory

POC – Pollutant of Concern

RSE – Regional Stormwater Entity

SPDES – State Pollutant Discharge Elimination System

SMP – Stormwater Management Practice

SWMP – Stormwater Management Program

SWMP Plan – Stormwater Management Program Plan

SWPPP – Stormwater Pollution Prevention Plan

TMDL – Total Maximum Daily Load

USEPA – United States Environmental Protection Agency

Definitions

All definitions in this section are solely for the purposes of this permit. If a word is not defined below, use it how it is commonly defined.

Additionally Designated Areas – those areas that meet the additional designation criteria, Designation Criteria for Identifying Regulated Municipal Separate Storm Sewer Systems (*MS4*s), January 2010, revised January 2023 and found in Appendix B.

Additionally Designated Area MS4 Outfall (ADA MS4 outfall) – any point of *stormwater discharge* from pipes, ditches, and swales, as well as other points of concentrated flow*,* to impaired waters listed in Appendix C from an *MS4 Operator's MS4*. Areas of *sheet flow* which drain to impaired waters listed in Appendix C are not considered *ADA MS4 outfalls.*

Automatically Designated Areas – those areas served by *MS4*s that meet the automatic designation criteria, Designation Criteria for Identifying Regulated Municipal Separate Storm Sewer Systems (*MS4*s), January 2010, revised January 2023 and found in Appendix B.

Best Management Practice (BMP) – schedules of activities, practices, and prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment requirements, 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*.

Catch Basin(s) – a cistern, vault, chamber, or well that is part of the MS4 and designed to capture trash, sediment, and/or debris in its *sump*.

Construction Activity(ies) – any clearing, grading, excavation, demolition or stockpiling activity that results in soil disturbance. Clearing activities can include but are not limited to logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. *Construction activity* does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Department – the New York State *Department* of Environmental Conservation as well as meaning the *Department*'s designated agent.

Develop (Developed) – for *MS4 Operators* continuing coverage, *develop* means to continue to implement their current SWMP and update the SWMP to comply with the permit requirement; for newly designated *MS4 Operators*, *develop* means to create that permit requirement.

Discharge (Discharging) – any addition of any pollutant to *surface waters of the State* through an outlet or point source (6 NYCRR 750-1.2(a)(28)).

Dry Weather – prolonged dry periods (at least 48 hours after the last runoff event).

Groundwater – waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Illicit Discharge – any *discharge* into an *MS4* that is not entirely composed of *stormwater*, except those identified in Part I.A.3. Examples of *illicit discharges* are non-permitted sanitary sewage, garage drain effluent, and waste motor oil. However, an *illicit discharge* could be any other non-permitted discharge which the *MS4 Operator* or *Department* has determined to be a substantial contributor of pollutants to the *MS4*. *Illicit discharges* can occur throughout the *MS4*, including at post-construction *SMPs*.

Industrial Activity – the eleven (11) categories of industrial activities included in the definition of "*stormwater discharges* associated with industrial activity," as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi).

Interconnection – any point of *stormwater discharge* from pipes, ditches, and swales, as well as other points of concentrated flow*,* where the *MS4 Operator*'s *MS4* is *discharging* to another *MS4* or private storm sewer system. Areas of *sheet flow* which drain to another *MS4* or private storm sewer system are not considered *interconnections*.

Intermittent Discharge – a *discharge* which occurs over a shorter period of time (e.g., a few hours per day or a few days per year) (CWP 2004).

Larger Common Plan of Development or Sale – a contiguous area where multiple separate and distinct *construction activities* are occurring, or will occur, under one plan. The term **"**plan" in "larger common plan of development or sale" is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, sales pitch, advertisement, drawing, permit application, State Environmental Quality Review Act Application, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that *construction activities* may occur on a specific plot.

For discrete construction projects that are located within a *larger common plan of development or sale* that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed.

MS4 Operator – the person, persons, or legal entity that obtains coverage and is responsible for the *MS4*.

MS4 Outfall – any point of *stormwater discharge* from pipes, ditches, and swales, as well as other points of concentrated flow*,* to *surface waters of the State* from an *MS4 Operator's MS4*. Areas of *sheet flow* which drain to *surface waters of the State* are not considered *MS4 outfalls.*

Municipal (Municipally) – a county, town, city, village, district corporation, special improvement district, sewer authority or agency thereof. Examples of other public entities that are included in this program include State University Campuses, federal and State prisons, State and federal hospitals, Dormitory Authorities, public housing authorities, school and other special districts.

Municipal Facility – an *MS4 Operator* owned and/or operated facility with the potential to *discharge* pollutants to the *MS4* and/or *surface water of the State* of the State.

Municipal Facility Intraconnection – any point where stormwater is conveyed from the MS4 Operator's municipal facility to the MS4 Operator's own MS4. This is the most down-drainage end of the MS4 infrastructure located on the municipal facility prior to discharge to the MS4.

Municipal Operations (Operations) – activities conducted by the MS4 Operator with the potential to discharge pollutants to the *MS4* and/or *surface water of the State*.

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

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

National Pollutant Discharge Elimination System – the national system for the issuance of wastewater and *stormwater* permits under the Federal Water Pollution Control Act (Clean Water Act).

No Exposure – all industrial materials or activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff.

Non-traditional MS4 Operators– state, federal, county and other publicly owned properties such as state university campuses, prisons, office complexes, hospitals, military installations public housing authorities, school and other special districts.

Obvious Illicit Discharge –an *illicit discharge* from a flowing *MS4 outfall* that does not require sample collection for confirmation; this references the Monitoring Locations Inspection and Sampling Field Sheet, adapted from CWP 2004, Section 6: Overall Outfall Characterization.

Physical Indicator Present in the Flow – a sensory indicator present in the *discharge* from *monitoring location* including odor, color, turbidity and floatables; this references the Monitoring Locations Inspection and Sampling Field Sheet, adapted from CWP 2004, Section 4: Physical Indicators for Flowing Monitoring Locations Only.

Physical Indicator not Related to Flow – an indicator of past *discharges*, potentially *intermittent* or *transitory discharge,* including *monitoring location* damage, *monitoring location* deposits or stains, abnormal vegetation growth, poor pool quality or pipe benthic growth; this references the Monitoring Locations Inspection and Sampling Field Sheet, adapted from CWP 2004, Section 5: Physical Indicators for Both Flowing and Non-Flowing Monitoring Locations. These physical indicators can be present at both flowing and non-flowing monitoring locations.

Pollutant – dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, *municipal*, agricultural waste and ballast *discharged* into water; which may cause or might reasonably be expected to cause pollution of the waters of the State in contravention of the standards or guidance values adopted as provided in Parts 700 et seq of this Title. For the purposes of this *SPDES* general permit, relevant pollutants include, but are not limited to, nitrogen, phosphorus, chloride, silt and sediment, pathogens, herbicides/pesticides, floatables, petroleum hydrocarbons, heavy metals, and polycyclic aromatic hydrocarbons (PAHs).

Pollutant of Concern (POC) – a pollutant causing the impairment of an impaired water segment with an approved TMDL and/or listed in Appendix C, including phosphorus, silt/sediment, pathogens, nitrogen, and floatables.

Privately Owned/Operated – not owned/operated by the *MS4 Operator* or another *MS4 Operator*.

Publicly Owned/Operated – owned/operated by the *MS4 Operator.*

Qualified Inspector – a person who is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or other *Department* endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct

supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of *Department* endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other *Department* endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect must receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *qualified professional* qualifications in addition to the *qualified inspector* qualifications.

Note: Inspections of any post-construction *SMPs* that include structural components, such as a dam for an impoundment, must be performed by a licensed Professional Engineer.

Qualified Professional – a person who is knowledgeable in the principles and practices of *stormwater* management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect, or other *Department* endorsed individual(s). Individuals preparing SWPPPs that require the post-construction *SMP* component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics in order to prepare a SWPPP that conforms to the *Department's* technical standard. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), must be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Qualifying Storm Event – a storm event with at least 0.1 inch of precipitation, providing the interval from the preceding measurable storm is at least 72 hours. The 72-hour storm interval is waived if the preceding measurable storm did not result in a *stormwater discharge* (e.g., a storm events in excess of 0.1 inches may not result in a *stormwater discharge* at some facilities), or if the *MS4 Operator* is able to document that less than a 72-hour interval is representative for local storm events during the sampling period.

Regional Stormwater Entity (RSE) – an organization made up of multiple cooperating regulated and/or nonregulated entities located in the same geographical region of the State who share resources to improve overall *stormwater* management in their area.

Retrofit – to modify or add to existing *stormwater* infrastructure for the purpose of reducing pollutant loadings.

Sheet Flow – *stormwater* runoff flowing in a thin layer over the ground surface.

Sizing Criteria – the criteria included in the CGP that are used to size post-construction *stormwater* management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), Overbank Flood (Qp), and Extreme Flood (Qf).

State Pollutant Discharge Elimination System (SPDES) – the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing *discharges* to the waters of the State.

Stormwater – that portion of precipitation that, once having fallen to the ground, is in excess of the evaporative or infiltrative capacity of soils, or the retentive capacity of surface features, which flows or will flow off the land by surface runoff to waters of the State.

Stormwater Hotspots - a land use or activity that generates higher concentrations of hydrocarbons, trace metals or toxicants than are found in typical *stormwater* runoff, based on monitoring studies. For further detail, see Section 4.11 of the NYS SWMDM 2015.

Stormwater Management Practices (SMPs) – measures, either structural or nonstructural, that are constructed as part of new development or redevelopment projects and are intended to capture, treat, reduce and/or retain *stormwater* runoff.

Stormwater Management Program (SWMP) – the program *developed* and implemented by the *MS4 Operator* which provides a comprehensive integrated planning approach involving public participation and, where necessary, intergovernmental coordination, to reduce the *discharge* of POCs and specified pollutants to the *MEP*, using management practices, control techniques and systems, design and engineering methods, and other appropriate provisions. *MS4 Operators* are required at a minimum to *develop*, implement, and enforce a *SWMP* designed to address POCs and reduce the *discharge* of pollutants from the *MS4* to the *MEP*, to protect water quality, and to satisfy the appropriate water quality requirements of the ECL and the Clean Water Act. The *SWMP* must address all permit requirements in this *SPDES* general permit.

Stormwater Management Program Plan (SWMP Plan) – is used by the *MS4 Operator* to document and detail the activities and measures that will be implemented to meet the terms and conditions of this *SPDES* general permit. The *SWMP Plan* must be updated during the permit term as the *MS4 Operator's* activities are modified to meet permit conditions. The *SWMP Plan* can be hardcopy or digital.

Storm-sewershed (sewershed) – the catchment that drains to a waterbody based on the *MS4* and surface topography. Adjacent catchment areas that drain to the same waterbody are not separate storm-*sewersheds*.

Sump – the part of the *catch basin* between the bottom interior of the *catch basin* and the invert of the deepest outlet of the *catch basin*.

Surface Water(s) of the State – must be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that

do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction.

Waters of the state are further defined in 6 NYCRR Parts 800 to 941. Storm sewers are not waters of the state unless they are classified in 6 NYCRR Parts 800 to 941. Nonetheless, a *discharge* to a storm sewer must be regulated as a *discharge* at the point where the storm sewer *discharges* to waters of the state.

Suspect Illicit Discharge – an *illicit discharge* from flowing monitoring locations with high severity (score of 3) on one or more physical indicators based on the relative severity index of physical indicators for flowing *MS4 outfall*s only; this references the Monitoring Locations Inspection and Sampling Field Sheet, adapted from CWP 2004, Section 6: Overall Outfall Characterization.

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

Traditional Land Use Control *MS4 Operators* – a city, town, or village with land use control authority.

Traditional Non-land Use Control *MS4 Operators* – any county agency without land use control.

Transitory Discharge – a *discharge* which occurs rarely, usually in response to a singular event such as an industrial spill, ruptured tank, sewer break, transport accident or illegal dumping episode (CWP 2004).

Water Quality Standard – such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

Appendix B. Designation Criteria for Identifying Regulated *Municipal Separate Storm Sewer Systems* (*MS4*s), January 2010, revised January 2023

The universe of small *municipal* separate storm sewer systems (*MS4*s) is quite large. However, only a sub-set of small *MS4*s, referred to as "regulated" small *MS4*s, are covered by the Federal *stormwater* regulations. A small *MS4* can be designated as a regulated *MS4* through *automatic designation* by the USEPA or by meeting designation criteria developed by the NPDES permitting authority, the New York State Department of Environmental Conservation (*Department*) in New York State.

Automatic Designation Criteria Required by USEPA

The USEPA's automatic designation criteria are based strictly on population and density. An area is *automatically designated* if the population is at least 50,000 and has an overall population density of at least 1,000 people per square mile based on the 2000 and 2010 censuses.

Additional Designation Criteria

The USEPA requires the *Department* to develop a set of criteria for *additionally designated areas*. The following criteria, using a combination of population and environmental factors, have been adopted to designate additional *MS4*s in NYS.

Criterion 1: *MS4*s *discharging* to waters for which an USEPA-approved Total Maximum Daily Load (TMDL) requires reduction of a *pollutant of concern* beyond what can be achieved with existing programs (and the area is not already covered under automatic designation).

Criterion 2: *MS4*s, contiguous to *automatically designated areas* (municipal lines), that *discharge* to sensitive waters classified as AA-Special (fresh surface waters), AA (fresh surface waters) with filtration avoidance determination or SA (saline surface waters).

Criterion 3: *Automatically designated areas* are extended to town, village, or city boundaries, but only for town, village or city implementation of minimum control measure 4 construction site stormwater runoff control and minimum control measure 5 post-construction stormwater management in development and redevelopment. This additional designation may be waived, by written request to the *Department*, where the *automatically designated area* is a small portion of the total area of the town, village or city (less than 15 %) and where there is little or no *construction activity* in the area outside of the *automatically designated area* (less than 5 disturbed acres per year).

Appendix C. List of Impaired Waters

NOTES FOR THE TABLE BELOW:

1. *MS4 Operators* must implement Part VIII.A. Pollutant Specific BMPs for Phosphorus for waterbodies with the pollutant listed as "phosphorus."
2. *MS4 Operators* must implement Part VIII.B. Pollutant Specific BMPs for Silt/Sediment for waterbodies with the pollutant listed as "silt/sediment."
3. *MS4 Operators* must implement Part VIII.C. Pollutant Specific BMPs for Pathogens for waterbodies with the pollutant listed as "pathogens" or "fecal coliform."
4. *MS4 Operators* must implement Part VIII.D. Pollutant Specific BMPs for Nitrogen for waterbodies with the pollutant listed as "nitrogen" or "ammonia."
5. *MS4 Operators* must implement Part VIII.E. Pollutant Specific BMPs for Floatables for waterbodies with the pollutant listed as "garbage & refuse," "oil/grease," or "oil & floating substances."

County	Waterbody Inventory/Priority Waterbody List Name (WI/PWL Number)	Pollutant
Albany	Ann Lee (Shakers) Pond, Stump Pond (1201-0096)	Phosphorus
Bronx	Bronx River, Lower (1702-0006) 18	Fecal Coliform
Bronx	Bronx River, Lower (1702-0006) 18	Garbage & Refuse
Bronx	Bronx River, Middle, and tribs (1702-0106) 18	Fecal Coliform
Bronx	Bronx River, Middle, and tribs (1702-0106) 18	Garbage & Refuse
Bronx	Hutchinson River, Lower, and tribs (1702 0003) 18	Garbage & Refuse
Bronx	Long Island Sound, Western Portion (1702-0027)	Nitrogen
Bronx	Van Cortlandt Lake (1702-0008)	Phosphorus
Bronx	Westchester Creek (1702-0012) 18	Garbage & Refuse
Broome	Minor Tribs to Lower Susquehanna (0603-0044)	Phosphorus
Chautauqua	Chadakoin River and tribs (0202-0018)	Phosphorus
Chautauqua	Lake Erie (Main Lake, South) (0105-0033)	Fecal Coliform
Chautauqua	Lake Erie, Dunkirk Harbor (0105-0009)	Fecal Coliform
Dutchess	Fallkill Creek (1301-0087)	Phosphorus
Dutchess	Wappingers Lake (1305-0001)	Phosphorus
Dutchess	Wappingers Lake (1305-0001)	Silt/Sediment
Erie	Delaware Park Pond (0101-0026)	Phosphorus
Erie	Ellicott Creek, Lower, and tribs (0102-0018)	Phosphorus
Erie	Ellicott Creek, Lower, and tribs (0102-0018)	Silt/Sediment

Erie	Green Lake (0101-0038)	Phosphorus
Erie	Lake Erie (Main Lake, North) (0104-0037)	Fecal Coliform
Erie	Lake Erie (Northeast Shoreline) (0104-0036)	Fecal Coliform
Erie	Rush Creek and tribs (0104-0018)	Fecal Coliform
Erie	Rush Creek and tribs (0104-0018)	Phosphorus
Erie	Scajaquada Creek, Lower, and tribs (0101-0023)	Fecal Coliform
Erie	Scajaquada Creek, Lower, and tribs (0101-0023)	Oils & Floating Sub.
Erie	Scajaquada Creek, Lower, and tribs (0101-0023)	Phosphorus
Erie	Scajaquada Creek, Middle, and tribs (0101-0033)	Fecal Coliform
Erie	Scajaquada Creek, Middle, and tribs (0101-0033)	Oils & Floating Sub.
Erie	Scajaquada Creek, Middle, and tribs (0101-0033)	Phosphorus
Erie	Scajaquada Creek, Upper, and tribs (0101-0034)	Fecal Coliform
Erie	Scajaquada Creek, Upper, and tribs (0101-0034)	Phosphorus
Erie	South Branch Smoke Cr, Lower, and tribs (0101-0036)	Phosphorus
Erie	South Branch Smoke Cr, Lower, and tribs (0101-0036)	Silt/Sediment
Genesee	Tonawanda Cr, Middle, Main Stem (0102-0002)	Phosphorus
Genesee	Tonawanda Cr, Middle, Main Stem (0102-0006)	Fecal Coliform
Herkimer	Mohawk River, Main Stem (1201-0093)	Fecal Coliform
Herkimer	Mohawk River, Main Stem (1201-0093)	Oils & Floating Sub.
Kings	Coney Island Creek (1701-0008) 18	Fecal Coliform
Kings	Coney Island Creek (1701-0008) 18	Garbage & Refuse
Kings	Gowanus Canal (1701 0011) 18	Garbage & Refuse
Kings	Hendrix Creek (1701-0006) 18	Fecal Coliform
Kings	Hendrix Creek (1701-0006) 18	Garbage & Refuse
Kings	Hendrix Creek (1701-0006) 18	Nitrogen
Kings	Mill Basin and tidal tribs (1701 0178) 18	Garbage & Refuse
Kings	Paerdegat Basin (1701-0363) 18	Garbage & Refuse
Kings	Prospect Park Lake (1701-0196)	Phosphorus
Monroe	Buck Pond (0301-0017)	Phosphorus
Monroe	Cranberry Pond (0301-0016)	Phosphorus

Monroe	Long Pond (0301-0015)	Phosphorus
Monroe	Minor Tribs to Irondequoit Bay (0302-0038)	Fecal Coliform
Monroe	Minor Tribs to Irondequoit Bay (0302-0038)	Phosphorus
Monroe	Rochester E–bayment - East (0302-0002)	Fecal Coliform
Monroe	Rochester E–bayment - West (0301-0068)	Fecal Coliform
Monroe	Thomas Creek/White Brook and tribs (0302-0023)	Phosphorus
Nassau	Beaver Lake (1702-0152)	Phosphorus
Nassau	Camaans Pond (1701-0052)	Phosphorus
Nassau	Cold Spring Harbor, and tidal tribs (1702-0018)	Pathogens
Nassau	Dosoris Pond (1702-0024)	Fecal Coliform
Nassau	East Bay (1701-0202)	Fecal Coliform
Nassau	East Meadow Brook, Upper, and tribs (1701-0211)	Silt/Sediment
Nassau	East Rockaway Inlet (1701-0217)	Fecal Coliform
Nassau	Glen Cove Creek, Lower, and tribs (1702-0146)	Fecal Coliform
Nassau	Glen Cove Creek, Lower, and tribs (1702-0146)	Silt/Sediment
Nassau	Grant Park Pond (1701-0054)	Phosphorus
Nassau	Hempstead Bay (1701-0032)	Fecal Coliform
Nassau	Hempstead Harbor, north, and tidal tribs (1702-0022)	Pathogens
Nassau	Hempstead Harbor, south, & tidal tribs (1702-0263)	Fecal Coliform
Nassau	Hempstead Lake (1701-0015)	Phosphorus
Nassau	Long Island Sound, Nassau County Waters (1702-0028)	Fecal Coliform
Nassau	Long Island Sound, Nassau County Waters (1702-0028)	Nitrogen
Nassau	Manhasset Bay, and tidal tribs (1702-0021)	Fecal Coliform
Nassau	Manhasset Bay, and tidal tribs (1702-0141)	Fecal Coliform
Nassau	Massapequa Creek, Upper, and tribs (1701-0174)	Fecal Coliform
Nassau	Massapequa Creek, Upper, and tribs (1701-0174)	Phosphorus
Nassau	Middle Bay (1701-0208)	Fecal Coliform
Nassau	Milburn/Parsonage Creeks, Upp, and tribs (1701-0212)	Phosphorus
Nassau	Mill Neck Creek and tidal tribs (1702-0151)	Pathogens
Nassau	Oyster Bay Harbor (1702-0016)	Pathogens
Nassau	Reynolds Channel, east (1701-0215)	Fecal Coliform

Nassau	Seafords/Seamans Creeks, Upper, and tribs (1701-0201)	Fecal Coliform
Nassau	Shell Creek and Barnums Channel (1701-0213386)	Fecal Coliform
Nassau	South Oyster Bay (1701-0041)	Fecal Coliform
Nassau	Tidal Tribs to Hempstead Bay (1701-0218)	Fecal Coliform
Nassau	Tidal Tribs to Hempstead Bay (1701-0218)	Nitrogen
Nassau	Tidal Tribs to South Oyster Bay (1701-0200)	Fecal Coliform
Nassau	Tribs (fresh) to East Bay (1701-0204)	Fecal Coliform
Nassau	Tribs (fresh) to East Bay (1701-0204)	Phosphorus
Nassau	Tribs (fresh) to East Bay (1701-0204)	Silt/Sediment
Nassau	Tribs to Smith Pond/Halls Pond (1701-0221)	Phosphorus
Nassau	Woodmere Channel (1701-0219)	Fecal Coliform
Nassau	Woodmere Channel (1701-0219)	Nitrogen
New York	East River, Lower (1702-0011) 18	Garbage & Refuse
New York	Harlem River (1702-0004) 18	Garbage & Refuse
New York	Harlem Meer (1702-0103)	Phosphorus
New York	The Lake in Central Park (1702-0105)	Phosphorus
Niagara	Bergholtz Creek and tribs (0101-0004)	Fecal Coliform
Niagara	Bergholtz Creek and tribs (0101-0004)	Phosphorus
Niagara	Hyde Park Lake (0101-0030)	Phosphorus
Oneida	Ballou, Nail Creeks (1201-0203)	Phosphorus
Oneida	Mohawk River, Main Stem (1201-0010)	Fecal Coliform
Oneida	Mohawk River, Main Stem (1201-0094)	Fecal Coliform
Oneida	Utica Harbor (1201-0228)	Fecal Coliform
Onondaga	Bloody Brook and tribs (0702 0006) 10	Fecal Coliform
Onondaga	Ley Creek and tribs (0702 0001) 10	Fecal Coliform
Onondaga	Ley Creek and tribs (0702-0001) 10	Ammonia (NH3)
Onondaga	Ley Creek and tribs (0702-0001) 10	Phosphorus
Onondaga	Minor Tribs to Onondaga Lake (0702-0022) 10	Nitrogen (NH3, NO2)
Onondaga	Minor Tribs to Onondaga Lake (0702-0022) 10	Phosphorus
Onondaga	Minor Tribs to Onondaga Lake (0702-0022) 10	Fecal Coliform
Onondaga	Onondaga Creek, Lower (0702-0023) 10	Ammonia (NH3)
Onondaga	Onondaga Creek, Lower (0702-0023) 10	Fecal Coliform

Onondaga	Onondaga Creek, Lower (0702-0023) 10	Phosphorus
Onondaga	Onondaga Creek, Middle, and tribs (0702-0004) 10	Fecal Coliform
Onondaga	Onondaga Lake, Southern End (0702-0021) [10]	Fecal Coliform
Ontario	Great Brook and minor tribs (0704-0034)	Phosphorus 2
Ontario	Great Brook and minor tribs (0704-0034)	Silt/Sediment
Orange	Greenwood Lake (1501-0001)	Phosphorus
Orange	Monhagen Brook and tribs (1306-0074)	Phosphorus
Orange	Orange Lake (1301-0008) [16]	Phosphorus
Oswego	Lake Neatahwanta (0701-0018)	Phosphorus
Putnam	Bog Brook Reservoir (1302-0041)	Phosphorus
Putnam	Boyd Corners Reservoir (1302-0045)	Phosphorus
Putnam	Croton Falls Reservoir (1302-0026)	Phosphorus
Putnam	Diverting Reservoir (1302-0046)	Phosphorus
Putnam	East Branch Reservoir (1302-0040)	Phosphorus
Putnam	Middle Branch Reservoir (1302-0009)	Phosphorus
Putnam	Oscawana Lake (1301-0035)	Phosphorus
Putnam	Palmer Lake (1302-0103)	Phosphorus
Putnam	West Branch Reservoir (1302-0022)	Phosphorus
Queens	Alley Creek/Little Neck Bay Trib (1702-0009) 18	Fecal Coliform
Queens	Atlantic Ocean Coastline (1701-0014)	Fecal Coliform
Queens	Bergen Basin (1701-0009) 18	Fecal Coliform
Queens	Bergen Basin (1701-0009) 18	Garbage & Refuse
Queens	Bergen Basin (1701-0009) 18	Nitrogen
Queens	East River, Upper (1702-0010) 18	Garbage & Refuse
Queens	East River, Upper (1702-0032) 18	Garbage & Refuse
Queens	Flushing Creek/Bay (1702 0005) 18	Garbage & Refuse
Queens	Flushing Creek/Bay (1702-0005)	Nitrogen
Queens	Flushing Creek/Bay (1702-0005) 18	Fecal Coliform
Queens	Jamaica Bay, Eastern, and tribs, Queens (1701-0005) 18	Fecal Coliform
Queens	Jamaica Bay, Eastern, and tribs, Queens (1701-0005) 18	Garbage & Refuse
Queens	Jamaica Bay, Eastern, and tribs, Queens (1701-0005) 18	Nitrogen

Queens	Kissena Lake (1702-0258)	Phosphorus
Queens	Little Neck Bay (1702-0029)	Fecal Coliform
Queens	Meadow Lake (1702-0030)	Phosphorus
Queens	Newtown Creek and tidal tribs (1702 0002) 18	Garbage & Refuse
Queens	Newtown Creek and tidal tribs (1702-0002) 18	Fecal Coliform
Queens	Shellbank Basin (1701-0001) 18	Nitrogen
Queens	Spring Creek and tribs (1701-0361) 18	Garbage & Refuse
Queens	Thurston Basin (1701-0152) 18	Fecal Coliform
Queens	Thurston Basin (1701-0152) 18	Garbage & Refuse
Queens	Willow Lake (1702-0031)	Phosphorus
Rensselaer	Nassau Lake (1310-0001)	Phosphorus
Richmond	Arthur Kill, Class I, and minor tribs (1701 0010) 18	Garbage & Refuse
Richmond	Arthur Kill, Class SD, and minor tribs (1701-0182) 18	Garbage & Refuse
Richmond	Grassmere Lake/Bradys Pond (1701-0357)	Phosphorus
Richmond	Kill Van Kull (1701 0184) 18	Garbage & Refuse
Richmond	Newark Bay (1701 0183) 18	Garbage & Refuse
Richmond	Raritan Bay, Class SA (1701-0002)	Fecal Coliform
Rockland	Congers Lake, Swartout Lake (1501-0019)	Phosphorus
Rockland	Rockland Lake (1501-0021)	Phosphorus
Rockland	Sparkill Creek, Lower (1301-0088)	Fecal Coliform
Saratoga	Ballston Lake (1101-0036)	Phosphorus
Saratoga	Dwaas Kill and tribs (1101-0007)	Phosphorus
Saratoga	Dwaas Kill and tribs (1101-0007)	Silt/Sediment
Saratoga	Lake Lonely (1101-0034)	Phosphorus
Saratoga	Tribs to Lake Lonely (1101-0001)	Fecal Coliform
Saratoga	Tribs to Lake Lonely (1101-0001)	Phosphorus
Schenectady	Collins Lake (1201-0077)	Phosphorus
Schenectady	Duane Lake (1311-0006)	Phosphorus
Schenectady	Mariaville Lake (1201-0113)	Phosphorus
Suffolk	Acabonack Harbor (1701-0047)	Pathogens
Suffolk	Agawam Lake (1701-0117)	Phosphorus
Suffolk	Beaverdam Creek and tribs (1701-0104)	Ammonia
Suffolk	Bellport Bay (1701-0320)	Pathogens

Suffolk	Big/Little Fresh Ponds (1701-0125)	Phosphorus
Suffolk	Canaan Lake (1701-0018)	Phosphorus
Suffolk	Canaan Lake (1701-0018)	Silt/Sediment
Suffolk	Centerport Harbor (1702-0229)	Pathogens
Suffolk	Conscience Bay and tidal tribs (1702-0091)	Pathogens
Suffolk	Flanders Bay, East/Center, and tribs (1701-0030)	Pathogens
Suffolk	Flanders Bay, West/Lower Sawmill Creek (1701-0254)	Nitrogen
Suffolk	Flanders Bay, West/Lower Sawmill Creek (1701-0254)	Pathogens
Suffolk	Flax Pond (1702-0240)	Fecal Coliform
Suffolk	Forge River, Lower and Cove (1701-0316)	Fecal Coliform
Suffolk	Fresh Pond (1701-0241)	Phosphorus
Suffolk	Goldsmith Inlet (1702-0026)	Pathogens
Suffolk	Goose Creek (1701-0236)	Pathogens
Suffolk	Great Cove (1701-0376)	Fecal Coliform
Suffolk	Great South Bay, East (1701-0039)	Nitrogen
Suffolk	Great South Bay, Middle (1701-0040)	Nitrogen
Suffolk	Great South Bay, West (1701-0173)	Nitrogen
Suffolk	Hashamomuck Pond (1701-0162)	Pathogens
Suffolk	Heady and Taylor Creeks and tribs (1701-0294)	Pathogens
Suffolk	Huntington Harbor (1702-0228)	Pathogens
Suffolk	Lake Montauk (1701-0031)	Pathogens
Suffolk	Lake Ronkonkoma (1701-0020)	Fecal Coliform
Suffolk	Lake Ronkonkoma (1701-0020)	Phosphorus
Suffolk	Little Sebonac Creek (1701-0253)	Pathogens
Suffolk	Long Island Sound, Suffolk Co, Central (1702-0265)	Fecal Coliform
Suffolk	Mattituck Inlet/Cr, Low, and tidal tribs (1702-0020)	Pathogens
Suffolk	Meetinghouse/Terrys Creeks and tribs (1701-0256)	Pathogens
Suffolk	Mill and Seven Ponds (1701-0113)	Phosphorus
Suffolk	Millers Pond (1702-0013)	Phosphorus
Suffolk	Moriches Bay, East (1701-0305)	Nitrogen
Suffolk	Moriches Bay, West (1701-0038)	Nitrogen
Suffolk	Mt Sinai Harbor and tidal tribs (1702-0019)	Pathogens

Suffolk	Mud Creek, Upper, and tribs (1701-0101)	Fecal Coliform
Suffolk	Narrow Bay (1701-0318)	Pathogens
Suffolk	Nicoll Bay (1701-0375)	Fecal Coliform
Suffolk	North Sea Harbor and tribs (1701-0037)	Pathogens
Suffolk	Northport Harbor (1702-0230)	Pathogens
Suffolk	Northwest Creek and tidal tribs (1701-0046)	Pathogens
Suffolk	Noyack Creek and tidal tribs (1701-0237)	Pathogens
Suffolk	Ogden Pond (1701-0302)	Pathogens
Suffolk	Patchogue Bay (1701-0326)	Pathogens
Suffolk	Peconic River, Lower, and tidal tribs (1701-0259)	Nitrogen
Suffolk	Peconic River, Lower, and tidal tribs (1701-0259)	Pathogens
Suffolk	Penniman Creek and tidal tribs (1701-0300)	Pathogens
Suffolk	Penny Pond, Wells and Smith Creeks (1701-0298)	Pathogens
Suffolk	Phillips Creek, Lower, and tidal tribs (1701-0299)	Fecal Coliform
Suffolk	Port Jefferson Harbor, North, and tribs (1702-0015)	Pathogens
Suffolk	Quantuck Bay (1701-0042)	Pathogens
Suffolk	Quantuck Bay (1701-0042)	Nitrogen
Suffolk	Quantuck Canal/Moneybogue Bay (1701-0371)	Pathogens
Suffolk	Quogue Canal (1701-0301)	Fecal Coliform
Suffolk	Reeves Bay and tidal tribs (1701-0272)	Pathogens
Suffolk	Richmond Creek and tidal tribs (1701-0245)	Pathogens
Suffolk	Sag Harbor and Sag Harbor Cove (1701-0035)	Pathogens
Suffolk	Sebonac Cr/Bullhead Bay and tidal tribs (1701-0051)	Pathogens
Suffolk	Setauket Harbor (1702-0242)	Pathogens
Suffolk	Shinnecock Bay and Inlet (1701 0033)	Nitrogen
Suffolk	Stirling Creek and Basin (1701-0049)	Pathogens
Suffolk	Stony Brook Harbor and West Meadow Creek (1702-0047)	Pathogens
Suffolk	Tidal Tribs to Gr Peconic Bay, Northshr (1701-0247)	Pathogens
Suffolk	Tidal Tribs to West Moriches Bay (1701-0312)	Fecal Coliform
Suffolk	Tidal Tribs to West Moriches Bay (1701-0312)	Nitrogen
Suffolk	Town/Jockey Creeks and tidal tribs (1701-0235)	Pathogens
Suffolk	Tuthill, Harts, Seatuck Coves (1701-0309)	Pathogens
Suffolk	Weesuck Creek and tidal tribs (1701-0111)	Pathogens

Suffolk	West Creek and tidal tribs (1701-0246)	Fecal Coliform
Suffolk	Wooley Pond (1701-0048)	Pathogens
Tompkins	Cayuga Lake, Southern End (0705-0040)	Phosphorus
Tompkins	Cayuga Lake, Southern End (0705-0040)	Silt/Sediment
Warren	Hague Brook and tribs (1006-0006)	Silt/Sediment
Warren	Huddle/Finkle Brooks and tribs (1006-0003)	Silt/Sediment
Warren	Indian Brook and tribs (1006-0002)	Silt/Sediment
Warren	Lake George (1006-0016) and tribs	Silt/Sediment
Warren	Tribs to Lake George, East Shore (1006-0020)	Silt/Sediment
Warren	Tribs to Lake George, Lk.George Village (1006-0008)	Silt/Sediment
Wayne	Lake Ontario Shoreline, Central (0302-0044)	Fecal Coliform
Westchester	Amawalk Reservoir (1302-0044)	Phosphorus
Westchester	Bronx River, Upper, and tribs (1702-0107)	Fecal Coliform
Westchester	Cross River Reservoir (1302-0005)	Phosphorus
Westchester	Hutchinson River, Middle, and tribs (1702-0074)	Fecal Coliform
Westchester	Hutchinson River, Middle, and tribs (1702-0074)	Oil/Grease
Westchester	Lake Katonah (1302-0136)	Phosphorus
Westchester	Lake Lincolndale (1302-0089)	Phosphorus
Westchester	Lake Meahagh (1301-0053)	Phosphorus
Westchester	Lake Mohegan (1301-0149)	Phosphorus
Westchester	Lake Shenorock (1302-0083)	Phosphorus
Westchester	Larchmont Harbor (1702-0116)	Fecal Coliform
Westchester	Long Island Sound, Westchester Co Waters (1702-0001)	Fecal Coliform
Westchester	Long Island Sound, Westchester Co Waters (1702-0001)	Nitrogen
Westchester	Mamaroneck Harbor (1702-0125)	Fecal Coliform
Westchester	Mamaroneck River, Lower (1702-0071)	Silt/Sediment
Westchester	Mamaroneck River, Upp, & minor tribs (1702-0123)	Silt/Sediment
Westchester	Milton Harbor/Lower Blind Brook (1702-0063)	Fecal Coliform
Westchester	Muscoot/Upper New Croton Reservoir (1302-0042)	Phosphorus
Westchester	New Croton Reservoir (1302-0010)	Phosphorus
Westchester	New Rochelle Harbor (1702-0259)	Fecal Coliform
Westchester	Port Chester Harbor/Lower Byram River (1702-0260)	Fecal Coliform

Westchester	Reservoir No.1/Lake Isle (1702-0075)	Phosphorus
Westchester	Saw Mill River (1301-0007)	Fecal Coliform
Westchester	Saw Mill River (1301-0007)	Phosphorus
Westchester	Saw Mill River, Middle, and tribs (1301-0100)	Fecal Coliform
Westchester	Saw Mill River, Middle, and tribs (1301-0100)	Phosphorus
Westchester	Sheldrake River (1702-0069)	Phosphorus
Westchester	Sheldrake River (1702-0069)	Silt/Sediment
Westchester	Silver Lake (1702-0040)	Phosphorus
Westchester	Teatown Lake (1302-0150)	Phosphorus
Westchester	Titicus Reservoir (1302-0035)	Phosphorus
Westchester	Truesdale Lake (1302-0054)	Phosphorus
Westchester	Wallace Pond (1301-0140)	Phosphorus

Appendix D. Forms

Included in this section are the following documents, in order:

- Monitoring Locations Inspection and Sampling Field Sheet
- Construction Site Inspection Report Form
- No Exposure Certification
- Municipal Facility Assessment Form
- Storm Event Data Form
- Visual Monitoring Form

Monitoring Locations Inspection and Sampling Field Sheet

Section 1: Background Data

Subwatershed:		Monitoring Location ID:	
Today's date:		Time (Military):	
Investigators:		Form completed by:	
Temperature (°F):	Rainfall (in.): Last 24 hours: Last 48 hours:		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	

Land Use in Drainage Area (Check all that apply):

- ☐ Industrial
- ☐ Ultra-Urban Residential
- ☐ Suburban Residential
- ☐ Commercial
- ☐ Open Space
- ☐ Institutional
- Other: _____
- Known Industries: _____

Notes (e.g., origin, if known):

Section 2: Monitoring Location Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☐ **Closed Pipe**	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☐ Circular ☐ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other: _____ ☐ Other: _____	Diameter/Dimensions: _____	In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully
☐ **Open drainage**	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other: ____	☐ Trapezoid ☐ Parabolic ☐ Other: ____	Depth: ____ Top Width: ___ Bottom Width: ____	
☐ **In-Stream**	**(applicable when collecting samples)**			
Flow Present?	☐ Yes ☐ No	***If No, Skip to Section 5***		
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING MONITORING LOCATIONS				
PARAMETER		**RESULT**	**UNIT**	**EQUIPMENT**
☐ Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
☐ Flow #2	Flow depth		In	Tape measure
	Flow width	____' ____"	Ft, In	Tape measure
	Measured length	____' ____"	Ft, In	Tape measure
	Time of travel		S	Stopwatch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mg/L	Test strip

Monitoring Locations Inspection and Sampling Field Sheet

Section 4: Physical Indicators for Flowing Monitoring Locations Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (*If No, Skip to Section 5)*

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint	☐ 2 – Easily detected	☐ 3 – Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 – Faint colors in sample bottle	☐ 2 – Clearly visible in sample bottle	☐ 3 – Clearly visible in flow
Turbidity	☐	See severity	☐ 1 – Slight cloudiness	☐ 2 - Cloudy	☐ 3 – Opaque
Floatables -Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 – Few/slight; origin not obvious	☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen)	☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Monitoring Locations

Are physical indicators that are not related to flow present? ☐ Yes ☐ No (*If No, Skip to Section 6)*

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Monitoring Location Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Monitoring Location Characterization

☐ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

1.	Sample for the lab?	☐ Yes	☐ No		
2.	If yes, collected from:	☐ Flow	☐ Pool		
3.	Intermittent flow trap set?	☐ Yes	☐ No	If Yes, type: ☐ OBM	☐ Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF WATER

NEW YORK STATE Department of Environmental Conservation

New York State Department of Environmental Conservation

Construction Site Inspection Report for SPDES MS4 General Permit GP-0-24-001

Project Name:		Date:	
Project Location:		Weather:	
Permit # (if any): **NYR**	Contacted: ☐Yes ☐No	Entry Time:	Exit Time:
Name of SPDES Permittee:		Inspection Type:	☐NOT ☐ Complaint
Phone Number(s):			☐ Compliance ☐ Referral
On-site Representative(s) and Company(s):		MS4 Operator Name:	
		MS4 Permit ID: NYR20A	

SPDES Authority

	Yes	No	N/A		Citation
1.	☐	☐	☐	Does the project have permit coverage?	GP-0-20-001: I.A & II. B
2.	☐	☐	☐	Is a copy of the NOI and Acknowledgment Letter available on site and accessible for viewing?	GP-0-20-001: II.D.2
3.	☐	☐	☐	Is a copy of the MS4 SWPPP Acceptance Form available on site and accessible for viewing?	GP-0-20-001: II.D.2
4.	☐	☐	☐	Is an up-to-date copy of the signed SWPPP retained at the construction site?	GP-0-20-001: II.D.2. & III.A.4
5.	☐	☐	☐	Is a copy of the SPDES General Permit retained at the construction site?	GP-0-20-001: II.D.2
6.	☐	☐	☐	Does the NOI accurately report the number of acres to be disturbed?	GP-0-20-001: II.B.4

SWPPP Content

	Yes	No	N/A		Citation
7.	☐	☐	☐	Does the SWPPP describe and identify the erosion and sediment control measures to be employed?	GP-0-20-001: III.B.1.e
8.	☐	☐	☐	Does the SWPPP provide an inspection schedule and maintenance requirements for the E&SC measures?	GP-0-20-001: III.B.1.i
9.	☐	☐	☐	Does the SWPPP describe and identify the stormwater management practices to be employed?	GP-0-20-001: III.B.2
10.	☐	☐	☐	Does the SWPPP identify the contractor(s) and subcontractor(s) responsible for each measure?	GP-0-20-001: III.A.6
11.	☐	☐	☐	Does the SWPPP identify at least one trained individual from each contractor(s) and subcontractor(s) companies?	GP-0-20-001: III.A.6
12.	☐	☐	☐	Does the SWPPP include all the necessary Contractor Certification Statements and signatures?	GP-0-20-001: III.A.6
13.	☐	☐	☐	Is the SWPPP signed by the permittee?	GP-0-20-001: VII.H.2
14.	☐	☐	☐	Is the SWPPP prepared by a qualified professional (if post-construction stormwater management required)?	GP-0-20-001: III.A.3
15.	☐	☐	☐	Do the SMPs conform to the Enhanced Phosphorus Removal Standards (projects in TMDL watersheds)?	GP-0-20-001: III.B.3

Recordkeeping

	Yes	No	N/A		Citation
16.	☐	☐	☐	Are self-inspections performed as required by the permit (weekly, or twice weekly for >5 acres disturbed)?	GP-0-20-001:IV.C.2.a. & b
17.	☐	☐	☐	Are the self-inspections performed and signed by a qualified inspector and retained on site?	GP-0-20-001:II.C.2.,IV.C.6 & VII.H.3
18.	☐	☐	☐	Do the qualified inspector's reports include the minimum reporting requirements?	GP-0-20-001: IV.C.4
19.	☐	☐	☐	Do inspection reports identify corrective measures that have not been implemented or are recurring?	GP-0-20-001: IV.C.5

Visual Observations

	Yes	No	N/A		Citation
20.	☐	☐	☐	Are all erosion and sediment control measures installed properly?	GP-0-20-001: VII.L
21.	☐	☐	☐	Are all erosion and sediment control measures being maintained properly?	GP-0-20-001: IV.A.1
22.	☐	☐	☐	Was written authorization issued for any disturbance greater than 5 acres?	GP-0-20-001: II.D.3
23.	☐	☐	☐	Have stabilization measures been implemented in inactive areas per Permit (>5acres) or ESC Standard?	GP-0-20-001: II.D.3.b & III.B.1.f
24.	☐	☐	☐	Are post-construction stormwater management practices constructed/installed correctly?	GP-0-20-001: III.B.2
25.	☐	☐	☐	Has final site stabilization been achieved and temporary E&SC measures removed prior to NOT submittal?	GP-0-20-001: V.A.2
26.	☐	☐	☐	Was there a discharge from the site on the day of inspection?	
27.	☐	☐	☐	Is there evidence that a discharge caused or contributed to a violation of water quality standards?	ECL 17-0501, 6 NYCRR 703.2 & GP-0-20-001: I.D

Water Quality Observations

Describe the discharge(s): location, source(s), impact on receiving water(s), etc.

Describe the quality of the receiving water(s) both upstream and downstream of the discharge:

Describe any other water quality standards or permit violations:

Additional Comments:

☐ Photographs attached

Overall Inspection Rating: ☐ Satisfactory ☐ Marginal ☐ Unsatisfactory	
Name/Agency of Lead Inspector:	Signature of Lead Inspector:
Names/Agencies of Other Inspectors:	

NEW YORK STATE | Department of Environmental Conservation

NO EXPOSURE CERTIFICATION

For High Priority Municipal Facilities

in SPDES MS4 General Permit, GP-0-24-001

The completed No Exposure Certification must be documented in the SWMP Plan.
Please do not submit this form to the Department unless requested.

I. Owner/Facility Information

Owner/Operator Name:		
Mailing Address:	City/State/Zip:	
Contact Name:	Phone No.:	
Facility Name:		
Street Address:	City/State/Zip:	
County:	Latitude:	Longitude:

II. Exposure Checklist

	Are any of the following materials or activities exposed to precipitation, now or in the foreseeable future? (Please check either "Yes" or "No" in the appropriate box.) If you answer "Yes" to any of these questions (1) through (11), you are not eligible for no exposure.	YES	NO
1	Using, storing or cleaning machinery or equipment, and areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater		
2	Materials or residuals on the ground or in stormwater inlets from spills/leaks		
4	Material handling equipment (except adequately maintained vehicles)		
5	Materials or products during loading/unloading or transporting activities		
6	Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to stormwater does not result in the discharge of pollutants)		
7	Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers		
8	Materials or products handled/stored on roads or railways owned or maintained by the discharger		
9	Waste material (except waste in covered, non-leaking containers [e.g., dumpster])		

III. Certification

I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of "no exposure" and obtaining an exclusion from SPDES stormwater permitting. I certify under penalty of law that there are no discharges of storm water contaminated by exposure to industrial activities or materialsfrom the industrial facility or site identified in this document (except as allowed under 40 CFR 122.26(g)(2)). I understand that I am obligated to submit a no exposure certification form upon request to the NPDES permitting authority or to the operator of the local municipal separate storm sewer system (MS4) into which the facility discharges (where applicable). I understand that I must allow the SPDES permitting authority, or MS4 Operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request.

Printed Name:	Title/Position:
Signature:	Date:

NEW YORK STATE Department of Environmental Conservation	**Municipal Facility Assessment Form For SPDES MS4 General Permit, GP-0-24-001**

Assessments must be conducted by a person with the knowledge and skills to assess conditions and activities that could impact stormwater quality at the facility and evaluate the effectiveness of best management practices required by the SPDES MS4 General Permit (GP-0-24-001).

MS4 Permit ID:	MS4 Operator Name:	
Facility Name:	Facility Type:	Date:
Weather Conditions:		
Is stormwater runoff present during this assessment? ☐ Yes ☐ No		
Comments:		

General		**Yes**	**No**
1	Is this a high priority municipal facility?	☐	☐
2	If this is a high priority municipal facility, does the facility qualify for a No Exposure Certification?	☐	☐
3	If this is a high priority municipal facility, is there a completed SWPPP available?	☐	☐
4	Does the facility have any MS4 outfalls?	☐	☐
5	Does the facility have any interconnections?	☐	☐
6	Does the facility have any municipal facility intraconnections?	☐	☐
Comments:			
Good Housekeeping		**Yes**	**No**
7	Are paved surfaces free of trash, sediment, and/or debris?	☐	☐
8	Date the paved area was last swept or vacuumed.	☐	☐
9	Do outdoor waste receptacles have covers?	☐	☐
10	Are the waste receptacles emptied on a regular basis?	☐	☐
11	Are there signs of leaks, contaminants or overfilling at the waste receptacle area?	☐	☐
12	Are the following facility areas free of accumulated trash, sediment, debris, contaminants, and spills:	☐	☐
	- Salt storage areas	☐	☐
	- Container storage areas	☐	☐
	- Maintenance areas	☐	☐

	- Staging areas	☐	☐
	- Material stockpile areas	☐	☐
Comments:			

Vehicle and Equipment Areas		☐ N/A	Yes	No
13	Are vehicle/equipment parked indoors or under a roof?		☐	☐
14	Are vehicles/equipment washed in only designated areas?		☐	☐
15	Are vehicles washed regularly to remove contamination and prevent them from polluting stormwater?		☐	☐
16	Is all wash water treated in an oil water separator prior to discharge?		☐	☐
17	Is all wash water managed so it does not enter the MS4?		☐	☐
Comments				

Vehicle/Equipment Maintenance		☐ N/A	Yes	No
18	Is equipment stored under shelter or elevated and covered?		☐	☐
19	Are fluids drained over a drip pan or pad?		☐	☐
20	Are funnels or pumps used when transferring fluids?		☐	☐
21	Are waste rags and used absorbent pads disposed of properly?		☐	☐
22	Are any vehicles and/or equipment leaking fluids?		☐	☐
23	Are drip pans immediately placed under leaks?		☐	☐
24	Are materials, equipment, and activities located so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas)?		☐	☐
25	Are vehicles inspected daily for leaks?			
Comments:				

Fueling areas		☐ N/A	Yes	No
26	Is fueling performed under a canopy or roof?		☐	☐
27	Are spill cleanup materials available at the fueling area?		☐	☐
28	Are breakaway valves used on fueling hoses?		☐	☐
29	Is the fueling handle lock disconnected so the operator must attend the fueling?		☐	☐
30	Is stormwater runoff from fueling area treated in an oil/water separator?		☐	☐
31	Is the fueling automatic stop inspected regularly to ensure it is working properly?		☐	☐
32	Are all fuel deliveries monitored?		☐	☐
Comments:				

Salt Storage Piles or Pile Containing Salt		☐ N/A	Yes	No
33	Is salt stored in a salt storage building or under a roof?		☐	☐
34	Are controls in place to minimize spills while adding or removing material from the pile?		☐	☐
35	Are salt spills cleaned up promptly?		☐	☐
36	Is overflow and tracked salt removed promptly from loading areas?		☐	☐
37	Is stormwater draining away from the salt pile directed to a vegetated filter area		☐	☐
Comments:				
Fluids Management		☐ N/A	Yes	No
38	Are all drums and containers of fluids stored with proper cover and containment?		☐	☐
39	Are fluids stored in appropriate containers and/or storage cabinets?		☐	☐
40	Are all fluids kept in original containers or labeled in a manner that describes the contents adequately?		☐	☐
41	Are Material Safety Data Sheets (MSDS/SDS) readily available?		☐	☐
42	Are all containers that are stored free of leaks or deposits?		☐	☐
43	Are containers of product inspected regularly?		☐	☐
44	Is used oil and antifreeze stored indoors and/or on spill containment pallets?		☐	☐
45	Is used oil and antifreeze properly disposed of or recycled?		☐	☐
Comments:				
Lead Acid Batteries		☐ N/A	Yes	No
46	Are lead-acid batteries stored indoors on spill containment pallets or in bins?		☐	☐
47	Are intact batteries stored on an acid-resistant rack or tub?		☐	☐
48	Are cracked or leaking batteries stored in labeled, closed, leak-proof containers?		☐	☐
49	Is the date each battery was placed in storage recorded?		☐	☐
50	Are batteries stacked more than 5 high?		☐	☐
51	Are batteries inspected regularly for leaks?		☐	☐
Comments:				
Spill Prevention and Response Procedures		☐ N/A	Yes	No
52	Are vehicles inspected daily for leaks?		☐	☐

53	Is spill control equipment and absorbents readily available?	☐	☐
54	Are emergency phone numbers posted in conspicuous areas?	☐	☐
55	Are spills contained and cleaned up immediately?	☐	☐
Comments:			

General Material Storage Areas	☐ N/A	Yes	No
56	Are leaking or damaged materials stored inside a building or another type of storm resistance shelter?	☐	☐
57	Are all material stockpiles within containment structures (e.g., concrete barriers, earthen berms) or stored in a manner that does not allow discharge of impacted stormwater?	☐	☐
58	Are used fuel tanks and other scrap metal and parts drained of fluids and stored under cover?	☐	☐
59	Are outdoor containers covered?	☐	☐
60	Are piles of spoils, asphalt, debris, etc. stored under a roof or cover?	☐	☐
61	Are spills of material or debris cleaned up promptly?	☐	☐
62	Are used tire storage piles placed away from storm drains or conveyances?	☐	☐
63	Are tires recycled frequently to keep the number of stored tires manageable?	☐	☐
Comments:			

Stormwater Management		Yes	No
64	Are employees trained on the municipal facility procedures?	☐	☐
66	Are BMPs and treatment structures working as designed?	☐	☐
67	Are BMPs and treatment structures free from debris buildup or overgrown vegetation that may impair function?	☐	☐
68	Catch basins should be cleaned in accordance with the timeframes listed in Part VI.F.3.c.iii. / Part VII.F.3.c.iii, depending on the MS4 Operator type. Based on this, do any catch basins need to be cleaned?	☐	☐
69	Are berms, curbing or other methods used to divert and direct discharges adequate and in good condition?	☐	☐
70	Are rooftop drains directed to areas away from pavement?	☐	☐
Comments:			

Erosion and Sediment Controls		Yes	No
71	Are soil stabilization measures (e.g., seed and mulch, rolled erosion control products) considered in areas that have the potential for significant soil erosion?	☐	☐
72	Are natural buffers maintained around surface waters?	☐	☐
73	Are flow velocity dissipation devices in place at monitoring locations and channel outlets (rock riprap, stone check dams, concrete baffles)?	☐	☐
74	Do controls conform to the NYS Standards and Specifications for Erosion and Sediment Control (2016), or equivalent?	☐	☐

Comments:			
Corrective Actions and Comment			
Describe Inspection findings and if necessary, the corrective actions taken			
Inspector Signature		Date:	

NEW YORK STATE | Department of Environmental Conservation

Storm Event Data Form for SPDES MS4 General Permit, GP-0-24-001

Do not submit this form to the Department; keep this form with the municipal facility's SWPPP and in the MS4 Operator's SWMP Plan.

Permit Number:

N	Y	R	2	0	A			

Facility Name:

Contact First Name:

Contact Last Name:

Contact Phone:

Contact Email:

Storm Event Date:

Storm Duration (in hours):

Rainfall Measurement from Storm Event (in inches):

Date of Last Measurable Storm Event:

Duration Between Storm Event Sampled and End of Previous Measurable Storm (in hours):

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility Operator First Name (please print or type)

Facility Operator Last Name (please print or type)

/ /

Date

Signature

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Visual Monitoring Form MS4 GP-0-24-001

All high priority municipal facilities covered under the MS4 GP-0-24-001 must perform Visual Monitoring twice a permit term, separated by a minimum of one (1) year. Please see the permit Part VI.F/VII.F for additional requirements. This form is part of the facilities records and should be retained onsite with the facility's Stormwater Pollution Prevention Plan. ***Please do not submit this form to the Department.***

MS4 Operator Permit ID

Facility Name

Outfall Number

Examiner's Name

Examiner's Title

Reporting Year

Rainfall Amount

Qualifying Storm? ◯Yes ◯No

Runoff Source? ◯Rainfall ◯Snowmelt

Date/Time Collected __ __ / __ __ / __ __ __ __ : __ __ AM / PM

Date/Time Examined __ __ / __ __ / __ __ __ __ : __ __ AM / PM

1. Does the stormwater appear to be colored? ..... ◯Yes ◯No

If yes, describe

2. Is the stormwater clear or transparent? ..... ◯Yes ◯No

If yes, which of the following best describes the clarity of the stormwater: ..... ◯Clear ◯Milky ◯Opaque

3. Can you see a rainbow sheen effect on the water surface?..... ◯Yes ◯No

If yes, which best describes the sheen?..... ◯Rainbow Sheen ◯Floating Oil Globules

4. Does the sample have an odor? ..... ◯Yes ◯No

If yes, describe

5. Is there something floating on the surface of the sample? ..... ◯Yes ◯No

If yes, describe

6. Is there something suspended in the water column of the sample? ..... ◯Yes ◯No

If yes, describe

7. Is there something settled on the bottom of the sample?..... ..... ◯Yes ◯No

If yes, describe

8. Is there foam or material forming on the top of the sample surface?..... ◯Yes ◯No

If yes, describe

Detail any concerns, corrective actions taken and any other indicators of pollution present in the sample:

Works Cited

Center for Watershed Protection, Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assistance, October 2004 (CWP 2004)

New York State Department of Environmental Conservation, Maintenance Guidance: Stormwater Management Practices, March 31, 2017 (NYS DEC Maintenance Guidance 2017)

New York State Department of Environmental Conservation, Model Local Law to Prohibit Illicit Discharges, Activities and Connections to Separate Storm Sewer Systems, April 2006 (NYS DEC Model IDDE Local Law 2006)

New York State Department of Environmental Conservation, Sample Local Law for Stormwater Management and Erosion & Sediment Control, March 2006 (NYS DEC Sample SM and E&SC Local Law 2006)

New York State, Standards and Specifications for Erosion & Sediment Control, November 2016 (NYS E&SC 2016)

New York State, Stormwater Management Design Manual, January 2015 (NYS SWMDM 2015)

SPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity, GP-0-23-001 (MSGP)

SPDES General Permit for Stormwater from Construction Activities, GP-0-20-001 (CGP)

SPDES General Permit for Stormwater Discharges from the Municipal Separate Storm Sewer Systems, GP-0-24-001 (MS4 GP)

United States Department of Transportation Federal Highway Administration, Highway Functional Classification Concepts, Criteria and Procedures, 2013 (USDOT 2013)

Appendix G
NYSDEC SPDES General Permit - Construction Activity
(GP-0-25-001)

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL
CONSERVATION (NYSDEC)

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP-0-25-001

Construction General Permit (CGP)

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2025 Expiration Date: January 28, 2030

Scott E. Sheeley

Chief Permit Administrator

Scott E. Sheeley JAN. 29, 2025

Authorized Signature Date

Address: NYSDEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act (CWA), and 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), *stormwater discharges* from certain *construction activities* are unlawful unless they are authorized by a National Pollutant Discharge Elimination System (NPDES) permit or by a state permit program. New York State administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, and Article 70, as well as 6 NYCRR Parts 621 and 750.

C*onstruction activities* constitute construction of a *point source* and, therefore, pursuant to ECL sections 17-0505, 17-0701, and 17-0803, the *owner or operator* must have coverage under a SPDES permit prior to *commencement of construction activities*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES CONSTRUCTION GENERAL PERMIT (CGP) GP-0-25-001
FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

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Part I. How to Obtain Coverage and General Requirements

To be covered under this permit, the *owner or operator* must meet all eligibility requirements in Part I.A. and follow the requirements for obtaining permit coverage in Part I.D., F., or G.

A. Eligibility Requirements

For a *common plan of development or sale*, the *phase(s)* that meet the eligibility requirements in Part I.A. may obtain coverage under this permit even if other *phase(s)* of the same *common plan of development or sale* do not meet the eligibility requirements and require an individual SPDES permit.

1. The *owner's or operator's construction activities* involve soil disturbances of:

    a. one or more acres; or

    b. less than one acre which are part of a *common plan of development or sale* that will ultimately disturb one or more acres; or

    c. less than one acre where NYSDEC has determined that a SPDES permit is required for *stormwater discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of pollutants to *surface waters of the State*.

        i. 5,000 square feet or more, but less than one acre, and are in the New York City Watershed located east of the Hudson River, Appendix C Figure 1; or

        ii. 20,000 square feet or more, but less than one acre, within the municipal boundaries of the City of New York (NYC); or

        iii. less than 20,000 square feet which are part of a *common plan of development or sale* that will ultimately disturb 20,000 square feet or more, but less than one acre, within the municipal boundaries of NYC; or

        iv. that creates 5,000 square feet or more of *impervious area* within the municipal boundaries of NYC.

2. *Discharges* from the *owner's or operator's construction activities* are/were not:

    a. already covered by a different SPDES permit; or

    b. covered under a different SPDES permit that was denied, terminated, or revoked; or

    c. identified in an expired individual SPDES permit that was not renewed; or

    d. required to obtain an individual SPDES permit or another general SPDES permit in accordance with Part VII.K.

3. If *construction activities* may adversely affect a species that is endangered or threatened, the *owner or operator* must obtain a:

    a. permit issued pursuant to 6 NYCRR Part 182 for the project; or

    b. letter issued by NYSDEC of non-jurisdiction pursuant to 6 NYCRR Part 182 for the project.

4. If *construction activities* have the potential to affect an *historic property*, the *owner or operator* must obtain one of the following:

    a. documentation that the *construction activity* is not within an archeological buffer area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant:

        i. 1-5 acres of disturbance - 20 feet; or

        ii. 5-20 acres of disturbance - 50 feet; or

iii. 20+ acres of disturbance - 100 feet.

b. NYSDEC consultation form sent to OPRHP,[1] and copied to NYSDEC's Agency Historic Preservation Officer (APO), and

i. the State Environmental Quality Review Act (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or

ii. documentation from OPRHP that the *construction activity* will result in No Impact; or

iii. documentation from OPRHP providing a determination of No Adverse Impact; or

iv. a Letter of Resolution signed by the *owner or operator*, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA).

c. documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

i. No Affect; or

ii. No Adverse Affect; or

iii. Executed Memorandum of Agreement.

d. documentation that SHPA Section 14.09 has been completed by NYSDEC or another state agency.

5. If *construction activities* are subject to SEQR, the *owner or operator* must obtain documentation that SEQR has been satisfied.

6. If *construction activities* are not subject to SEQR, but subject to the equivalent environmental review from another New York State or federal agency, the

[1] The consultation form can be submitted, along with other project information, through OPRHP's Cultural Resource Information System (CRIS) portal. If submitted through CRIS, paper copies of the consultation form need not be mailed.

owner or operator must obtain documentation that project review, pursuant to a process equivalent to SEQR from another New York State or federal agency, has been satisfied.

7. If *construction activities* require Uniform Procedures Act (UPA) Permits (see 6 NYCRR Part 621) from NYSDEC, or the equivalent from another New York State or federal agency, the *owner or operator* must:

    a. obtain all such necessary permits; or

    b. receive notification from NYSDEC pursuant to 6 NYCRR 621.3(a)(4) excepting Part I.A.7.a.

8. *Construction activities* are not eligible if they meet the following criteria in Part I.A.8.a. or b.:

    a. For linear transportation and linear utility project types, the *construction activities*:

        i. are within the watershed of *surface waters of the State* classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website; and

        ii. are undertaken on land with no existing *impervious cover*; and

        iii. disturb two or more acres of *steep slope*.

    b. For all other project types, the *construction activities*:

        i. are within the watershed of *surface waters of the State* classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website; and

        ii. are undertaken on land with no existing *impervious cover*; and

        iii. disturb one or more acres of *steep slope*.

B. Types of *Discharges* Authorized

1. The following *stormwater discharges* are authorized under this permit:

   a. *Stormwater discharges*, including *stormwater* runoff, snowmelt runoff, and surface runoff and drainage, associated with *construction activity*, are authorized under this permit provided that appropriate *stormwater* controls are designed, installed, and maintained in accordance with Part II. and Part III.

   b. *Stormwater discharges* from construction support activities at the *construction site* (including concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, and borrow areas) if the following requirements are met:

      i. The support activity is directly related to the *construction site* required to have permit coverage for *stormwater discharges*; and

      ii. The support activity is not a commercial operation, nor does it serve multiple unrelated *construction sites*; and

      iii. The support activity does not continue to operate beyond the completion of the *construction activity* at the site it supports; and

      iv. *Stormwater* controls are implemented in accordance with Part II. and Part III. for *discharges* from the support activity areas.

2. The following non-*stormwater discharges* associated with *construction activity* are authorized under this permit:

   a. Non-*stormwater discharges* listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "*Discharges* from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; and

   b. Non-*stormwater discharges* of waters to which other components have not been added that are used in accordance with the *SWPPP* to control dust or irrigate vegetation in stabilized areas; and

   c. Uncontaminated *discharges* from *dewatering* operations

3. Authorized *discharges* of *stormwater* or authorized *discharges* of non-*stormwater*, commingled with a *discharge* authorized by a different SPDES permit and/or a *discharge* that does not require SPDES permit authorization, are also authorized under this permit.

C. Prohibited *Discharges*

1. Non-*stormwater discharges* prohibited under this permit include but are not limited to:

    a. Wastewater from washout of concrete; and

    b. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials; and

    c. Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance; and

    d. Soaps, solvents, or detergents used in vehicle and equipment washing or external building washdown; and

    e. Toxic or hazardous substances from a spill or other release.

D. Electronic Notice of Intent (eNOI) Submittal

To receive authorization in accordance with Part I.D.3.b., the *owner or operator* must submit a complete eNOI in accordance with the requirements in Part I.D. The eNOI contains questions to: ensure eligibility requirements in Part I.A. have been met; obtain *owner or operator* contact information; obtain the total area to be disturbed and the existing/future *impervious areas* (rounded to the nearest tenth of an acre); confirm *Traditional Land Use Control MS4 Operator* jurisdiction over construction projects; satisfy the EPA eRule requirements; confirm that the Water Quality-Based Effluent Limitations in Part II. have been met; demonstrate consideration of the future risks due to climate change in accordance with Part III.A.2.; and confirm that the other *Stormwater Pollution Prevention Plan (SWPPP)* requirements in Part III. have been met.

1. An eNOI may be submitted for:

    a. *construction activities* that are not part of a *common plan of development or sale*; or

b. an entire *common plan of development or sale*; or

c. separate *phase(s)* of a *common plan of development or sale* if the following requirements are met:

    i. the *common plan of development or sale* meets the eligibility requirements of Part I.A.5. or 6.; and

    ii. the *phase(s)* meet(s) all other eligibility requirements of Part I.A.; and

    iii. Part III.C. Required *SWPPP* Components by Project Type is based on the *common plan of development or sale*, not the *phase(s)*; or

d. *tree clearing* that is associated with, or will support, a *renewable energy* generation, transmission, or storage project that meets Part I.A.5. and 6., if the *tree clearing*:

    i. meets all other eligibility requirements of Part I.A.; and

    ii. will occur in NYSDEC's Regions 3-9; and

    iii. is not within ¼ mile of a bat hibernaculum protected pursuant to 6 NYCRR Part 182; and

    iv. will occur between November 1st and March 31st.

2. As prerequisites for submitting an eNOI, the *owner or operator* must:

    a. prepare a *SWPPP* for Part I.D.1.a., b., c., or d. in accordance with Part III.; and

    b. based on the following criteria, upload the following signature forms signed in accordance with Part VII.J. to the eNOI prior to submission:

        i. for all eNOIs:

            1. the SWPPP Preparer Certification Form, Appendix F, signed by the *SWPPP* preparer; and

2. the Owner/Operator Certification Form, Appendix J, signed by the *owner or operator*; and

ii. if an eNOI includes *construction activities* within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)* that will *discharge* to the *MS4(s)*:

1. determine if the *Traditional Land Use Control MS4 Operator(s)* have review authority. A *Traditional Land Use Control MS4 Operator* does not have review authority where:

a. the *owner or operator* of the *construction activities* in Part I.D.2.b.ii. is the same entity as the *Traditional Land Use Control MS4 Operator* identified in Part I.D.2.b.ii.; or

b. there is a statute exempting the *owner or operator* from zoning review by the *Traditional Land Use Control MS4 Operator*; or

c. there is no such statute per Part I.D.2.b.ii.1.b., the *Traditional Land Use Control MS4 Operator* concludes, after public hearing, that it does not have zoning review authority in accordance with Legal Memorandum LU14 Updated January 2020 “Governmental Immunity from Zoning and Other Legislation”; and

2. if the *Traditional Land Use Control MS4 Operator(s)* have review authority, submit the *SWPPP* to the *Traditional Land Use Control MS4 Operator(s)* for review and have:

a. if outside the municipal boundaries of NYC: the MS4 SWPPP Acceptance Form, Appendix G, signed by the principal executive officer or ranking elected official from the *Traditional Land Use Control MS4 Operator,* or by a duly authorized representative of that person in accordance with Part VII.J.2.; or

b. if within the municipal boundaries of NYC: The City of New York Department of Environmental Protection (NYCDEP) SWPPP Acceptance/Approval Form, Appendix H, signed by the principal executive officer or ranking elected official from the Traditional Land Use Control MS4 Operator, or by a duly authorized representative of that person in accordance with Part VII.J.2.; and

3. if the *Traditional Land Use Control MS4 Operator* does not have review authority, have the MS4 No Jurisdiction Form, Appendix I, signed by the principal executive officer or ranking elected official from the *Traditional Land Use Control MS4 Operator,* or by a duly authorized representative of that person in accordance with Part VII.J.2.

3. Submitting an eNOI:

a. The *owner or operator* must submit a complete Notice of Intent electronically using a NYSDEC approved form.[2]

b. The *owner or operator* is authorized to *commence construction activity* as of the authorization date indicated in the Letter of Authorization (LOA), which is sent by NYSDEC after a complete eNOI is submitted.

i. If an eNOI is received for a *SWPPP* that deviates from one of the technical standards but demonstrates *equivalence* in accordance with Part III.B.1.a.ii. or Part III.B.2.b.ii., if the *SWPPP* includes *construction activities* that are not within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)*, and/or if the *SWPPP* includes *construction activities* within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)* that do not have review authority in accordance with Part I.D.2.b.ii.1., the authorization date indicated in the LOA will be 60 business days after the eNOI submission date.

[2] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

c. If *Traditional Land Use Control MS4 Operator(s)* have review authority in accordance with Part I.D.2.b.ii.2., the *owner or operator* must, within five business days of receipt of the LOA, send an electronic copy of the LOA to the *Traditional Land Use Control MS4 Operator(s)* with review authority.

E. General Requirements for *Owners or Operators* with Permit Coverage

1. As of the date the LOA is received, the *owner or operator* must make the eNOI, *SWPPP*, and LOA available for review and copying in accordance with the requirements in Part VII.H. When applicable, as of the date an updated LOA is received, the *owner or operator* must make the updated LOA available for review and copying in accordance with the requirements in Part VII.H.

2. The *owner or operator* must ensure compliance with all requirements of this permit and that the provisions of the *SWPPP*, including any changes made to the *SWPPP* in accordance with Part III.A.5., are properly implemented and maintained from the *commencement of construction activity* until:

   a. all areas of disturbance have achieved *final stabilization;* and

   b. the owner's or operator's coverage under this permit is terminated in accordance with Part V.A.5.a.

3. As of the date of the *commencement of construction activities* until Part I.E.2.a. and b. have been met, the *owner or operator* must maintain at the *construction site*, a copy of:

   a. all documentation necessary to demonstrate eligibility with this permit; and

   b. this permit; and

   c. the *SWPPP*; and

   d. the signed SWPPP Preparer Certification Form; and

   e. the signed MS4 SWPPP Acceptance Form or signed NYCDEP SWPPP Acceptance/Approval Form or signed MS4 No Jurisdiction Form (when applicable); and

   f. the signed Owner/Operator Certification Form; and

g. the eNOI; and

h. the LOA; and

i. the LOA transmittal to the Traditional Land Use Control MS4 Operator in accordance with Part I.D.3.c. (when applicable).

4. The *owner or operator* must maintain at the *construction site*, until Part I.E.2.a. and b. have been met, as of the date the documents become final or are received, a copy of the:

   a. responsible contractor's or subcontractor's certification statement(s) in accordance with Part III.A.7.; and

   b. inspection reports in accordance with Part IV.C.4. and 6.; and

   c. Request to Disturb Greater Than Five Acres and the Authorization Letter to Disturb Greater Than Five Acres in accordance with Part I.E.6. (when applicable); and

   d. Request to Continue Coverage and the Letter of Continued Coverage (LOCC) in accordance with Part I.F.2. and 4. (when applicable); and

   e. The updated LOA(s) in accordance with Part I.E.9. (when applicable).

5. The *owner or operator* must maintain the documents in Part I.E.3. and 4. in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection. The documents must be paper documents unless electronic documents are accessible to the inspector during an inspection to the same extent as a paper copy stored at the site would be. If electronic documents are kept on site, the *owner or operator* must maintain functional equipment on site available to an inspector during normal hours of operation such that an inspector may view the electronic documents in a format that can be read in a similar manner as a paper record and in a legally dependable format with no less evidentiary value than their paper equivalent.

6. The *owner or operator* must meet the following requirements prior to disturbing greater than five acres of soil at any one time:

   a. The *owner or operator* must submit a written Request to Disturb Greater Than Five Acres to:

i. NYSDEC's Regional Office Division of Water staff based on the project location, Appendix E, if a *Traditional Land Use Control MS4 Operator* does not have review authority in accordance with Part I.D.2.b.ii.1.; or

ii. the *Traditional Land Use Control MS4 Operator*, if a *Traditional Land Use Control MS4 Operator* has review authority in accordance with Part I.D.2.b.ii.1.; or

iii. NYSDEC's Regional Office Division of Water staff based on the project location, Appendix E, and each involved *Traditional Land Use Control MS4 Operator*, if the project spans multiple municipalities with more than one *Traditional Land Use Control MS4 Operator* involved with review authority in accordance with Part I.D.2.b.ii.1.

b. The written Request to Disturb Greater Than Five Acres must include:

i. The SPDES permit identification number (Permit ID); and

ii. Full technical justification demonstrating why alternative methods of construction that would result in five acres of soil disturbance or less at any one time are not feasible; and

iii. The phasing plan for the project and sequencing plans for all *phases* from the *SWPPP* in accordance with Part III.B.1.d.; and

iv. Plans with locations and details of erosion and sediment control practices such that the heightened concern for erosion when disturbing greater than five acres at one time has been addressed; and

v. Acknowledgment that "the *owner or operator* will comply with the requirements in Part IV.C.2.b."; and

vi. Acknowledgment that "the *owner or operator* will comply with the requirements in Part II.B.1.b."

c. The *owner or operator* must be in receipt of an Authorization Letter to Disturb Greater Than Five Acres, which will include when the

authorization begins and ends and indicate a maximum area (acres) of soil disturbance allowed at any one time, from:

i. NYSDEC, if Part I.E.6.a.i. or iii. apply; or

ii. the *Traditional Land Use Control MS4 Operator*, if Part I.E.6.a.ii. applies.

7. Upon a finding of significant non-compliance with the practices described in the *SWPPP* or violation of this permit, NYSDEC may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order must be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

8. If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE).[3] *Construction activity* shall not resume until written permission to do so has been received from the RWE.

9. To be authorized to implement modifications to the information previously submitted in the eNOI, the *owner or operator* must:

   a. notify NYSDEC via email at Stormwater_info@dec.ny.gov requesting access to update the eNOI; and

   b. update the eNOI to reflect the modifications and resubmit the eNOI in accordance with Part I.D.; and

   c. receive an updated LOA.

10. The eNOI, *SWPPP*, LOA, updated LOAs (when applicable), and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

[3] The Regional Water Manager where a DEC Region does not have a RWE.

F. Permit Coverage for *Discharges* Authorized Under GP-0-20-001

When applicable:

1. Upon the effective date of this permit, an *owner or operator* of *a construction activity*, with coverage under GP-0-20-001, will have interim coverage under GP-0-25-001 for 45 calendar days starting on the effective date of GP-0-25-001 so long as the *owner or operator* maintains compliance with all applicable requirements of this permit.

2. Within 30 calendar days of the effective date of this permit, the *owner or operator*, with coverage under GP-0-20-001, must submit a complete Request to Continue Coverage electronically using a NYSDEC approved form,[4] which contains the information identified in Part I.F.3. below, if:

   a. the *owner or operator* continues to implement the SMP component in conformance with the technical standards in place at the time of initial project authorization; and

   b. the *owner or operator* will comply with all non-design requirements of GP-0-25-001.

3. The Request to Continue Coverage form contains questions to: ensure eligibility requirements in Part I.A. have been met; verify *owner or operator* contact information; verify the permit identification number; verify the original eNOI submission ID, if applicable; verify Part I.F.2.a. and b.; verify the version of the Design Manual that the technical/design components conform to; and receive an updated Owner/Operator Certification Form, Appendix I.

4. The *owner or operator* has obtained continued coverage under GP-0-25-001 as of the date indicated in the LOCC, which is sent by NYSDEC after a complete Request to Continue Coverage form is submitted.

5. If the owner or operator does not submit the Request to Continue Coverage form in accordance with Part I.F.2. and 3., coverage under this permit is automatically terminated after interim coverage expires.

[4] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

G. Change of *Owner or Operator*

When applicable:

1. When property ownership changes, or when there is a change in operational control over the construction plans and specifications, the following process applies:

    a. The new *owner or operator* must meet the applicable prerequisites for submitting an eNOI in accordance with Part I.D.2.; and

    b. The new *owner or operator* must submit an eNOI in accordance with Part I.D.3.; and

    c. Permit coverage for the new *owner or operator* will be effective upon receipt of the LOA in accordance with Part I.D.3.b.; and

    d. The new *owner or operator*, upon receipt of their LOA, must provide their Permit ID to the original *owner or operator*; and

    e. If the original *owner or operator* will no longer be the *owner or operator* of the *construction activity* identified in the original *owner's or operator's* eNOI, the original *owner or operator*, upon receipt of the new *owner's or operator's* Permit ID in accordance with Part I.G.1.d., must submit to NYSDEC a completed eNOT in accordance with Part V. that includes the name and Permit ID of the new *owner or operator*; or

    f. If the original *owner or operator* maintains ownership of a portion of the *construction activity*, the original *owner or operator* must maintain their coverage under the permit by modifying their eNOI; modifications to the eNOI must include:

        i. the revised area of disturbance and/or *impervious area(s)*; and

        ii. the revised SMP information, if applicable; and

        iii. a narrative description of what has changed; and

        iv. the new *owner's or operator's* Permit ID for the portion of the project removed from the eNOI.

    Owners or operators must follow Part I.E.9. to modify the eNOI.

Part II. Water Quality-Based Effluent Limitations

A. Maintaining Water Quality

NYSDEC expects that compliance with the requirements of this permit will control *discharge*s necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any *discharge* to either cause or contribute to a violation of the following *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York:

1. There must be no increase in turbidity that will cause a substantial visible contrast to natural conditions; and

2. There must be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and

3. There must be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the *stormwater discharge*s authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standard,* the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this permit and document in accordance with Part IV.C.4. of this permit. To address the *water quality standard* violation the *owner or operator* must include and implement appropriate controls in the *SWPPP* to correct the problem or obtain an individual SPDES permit.

If, despite compliance with the requirements of this permit, it is demonstrated that the *stormwater discharge*s authorized by this permit are causing or contributing to a violation of *water quality standards*, or if NYSDEC determines that a modification of this permit is necessary to prevent a violation of *water quality standards*, the authorized *discharge*s will no longer be eligible for coverage under this permit, and the *owner or operator* must obtain an individual SPDES permit prior to further *discharges* from the *construction site*.

B. Effluent Limitations Applicable to *Discharges* from *Construction Activities*

*Discharge*s authorized by this permit must achieve, at a minimum, the effluent limitations in Part II.B.1.a., b., c., d., and e. These limitations represent the

degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement, and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part II.B.1.a., b., c., d., and e. and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control (BB), dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in *SWPPP* the reason(s) for the deviation, or alternative design, and provide information in the *SWPPP* demonstrating that the deviation or alternative design is *equivalent* to the technical standard.

    a. **Erosion and Sediment Controls.** At a minimum, erosion and sediment controls must be selected, designed, installed, implemented, and maintained to:

        i. *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharge*s; and

        ii. Control *stormwater discharge*s, including both peak flow rates and total *stormwater* volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points; and

        iii. *Minimize* the amount of soil exposed during *construction activity*; and

        iv. *Minimize* the disturbance of *steep slope*; and

        v. *Minimize* sediment *discharge*s from the site; and

        vi. Provide and maintain *natural buffers* around surface waters, direct *stormwater* to vegetated areas and maximize *stormwater* infiltration to reduce *pollutant discharge*s, unless *infeasible*; and

        vii. *Minimize* soil compaction. *Minimizing* soil compaction is not required

where the intended function of a specific area of the site dictates that it be compacted; and

viii. Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and

ix. *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of *pollutants* that could be discharged from the site.

b. **Soil Stabilization**. In areas where soil disturbance activity has ceased, whether permanently or *temporarily ceased*, the application of soil stabilization measures must be initiated by the end of the next business day and completed within 14 calendar days from the date the current soil disturbance activity ceased. For *construction sites* that *directly discharge* to one of the 303(d) segments listed in Appendix D, or are located in one of the watersheds listed in Appendix C, or are authorized to disturb greater than five acres in accordance with Part I.E.5.a.viii., the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven calendar days from the date the soil disturbance activity ceased.

c. **Dewatering**. *Discharge*s from *dewatering* activities, including *discharge*s from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures**. Select, design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be selected, designed, installed, implemented, and maintained to:

i. *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. Soaps, detergents and solvents cannot be used; and

ii. *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation

and to *stormwater*. *Minimization* of exposure is not required in cases where the exposure to precipitation and to *stormwater* will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of *stormwater* contamination (such as final products and materials intended for outdoor use); and

iii. Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Surface Outlets.** When discharging from basins and impoundments, the surface outlets must be designed, constructed, and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-Construction Stormwater Management Practice (SMP) Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction SMPs, in accordance with Part III.C., must select, design, install, implement, and maintain the SMPs to meet the *performance criteria* in the New York State Stormwater Management Design Manual, dated July 31, 2024 (DM), using sound engineering judgment. Where SMPs are not designed in conformance with the *performance criteria* in the DM, the *owner or operator* must include in the *SWPPP* the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. The *owner or operator* of a *construction activity*, that requires SMPs in accordance with Part III.C., must design the practices to meet the applicable *sizing criteria* in Part II.C.2.a., b., c., or d.

a. Sizing Criteria for *New Development*

i. Runoff Reduction Volume (RRv) and Water Quality Volume (WQv):

1. Reduce the total WQv by application of RR techniques and standard SMPs with RRv capacity. The total WQv must be calculated in accordance with the criteria in Section 4.2 of the DM; or

2. Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the requirements in Part II.C.2.a.i.1. due to *site limitations* must direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv must be documented in the *SWPPP*. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the *SWPPP* must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible*.

   In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 4.4 of the DM. The remaining portion of the total WQv that cannot be reduced must be treated by application of standard SMPs.

ii. Channel Protection Volume (CPv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event, remaining after runoff reduction. Where a CPv control orifice is provided, the minimum orifice size must be 3 inches, with acceptable external trash rack or orifice protection. The CPv requirement does not apply when:

   1. Reduction of the entire CPv is achieved by application of runoff reduction techniques or infiltration systems; or

   2. The 1-year post-development peak *discharge* is less than or equal to 2.0 cfs without detention or velocity controls; or

   3. The site *directly discharges* into a fifth order or larger water body (stream, river, or lake), or tidal waters, where the increase in smaller flows will not impact the stream bank or channel integrity. However, the point of *discharge* must be adequately protected against scour and erosion by the increased peak *discharge*.

iii. *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams, or

2. A downstream analysis reveals that *overbank* control is not required.

iv. Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams, or

2. A downstream analysis reveals that *overbank* control is not required.

b. *Sizing Criteria* for *New Development* in Enhanced Phosphorus Removal Watersheds

i. Runoff Reduction Volume (RRv) and Water Quality Volume (WQv):

1. Reduce the WQv by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24-hour design storm over the post-developed watershed and must be calculated in accordance with the criteria in Section 4.3 of the DM; or

2. Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part II.C.2.b.i.1. due to *site limitations* must direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv must be documented in the *SWPPP*. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the *SWPPP* must include

documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible.*

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 4.5 of the DM. The remaining portion of the total WQv that cannot be reduced must be treated by application of standard SMPs.

ii. Channel Protection Volume (CPv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event, remaining after runoff reduction. Where a CPv control orifice is provided, the minimum orifice size must be 3 inches, with acceptable external trash rack or orifice protection. The CPv requirement does not apply when:

1. Reduction of the entire CPv is achieved by application of runoff reduction techniques or infiltration systems; or

2. The 1-year post-development peak *discharge* is less than or equal to 2.0 cfs; or

3. The site *directly discharges* to tidal waters, or a fifth order or larger water body (stream, river, or lake) where the increase in smaller flows will not impact the stream bank or channel integrity. However, the point of *discharge* must be adequately protected against scour and erosion by the increased peak *discharge*.

iii. *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams; or

2. A downstream analysis reveals that *overbank* control is not required.

iv. Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams; or

2. A downstream analysis reveals that *overbank* control is not required.

c. *Sizing Criteria* for *Redevelopment Activity*

i. Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* must be addressed by one of the following options, as outlined in Section 9.2.1. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C) must calculate the WQv in accordance with Section 4.3 of the DM. All other *redevelopment activities* must calculate the WQv in accordance with Section 4.2 of the DM.

1. Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the DM must be applied to all newly created pervious areas; or

2. Capture and treat 100% of the required WQv, for a minimum of 25% of the disturbed redevelopment *impervious area*, by implementation of standard SMPs or reduced by application of runoff reduction techniques; or

3. Capture and treat 100% of the required WQv, for a minimum of 75% of the disturbed redevelopment *impervious area*, by implementation of a volume-based alternative SMP, as defined in Section 9.4 of the DM; or

4. Capture and treat 100% of the required WQv, for a minimum of 75% of the disturbed redevelopment *impervious area*, by implementation of a flow-through alternative SMP sized to treat the peak rate of runoff from the WQv design storm; or

5. Application of a combination of 1 through 4 above that provide a weighted average of at least two of the above methods. Application of this method must be in accordance with the criteria in Section 9.2.1(A)(V) of the DM; or

6. If there is an existing SMP located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 through 5 above.

ii. Channel Protection Volume (CPv) is not required if there is 0% change to hydrology that increases the *discharge* rate and volume from the project site.

iii. *Overbank* Flood Control (Qp) is not required if there is 0% change to hydrology that increases the *discharge* rate from the project site.

iv. Extreme Flood Control (Qf) is not required if there is 0% change to hydrology that increases the *discharge* rate from the project site.

d. *Sizing Criteria* for Combination of *Redevelopment Activity* and *New Development*

Construction projects, that include both *new development* and *redevelopment activity*, must use SMPs that meet the *sizing criteria* calculated as an aggregate of the *sizing criteria* in Part II.C.2.a. or b. for the *new development* portion of the project and Part II.C.2.c. for the *redevelopment activity* portion of the project.

Part III. Stormwater Pollution Prevention Plan (SWPPP)

A. General *SWPPP* Requirements

1. A *SWPPP* must be prepared and implemented by the *owner or operator* of all *construction activity* covered by this permit. All authorized *discharges* must be identified in the *SWPPP*. The *SWPPP* must document the selection, design, installation, implementation and maintenance of the control measures and

practices that will be used to meet the effluent limitations in Part II.B. and, where applicable, the SMP requirements in Part II.C.

2. The *SWPPP* must demonstrate consideration in narrative format of the future physical risks due to climate change pursuant to the Community Risk and Resiliency Act (CRRA), 6 NYCRR Part 490, and associated guidance.

    a. The owner or operator must consider:

        i. the following physical risks due to climate change:

            (i) increasing temperature; and

            (ii) increasing precipitation; and

            (iii) increasing variability in precipitation, including chance of drought; and

            (iv) increasing frequency and severity of flooding; and

            (v) rising sea level; and

            (vi) increasing storm surge; and

            (vii) shifting ecology.

        ii. for each of the following:

            (i) overall site planning; and

            (ii) location, elevation, and sizing of:

                a. control measures and practices; and

                b. conveyance system(s); and

                c. detention system(s).

3. The *SWPPP* must describe the erosion and sediment control practices and where required, SMPs that will be used and/or constructed to reduce the *pollutants* in *stormwater discharges* and to assure compliance with the

requirements of this permit. In addition, the *SWPPP* must identify potential sources of pollution which may reasonably be expected to affect the quality of *stormwater discharges*.

4. All *SWPPPs*, that require the SMP component in accordance with Part III.B.2., must be prepared by a *qualified professional*.

5. The *owner or operator* must keep the *SWPPP* current so that, at all times, it accurately documents the erosion and sediment control practices that are being used or will be used during construction, and all SMPs that will be constructed on the site. At a minimum, the *owner or operator* must modify the *SWPPP*, including construction drawings:

   a. whenever the current provisions prove to be ineffective in *minimizing pollutants* in *stormwater discharges* from the site; and

   b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*; and

   c. to address issues or deficiencies identified during an inspection by the *qualified inspector,* NYSDEC, or other regulatory authority; and

   d. to document the final construction conditions in an as-built drawing.

6. NYSDEC may notify the *owner or operator* at any time that the *SWPPP* does not meet one or more of the minimum requirements of this permit. The notification must be in writing and identify the provisions of the *SWPPP* that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by NYSDEC, the *owner or operator* must make the required changes to the *SWPPP* and submit written notification to NYSDEC that the changes have been made. If the *owner or operator* does not respond to NYSDEC's comments in the specified time frame, NYSDEC may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4.

7. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting, and maintaining the erosion and sediment control practices included in the *SWPPP* and the

contractor(s) and subcontractor(s) that will be responsible for constructing the SMPs included in the *SWPPP*. The *owner or operator* must have each of the contractors and subcontractors identify at least one person from their company to be *trained contractor* that will be responsible for implementation of the *SWPPP*. The *owner or operator* must ensure that at least one *trained contractor* is on site daily when soil disturbance activities are being performed.

The *owner or operator* must have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before the *commencement of construction activities*:

> "I hereby certify under penalty of law that I understand and agree to comply with the requirements of the *SWPPP* and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with the requirements of the most current version of the New York State Pollutant Discharge Elimination System (SPDES) Construction General Permit (CGP) for Stormwater Discharges from Construction Activities and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the *SWPPP* that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for *SWPPP* implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* must attach the certification statement(s) to the copy of the *SWPPP* that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the *SWPPP* after the *commencement of construction activities*, they must also sign the certification statement and provide the information listed above prior to performing *construction activities*.

B. Required *SWPPP* Contents

1. Erosion and sediment control component - The *owner or operator* must prepare a *SWPPP* that includes erosion and sediment control practices.

    a. Erosion and sediment control practices must be designed:

        i. in conformance with the BB; or

        ii. *equivalent* to the BB if deviating from Part III.B.1.a.i.

    b. If the erosion and sediment control practices are designed in conformance with Part III.B.1.a.ii., the *SWPPP* must include a demonstration of *equivalence* to the BB.

    c. At a minimum, the erosion and sediment control component of the *SWPPP* must include the following:

        i. Background information about the scope of the project, including the location, type and size of project; and

        ii. A site map/construction drawing(s) with north arrows for the project, including a general location map. At a minimum, the site map must show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the *stormwater discharge*(s) and receiving surface water(s); and

        iii. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG); and

        iv. A phasing plan for the project and sequencing plans for all *phases*, both of which must address clearing and grubbing, excavation and grading, utility and infrastructure installation, *final stabilization*,

and any other *construction activity* at the site that will result in soil disturbance.

1. The phasing plan must include:

    a. a map delineating and labeling the limits of soil disturbance for all *phases* of a project; and

    b. a table identifying the order and intended schedule of when each *phase* will begin and end its sequencing plan. The table must identify the total disturbed area for each *phase* at any one time and the total disturbed area for the overall project at any one time all on one timeline showing all overlapping quantities of disturbed area at any one time; and

2. A sequencing plan for a specific *phase* must include:

    a. a table indicating the order and intended schedule of *construction activities* within a *phase*, and corresponding construction drawings with a description of the work to be performed; and

    b. all permanent and *temporary stabilization* measures; and

v. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented; and

vi. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice; and

vii. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any

temporary sediment basins and structural practices that will be used to divert flows from exposed soils; and

viii. A maintenance inspection schedule for the contractor(s) and subcontractor(s) identified in Part III.A.7. to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection schedule must be in accordance with the requirements in the BB technical standard; and

ix. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the *stormwater discharges*; and

x. A description and location of any *stormwater discharges* associated with industrial activity other than construction at the site, including, but not limited to, *stormwater discharges* from asphalt plants and concrete plants located on the *construction site*; and

xi. Identification of any elements of the design that are not in conformance with the design criteria in the BB technical standard. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. SMP component – The *owner or operator* of *construction activity* identified in Table 2 of Appendix B must prepare a *SWPPP* that includes SMPs.

   a. SMPs must be designed in conformance with the applicable *sizing criteria* in Part II.C.2.a., c., or d.; and

   b. SMPs must be designed in conformance with the *performance criteria*:

      i. in the DM; or

      ii. *equivalent* to the DM if deviating from Part III.B.2.b.i.; or

      iii. in the New York State Stormwater Management Design Manual, dated January 2015 (2015 Design Manual), or *equivalent* to it, if the following criteria are met:

1. The eNOI is submitted in accordance with Part I.D. before January 29, 2027 for *construction activities* that are either:

    a. subject to governmental review and approval:

        i. where the *owner or operator* made any application to that governmental entity prior to the effective date of this permit; and

        ii. such application included a *SWPPP* developed using the 2015 Design Manual or *equivalent* to it; or

    b. not subject to governmental review and approval:

        i. where a fiscal allocation for the *construction activities* has been developed and approved by a governmental entity; and

        ii. the *SWPPP* was developed using the 2015 Design Manual or *equivalent* to it; and

c. If SMPs are designed in conformance with Part III.B.2.b.ii., the *SWPPP* must include the reason(s) for the deviation or alternative design and a demonstration of *equivalence* to the DM; and

d. If SMPs are designed in conformance with Part III.B.2.b.iii., the *SWPPP* must include supporting information or documentation demonstrating that Part III.B.2.b.iii.1.a. or b. apply; and

e. The SMP component of the *SWPPP* must include the following:

    i. Identification of all SMPs to be constructed as part of the project, including which option the SMP designs conform to, either Part III.B.2.b.i., ii., or iii. Include the dimensions, material specifications and installation details for each SMP; and

    ii. A site map/construction drawing(s) showing the specific location and size of each SMP; and

iii. A Stormwater Modeling and Analysis Report that includes:

(i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points; and

(ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and SMPs; and

(iii) Results of *stormwater* modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre- and post-development runoff rates and volumes for the different storm events; and

(iv) Summary table, with supporting calculations, which demonstrates that each SMP has been designed in conformance with the *sizing criteria* included in the DM; and

(v) Identification of any *sizing criteria* that is not required based on the requirements included in Part II.C.; and

(vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the DM. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the DM.

iv. Soil testing results and locations (test pits, borings); and

v. Infiltration test results, when required in accordance with Part III.B.2.a.; and

vi. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each SMP. The plan must identify the entity

that will be responsible for the long-term operation and maintenance of each practice; and

3. Enhanced Phosphorus Removal Standards - The *owner or operator* of *construction activity* identified in Table 2 of Appendix B that is located in a watershed identified in Appendix C must prepare a *SWPPP* that includes SMPs designed in conformance with the applicable *sizing criteria* in Part II.C.2.b., c., or d. and the *performance criteria* Enhanced Phosphorus Removal Standards included in the DM. At a minimum, the SMP component of the *SWPPP* must meet the requirements of Part III.B.2.

C. Required *SWPPP* Components by Project Type

Owners or operators of *construction activities*, identified in Table 1 of Appendix B, are required to prepare a *SWPPP* that only includes erosion and sediment control practices designed in accordance with Part III.B.1. *Owners or operators* of the *construction activities*, identified in Table 2 of Appendix B, must prepare a *SWPPP* that also includes SMPs designed in accordance with Part III.B.2 or 3.

For the entire area of disturbance, including the entire *common plan of development or sale* if applicable, the owner or operator must evaluate every bullet from Appendix B Table 1 and Table 2 separately. If bullets from both Table 1 and Table 2 apply, the *SWPPP* must include erosion and sediment control practices for all *construction activities* but SMPs for only those portions of the *construction activities* that fall under Table 2 bullet(s).

Part IV. Inspection and Maintenance Requirements

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures), and all SMPs identified in the *SWPPP*, are inspected and maintained in accordance with Part IV.B. and C.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity*, identified in Tables 1 and 2 of Appendix B, must have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being

implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor must:

a. if the corrective action does not require engineering design:

    i. begin implementing corrective actions within one business day; and

    ii. complete the corrective actions within five business days; or

b. if the corrective action requires engineering design:

    i. begin the engineering design process within five business days; and

    ii. complete the corrective action in a reasonable time frame but no later than within 60 calendar days.

2. For *construction sites* where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections in accordance with Part IV.B.1. The *trained contractor* must begin conducting the maintenance inspections in accordance with Part IV.B.1. as soon as soil disturbance activities resume.

3. For *construction sites* where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections in accordance with Part IV.B.1. if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational.

C. *Qualified Inspector* Inspection Requirements

1. With the exception of the following *construction activities* identified in Tables 1 and 2 of Appendix B, a *qualified inspector* must conduct site inspections for all other *construction activities* identified in Tables 1 and 2 of Appendix B:

    a. the construction of a single-family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than or equal to five (5) acres and is

not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D; and

b. the construction of a single-family home that involves soil disturbances of one (1) or more acres but less than or equal to five (5) acres and is not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D; and

c. construction on *agricultural property* that involves soil disturbances of one (1) or more acres but less than five (5) acres; and

d. *construction activities* located in the New York City Watershed located east of the Hudson River, see Appendix C Figure 1, that involve soil disturbances of 5,000 square feet or more, but less than one acre.

2. The *qualified inspector* must conduct site inspections in accordance with the following timetable:

a. For *construction sites* where soil disturbance activities are on-going, the *qualified inspector* must conduct a site inspection at least once every seven (7) calendar days; or

b. For *construction sites* where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part I.E.6. to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* must conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections must be separated by a minimum of two (2) full calendar days; or

c. For *construction sites* where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* must conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* must notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix E) or, in areas under the jurisdiction of a *Traditional Land Use Control MS4 Operator,* the *Traditional Land Use Control MS4 Operator* (provided the *Traditional Land Use Control MS4 Operator* is not the *owner or operator* of the *construction activity*) by hard copy or email prior to reducing the inspections to this frequency and again by hard copy or email prior to re-commencing construction; or

d. For *construction sites* where soil disturbance activities have been shut down with partial project completion, the requirement to have the *qualified inspector* conduct inspections ceases if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational. The *owner or operator* must notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix E) or, in areas subject to the review authority of *Traditional Land Use Control MS4 Operator(s)* in accordance with Part I.D.2.b.ii.1., the *Traditional Land Use Control MS4 Operator(s)* (provided the *Traditional Land Use Control MS4 Operator(s)* are not the *owners or operators* of the *construction activity*) in writing prior to the shutdown and again in writing prior to resuming *construction activity*. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* must terminate coverage by meeting the requirements of Part V; or

e. For *construction sites* involving soil disturbance of one (1) or more acres that *directly discharge* to one of the 303(d) segments listed in Appendix D or is located in one of the watersheds listed in Appendix C, the *qualified inspector* must conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections must be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* must inspect:

   a. all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness; and

   b. all SMPs under construction to ensure that they are constructed in conformance with the *SWPPP*; and

   c. all areas of disturbance that have not achieved *final stabilization*; and

   d. all points of *discharge* to *surface waters of the State* located within, or immediately adjacent to, the property boundaries of the *construction site*; and

   e. all points of *discharge* from the *construction site*.

4. The *qualified inspector* must prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report must include and/or address all of the following, for all *construction activities* except those listed in Part IV.C.1.:

   a. Permit identification number; and

   b. Date and time of inspection; and

   c. Name and title of person(s) performing inspection; and

   d. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection, including the temperature at the time of the inspection; and

   e. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This must include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow; and

   f. A description of the condition of all *surface waters of the State* located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This must include identification of any *discharges* of sediment to the *surface waters of the State*; and

   g. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance; and

   h. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced; and

   i. Description and sketch (map) of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection; and

   j. Estimates, in square feet or acres, of the following areas:

i. Total area with active soil disturbance (not requiring either *temporary stabilization* or *final stabilization*); and

ii. Total area with inactive soil disturbance (requiring either *temporary stabilization* or *final stabilization*); and

iii. Total area that has achieved *temporary stabilization*; and

iv. Total area that has achieved *final stabilization*; and

k. Current stage of construction of all SMPs and identification of all *construction activity* on site that is not in conformance with the *SWPPP* and technical standards; and

l. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the SMP(s); and

m. Identification and status of all corrective actions that were required by previous inspection; and

n. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* must attach color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* must also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* must attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the *qualified inspector* must notify the *owner or operator*, and appropriate contractor or subcontractor identified in Part III.A.7., of any corrective actions that need to be taken. The contractor or subcontractor must:

a. if the corrective action does not require engineering design:

i. begin implementing corrective actions within one business day; and

ii. complete the corrective actions within five business days; or

b. if the corrective action requires engineering design:

i. begin the engineering design process within five business days; and

ii. complete the corrective action in a reasonable time frame but no later than within 60 calendar days.

6. All inspection reports must be signed by the *qualified inspector.* In accordance with Part I.E.3., the inspection reports must be maintained on site with the *SWPPP*.

Part V. How to Terminate CGP Coverage

A. Electronic Notice of Termination (eNOT) Submittal

The eNOT contains questions to ensure requirements in Part V.A. have been met.

1. An *owner or operator* must terminate coverage when one or more of the following requirements have been met:

a. Total project completion:

i. all *construction activity* identified in the *SWPPP* has been completed; and

ii. all areas of disturbance have achieved *final stabilization*; and

iii. all temporary, structural erosion and sediment control measures have been removed; and

iv. all SMPs have been constructed in conformance with the *SWPPP* and are operational; and

v. an as-built drawing has been prepared; or

b. Planned shutdown with partial project completion:

   i. all soil disturbance activities have ceased; and

   ii. all areas disturbed as of the project shutdown date have achieved *final stabilization*; and

   iii. all temporary, structural erosion and sediment control measures have been removed; and

   iv. all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational; and

   v. an as-built drawing has been prepared; or

c. In accordance with Part I.G. Change of Owner or Operator; or

d. The *owner or operator* has obtained coverage under an alternative general SPDES permit or an individual SPDES permit.

2. For *construction activities* that require *qualified inspector* inspections in accordance with Part IV.C.1. and have met Part V.A.1.a. or b., the *owner or operator* must have the *qualified inspector* perform a final site inspection prior to submitting the eNOT. The *qualified inspector* must, by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice(s)" certification statements on the eNOT, certify that all the requirements in Part V.A.1.a. or b. have been achieved.

3. For *construction activities* that are subject to the review authority of *Traditional Land Use Control MS4 Operator(s)* in accordance with Part I.D.2.b.ii.1. and meet Part V.A.1.a. or b., the *owner or operator* must have the *Traditional Land Use Control MS4 Operator(s)* sign the "MS4 Acceptance" statement on the eNOT in accordance with the requirements in Part VII.J. A *Traditional Land Use Control MS4 Operator* official, by signing this statement, determined that it is acceptable for the *owner or operator* to submit the eNOT in accordance with the requirements of this Part. A *Traditional Land Use Control MS4 Operator* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*'s final site inspection certification(s) when required in Part V.A.2.

4. For *construction activities* that require SMPs and meet Part V.A.1.a. or b., the *owner or operator* must, prior to submitting the eNOT, ensure one of the following:

    a. for SMP(s) that were constructed by a private entity, but will be owned, operated, and maintained by a public entity, the SMP(s) and any right-of-way(s) needed to operate and maintain such practice(s) have been deeded to the municipality in which the practice(s) is located; or

    b. for SMP(s) that are privately owned, but will be operated and maintained by a public entity, an executed operation and maintenance agreement is in place with the municipality that will operate and maintain the SMP(s); or

    c. for SMP(s) that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record; or

    d. for SMP(s) that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility, the *owner or operator* has policies and procedures in place that ensure operation and maintenance of the practices in accordance with the operation and maintenance plan.

5. An *owner or operator* that has met the requirements of Part V.A.1., 2., 3., and 4. must request termination of coverage under this permit by submitting a complete Notice of Termination form electronically using a NYSDEC approved form.[5]

    a. The owner's or operator's coverage is terminated as of the termination date indicated in the Letter of Termination (LOT), which is sent by NYSDEC after a complete eNOT is submitted.

[5] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

Part VI. Record Retention and Reporting

A. Record Retention

The *owner or operator* must retain a copy of the documents listed in Part I.E.3. and a copy of the LOT for a period of at least five years from the date that NYSDEC accepts a complete NOT submitted in accordance with Part V.

B. Reporting

Except for the eNOI, the signature forms associated with the eNOI, and the eNOT, all other written correspondence requested by NYSDEC, including individual permit applications, must be sent to the address of the appropriate DOW (SPDES) Program contact at the Regional Office listed in Appendix E.

Part VII. Standard Permit Requirements

For the purposes of this permit, examples of contractors and subcontractors include: third-party maintenance and construction contractors.

A. Duty to Comply

The *owner or operator*, and all contractors or subcontractors, must comply with all requirements of this permit. Any non-compliance with the requirements of this permit constitutes a violation of the New York State Environmental Conservation Law (ECL), and its implementing regulations, and is grounds for enforcement action. Filing of a request for termination of coverage under this permit, or a notification of planned changes or anticipated non-compliance, does not limit, diminish or stay compliance with any requirements of this permit.

B. Need to Halt or Reduce Activity Not a Defense

The necessity to halt or reduce the *construction activity* regulated by this permit, in order to maintain compliance with the requirements of this permit, must not be a defense in an enforcement action.

C. Penalties

There are substantial criminal, civil, and administrative penalties associated with violating the requirements of this permit. Fines of up to $37,500 per day for each

violation and imprisonment for up to 15 years may be assessed depending upon the nature and degree of the offense.

D. False Statements

Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, or other document filed or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance must, upon conviction, be punished in accordance with ECL §71-1933 and or New York State Penal Law Articles 175 and 210.

E. Re-Opener Clause

Upon issuance of this permit, a determination has been made on the basis of a submitted Notice of Intent, plans, or other available information, that compliance with the specified permit requirements will reasonably protect classified water use and assure compliance with applicable *water quality standards*. Satisfaction of the requirements of this permit notwithstanding, if operation pursuant to this permit causes or contributes to a condition in contravention of State *water quality standards* or guidance values, or if NYSDEC determines that a modification is necessary to prevent impairment of the best use of the waters or to assure maintenance of *water quality standards* or compliance with other provisions of ECL Article 17 or the Clean Water Act (CWA), or any regulations adopted pursuant thereto, NYSDEC may require such modification and the Commissioner may require abatement action to be taken by the *owner or operator* and may also prohibit such operation until the modification has been implemented.

F. Duty to Mitigate

The *owner or operator*, and its contractors and subcontractors, must take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

G. Requiring Another General Permit or Individual SPDES Permit

NYSDEC may require any *owner or operator* authorized to *discharge* in accordance with this permit to apply for and obtain an individual SPDES permit or apply for authorization to *discharge* in accordance with another general SPDES permit.

1. Cases where an individual SPDES permit or authorization to discharge in accordance with another general SPDES permit may be required include, but is not limited to the following:

a. the *owner or operator* is not in compliance with the conditions of this permit or does not meet the requirements for coverage under this permit; and

b. a change has occurred in the availability of demonstrated technology or practices for the control or abatement of *pollutants* applicable to the *point source*; and

c. new effluent limitation guidelines or new source performance standards are promulgated that are applicable to *point sources* authorized to *discharge* in accordance with this permit; and

d. existing effluent limitation guidelines or new source performance standards that are applicable to *point sources* authorized to *discharge* in accordance with this permit are modified; and

e. a water quality management plan containing requirements applicable to such *point sources* is approved by NYSDEC; and

f. circumstances have changed since the time of the request to be covered so that the *owner or operator* is no longer appropriately controlled under this permit, or either a temporary or permanent reduction or elimination of the authorized *discharge* is necessary; and

g. the *discharge* is in violation of section 17-0501 of the ECL; and

h. the *discharge(s)* is a significant contributor of *pollutants*. In making this determination, NYSDEC may consider the following factors:

   i. the location of the *discharge(s)* with respect to *surface waters of the State*; and

   ii. the size of the *discharge(s)*; and

   iii. the quantity and nature of the *pollutants discharged* to *surface waters of the State*; and

   iv. other relevant factors including compliance with other provisions of ECL Article 17, or the CWA.

2. When NYSDEC requires any *owner or operator* authorized by this permit to apply for an individual SPDES permit as provided for in this subdivision, it must notify the *owner or operator* in writing that a permit application is required. This notice must include a brief statement of the reasons for this decision, an application

form, a statement setting a time for the *owner or operator* to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from the *owner's or operator's* receipt of the notification letter, whereby the authorization to *discharge* under this permit must be terminated. NYSDEC may grant additional time upon demonstration, to the satisfaction of the RWE,[6] that additional time to apply for an alternative authorization is necessary or where NYSDEC has not provided a permit determination in accordance with 6 NYCRR Part 621.

3. When an individual SPDES permit is issued to an *owner or operator* authorized to *discharge* under this permit for the same *discharge(s)*, this permit authorization for *construction activities* authorized under the individual SPDES permit is automatically terminated on the effective date of the individual SPDES permit unless termination is earlier in accordance with 6 NYCRR Part 750.

H. Duty to Provide Information

The *owner or operator* must furnish to NYSDEC, within five business days, unless otherwise set forth by NYSDEC, any information that NYSDEC may request to determine whether cause exists to determine compliance with this permit or to determine whether cause exists for requiring an individual SPDES permit in accordance with 6 NYCRR 750-1.21(e) (see Part VII.G. Requiring Another General Permit or Individual Permit).

The *owner or operator* must make available to NYSDEC, for inspection and copying, or furnish to NYSDEC within 25 business days of receipt of a NYSDEC request for such information, any information retained in accordance with this permit.

Except for Part I.D.4. and 5. and Part I.G., the following applies: where the *owner or operator* becomes aware that it failed to submit any relevant facts on the Notice of Intent, or submitted incorrect information in a Notice of Intent or in any report to NYSDEC, the *owner or operator* must submit such facts or corrected information to NYSDEC within five business days.

I. Extension

In the event a new permit is not issued and effective prior to the expiration of this permit, and this permit is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, then the *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the requirements of this permit until a new permit is issued and effective.

[6] The Regional Water Manager where a DEC Region does not have a RWE.

J. Signatories and Certification

The Notice of Intent, Notice of Termination, and reports required by this permit must be signed as provided in 40 CFR §122.22.

1. All Notices of Intent and Notices of Termination must be signed as follows:

    a. For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

        (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or

        (ii) the manager of one or more manufacturing, production or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for Notice of Intent or Notice of Termination requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

        Note: NYSDEC does not require specific assignments or delegations of authority to responsible corporate officers identified in 40 CFR §122.22(a)(1)(i). NYSDEC will presume that these responsible corporate officers have the requisite authority to sign the Notice of Intent or Notice of Termination unless the corporation has notified NYSDEC to the contrary. Corporate procedures governing authority to sign a Notice of Intent or Notice of Termination may provide for assignment or delegation to applicable corporate positions under 40 CFR §122.22(a)(1)(ii) rather than to specific individuals.

    b. For a partnership or sole proprietorship. By a general partner or the proprietor, respectively.

c. For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

    1. the chief executive officer of the agency; or

    2. a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. All reports required by this permit, and other information requested by NYSDEC, must be signed by a person described in Part VII.J.1., or by a duly authorized representative of that person. A person is a duly authorized representative only if:

    a. The authorization is made in writing by a person described in Part VII.J.1. or using the Duly Authorized Form, found on the DEC website; and

    b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

    c. The written authorization is submitted to NYSDEC.

3. Changes to authorization. If an authorization under Part VII.J.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the *construction activity*, a new authorization satisfying the requirements of Part VII.J.2. must be submitted to NYSDEC prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under Part VII.J.1. or 2. must make the following certification:

    I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who

manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

5. Electronic reporting. If documents described in Part VII.J.1. or 2. are submitted electronically by or on behalf of the *construction activity* with coverage under this permit, any person providing the electronic signature for such documents must meet all relevant requirements of this section, and must ensure that all of the relevant requirements of 40 CFR Part 3 (including, in all cases, subpart D to Part 3) (Cross-Media Electronic Reporting) and 40 CFR Part 127 (NPDES Electronic Reporting Requirements) are met for that submission.

K. Inspection and Entry

The *owner or operator* must allow NYSDEC, the USEPA Regional Administrator, the applicable county health department, or any authorized representatives of those entities, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the *discharge*, upon the presentation of credentials and other documents as may be required by law, to:

1. enter upon the *owner's or operator's* premises where a regulated facility or activity is located or conducted or where records must be kept under the requirements of this permit; and

2. have access to and copy at reasonable times, any records that must be kept under the requirements of this permit, including records required to be maintained for purposes of operation and maintenance; and

3. inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and

4. sample or monitor at reasonable times, for the purposes of assuring general SPDES permit compliance or as otherwise authorized by the CWA or ECL, any substances or parameters at any location; and

5. enter upon the property of any contributor to the regulated facility or activity under authority of the *owner or operator*.

L. Confidentiality of Information

The following must not be held confidential: this permit, the fact sheet for this permit, the name and address of any *owner or operator*, effluent data, the Notice of Intent, and information regarding the need to obtain an individual permit or an alternative general SPDES permit. This includes information submitted on forms themselves and any attachments used to supply information required by the forms (except information submitted on usage of substances). Upon the request of the *owner or operator*, NYSDEC must make determinations of confidentiality in accordance with 6 NYCRR Part 616, except as set forth in the previous sentence. Any information accorded confidential status must be disclosed to the Regional Administrator upon his or her written request. Prior to disclosing such information to the Regional Administrator, NYSDEC will notify the Regional Administrator of the confidential status of such information.

M. Other Permits May Be Required

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

N. NYSDEC Orders or Civil Decrees/Judgments

The issuance of this permit by the NYSDEC, and the coverage under this permit by the *owner or operator*, does not supersede, revoke, or rescind any existing order on consent or civil Decree/Judgment, or modification to any such documents or to any order issued by the Commissioner, or any of the terms, conditions, or requirements contained in such order or modification therefore, unless expressly noted.

O. Property Rights

Coverage under this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations, nor does it obviate the necessity of obtaining the assent of any other jurisdiction as required by law for the *discharge* authorized.

P. Compliance with Interstate Standards

If the *construction activity* covered by this permit originates within the jurisdiction of an interstate water pollution control agency, then the *construction activity* must also comply with any applicable effluent standards or *water quality standards* promulgated by that interstate agency and as set forth in this permit for such *construction activities*.

Q. Oil and Hazardous Substance Liability

Coverage under this permit does not affect the imposition of responsibilities upon, or the institution of any legal action against, the *owner or operator* under section 311 of the CWA, which must be in conformance with regulations promulgated pursuant to section 311 governing the applicability of section 311 of the CWA to *discharges* from facilities with *NPDES* permits, nor must such issuance preclude the institution of any legal action or relieve the *owner or operator* from any responsibilities, liabilities, or penalties to which the *owner or operator* is or may be subject pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. section 9601 et seq. (CERCLA).

R. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, must not be affected thereby.

S. NYSDEC Approved Forms

The *owner or operator* must provide all relevant information that is requested by NYSDEC, and required by this permit, on all NYSDEC approved forms.

APPENDIX A – Abbreviations and Definitions

Abbreviations

APO – Agency Preservation Officer
BB – New York State Standards and Specifications for Erosion and Sediment Control (Blue Book), dated November 2016
BMP – Best Management Practice
CPESC – Certified Professional in Erosion and Sediment Control
CPv – Channel Protection Volume
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DM – New York State Stormwater Management Design Manual (Design Manual), dated July 31, 2024
DOW – Division of Water
EAF – Environmental Assessment Form
ECL – chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law
EPA – U.S. Environmental Protection Agency
HSG – Hydrologic Soil Group
MS4 – Municipal Separate Storm Sewer System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
NYC – The City of New York
NYCDEP – The City of New York Department of Environmental Protection
NYSDEC – The New York State Department of Environmental Conservation
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RR – Runoff Reduction
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SMP – Post-Construction Stormwater Management Practice
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UPA – Uniform Procedures Act
USDA – United States Department of Agriculture
WQv – Water Quality Volume

Definitions

All definitions in this section are solely for the purposes of this permit. If a word is not italicized in the permit, use its common definition.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property – the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023).

Alter Hydrology from Pre- to Post-Development Conditions – the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer System – a sewer system which conveys sewage and *stormwater* through a single pipe system to a publicly owned treatment works.

Commence (Commencement of) Construction Activities – the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the *SWPPP*. See definition for "*Construction Activity(ies)*" also.

Common Plan of Development or Sale – a contiguous area where multiple separate and distinct *construction activities* are occurring, or may occur, under one plan. The "common plan" of development or sale is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQR) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating *construction activities* may occur on a specific plot. A *common plan of development or sale* is comprised of two or more *phases*.

Common plan of development or sale does not include separate and distinct *construction activities* that are occurring, or may occur, under one plan that are at least 1/4 mile apart provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed.

Construction Activity(ies) – identified within 40 CFR 122.26(b)(14)(x), 122.26(b)(15)(i), and 122.26(b)(15)(ii), any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, mechanized logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal.

Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, which is excluded from the calculation of the soil disturbance for a project. Routine maintenance includes, but is not limited to:

- Re-grading of gravel roads or parking lots; and
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity of the ditch; and
- Replacement of existing culverts that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity of a ditch; and
- Replacement of existing bridges that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity beneath the bridges; and
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch); and
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*; and
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material; and
- Long-term use of equipment storage areas at or near highway maintenance facilities; and
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*; and
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts; and
- Maintenance of ski trails including brush hog use and mowing; and
- Above ground snowmaking pipe replacement; and
- Replacement of existing utility poles; etc.

Construction Site – the land area where *construction activity(ies)* will occur. See also the definitions for "*Commence (Commencement of) Construction Activities"* and "*Common Plan of Development or Sale."*

Dewatering – the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Directly Discharge(s)(ing) (to a specific surface waterbody) – runoff flows from a *construction site* by overland flow and the first point of *discharge* is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system and the first point of *discharge* from the separate storm sewer system is the specific surface waterbody.

Discharge(s)(d) – any addition of any *pollutant* to waters of the State through an outlet or *point source*.

Embankment – an earthen or rock slope that supports a road/highway.

Equivalent (Equivalence) – the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization – all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other *equivalent* stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

Historic Property – any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) – all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and compacted gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – not technologically possible, or not economically practicable and achievable considering best industry practices.

Minimize(ing)(ation) – reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

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

1. owned or operated by a State, city, town, village, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, *stormwater*, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA, that *discharges* to *surface waters of the State*; and

2. designed or used for collecting or conveying *stormwater*; and

3. which is not a *combined sewer system*; and

4. which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

Natural Buffer(s) – an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – any land disturbance that does not meet the definition of *Redevelopment Activity* included in this appendix.

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

Nonpoint Source(s) – any source of water pollution or *pollutants* which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank – flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator – the person, persons, or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit requirements.

Performance Criteria – the six performance criteria for each group of SMPs in Chapters 5 and 6 of the technical standard, New York State Stormwater Management Design Manual (DM), dated July 31, 2024. These include feasibility, conveyance, pretreatment, treatment, landscaping, and maintenance. It does not include the *Sizing Criteria* (i.e. WQv, RRv, CPv, Qp and Qf) in Part I.C.2. of the permit.

Phase – a defined area in which *construction activities* are occurring or will occur separate from other defined area(s).

Point Source – any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be *discharged*.

Pollutant(s) – dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast *discharged* into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq.

Qualified Inspector – a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, *New York State Erosion and Sediment Control Certificate Program* holder or other NYSDEC endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of NYSDEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any SMPs that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional – a person that is knowledgeable in the principles and practices of *stormwater* management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other NYSDEC endorsed individual(s). Individuals preparing *SWPPPs* that require the SMP component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the *SWPPP* that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – the disturbance and reconstruction of existing *impervious area*, including *impervious areas* that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Renewable Energy – electricity or thermal energy generated by renewable energy systems through use of the following technologies: solar thermal, photovoltaics, on land and offshore wind, hydroelectric, geothermal electric, geothermal ground source heat, tidal energy, wave energy, ocean thermal, and fuel cells which do not utilize a fossil fuel resource in the process of generating electricity.

Site Limitations – site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical *site limitations* include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of *site limitations* shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – the criteria included in Part I.C.2 of the permit that are used to size SMPs. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank* Flood (Qp), and Extreme Flood (Qf).

Steep Slope – land area designated on the current United States Department of Agriculture (USDA) Soil Survey as Soil Slope Phase D, (provided the map unit name or description is inclusive of slopes greater than 25%), or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Stormwater – that portion of precipitation that, once having fallen to the ground, is in excess of the evaporative or infiltrative capacity of soils, or the retentive capacity of surface features, which flows or will flow off the land by surface runoff to waters of the State.

Streambank – the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – a project specific report, including construction drawings, that among other things: describes the *construction activity(ies)*, identifies the potential sources of pollution at the *construction site*; describes and shows the *stormwater* controls that will be used to control the *pollutants* (i.e. erosion and sediment controls; for many projects, includes SMPs); and identifies procedures the *owner or operator* will implement to comply with the requirements of the permit. See Part III of the permit for a complete description of the information that must be included in the *SWPPP*.

Surface Waters of the State – shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization – exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

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

Traditional Land Use Control MS4 Operator – a city, town, or village with land use control authority that is authorized to *discharge* under New York State DEC's SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Trained Contractor – an employee from the contracting (construction) company, identified in Part III.A.7., that has received four (4) hours of NYSDEC endorsed training

in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.7., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, *New York State Erosion and Sediment Control Certificate Program* holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of NYSDEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity).

The *trained contractor* is responsible for the day-to-day implementation of the *SWPPP*.

Tree Clearing – *construction activities* limited to felling and removal of trees.

Tree clearing does not include hand felling and leaving the trees in place with no support from mechanized equipment, which is not considered *construction activity* requiring coverage under this permit.

Water Quality Standard – such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

Table 1
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following *construction activities* that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single-family home not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family residential subdivisions with 25% or less *impervious cover* at total site build-out and not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.
- Structural agricultural conservation practices as identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023) that include construction or reconstruction of *impervious area* or *alter hydrology from pre- to post-development* conditions.

The following *construction activities* that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

- All construction activities located in the New York City Watershed located east of the Hudson River, see Appendix C Figure 1, that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

Within the municipal boundaries of NYC:

- Stand-alone road reconstruction, where the total soil disturbance from only that road construction, is less than one (1) acre of land.

The following *construction activities*:

- Installation of underground linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation, *stormwater* retrofits, stream restoration, and resiliency projects that reconstruct shoreline areas to address sea level rise
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an *impervious cover*
- Cross-country ski trails, walking/hiking trails, and mountain biking trails, including a de minimis parking lot (maximum 10 spaces total, sized for passenger cars) with 35 feet minimum preservation of undisturbed area downgradient from the parking lot
- Dam rehabilitation (the structure of the dam itself)
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are not part of residential, commercial, or institutional development;
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path, or walking path.

Table 1 (Continued)
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following *construction activities*:

- Slope stabilization
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics
- Spoil areas that will be covered with vegetation
- Vegetated open space (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) that do not *alter hydrology from pre- to post-development* conditions
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre- to post-development* conditions
- Demolition where vegetation will be established, and no *redevelopment activity* is planned[1]
- Installation or replacement of either an overhead electric transmission line or a ski lift tower that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*.
- Solar array field areas that have tables elevated off the ground, spaced one table width apart, do not *alter hydrology from pre- to post-development conditions*, and address water quality volume and runoff reduction volume by maintaining sheet flow on slopes less than 8%.
- Structural agricultural conservation practices as identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023) that do not include construction or reconstruction of *impervious area* and do not *alter hydrology from pre- to post-development* conditions.
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary *impervious areas* that will be restored to pre-construction conditions once the *construction activity* is complete (in this context, "temporary" means the *impervious area* will be in place for two years or less)
- Other *construction activities* that do not include the construction or reconstruction of *impervious area*, and do not *alter hydrology from pre- to post-development* conditions, and are not listed in Table 2.

1. If the site is redeveloped in the future, a new eNOI must be submitted.

Table 2
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES (SMPS)

The following *construction activities*:

- Single-family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family home that disturbs five (5) or more acres of land
- Single-family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% *impervious cover* at total site build-out
- Single-family residential subdivisions that involve soil disturbances of between 20,000 square feet and one (1) acre of land within the municipal boundaries of NYC with greater than 25% *impervious cover* at total site build-out
- Single-family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single-family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a *common plan of development or sale* that will ultimately disturb five (5) or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Creation of 5,000 square feet or more of *impervious area* in the municipal boundaries of NYC
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of *impervious area* (>5% of disturbed area) or *alter the hydrology from pre- to post-development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) that involves soil disturbance greater than five acres.
- Structural agricultural conservation practices as identified in Table II in the “Agricultural Best Management Practice Systems Catalogue” (dated June 2023) that involves soil disturbance greater than five acres and include the construction or reconstruction of *impervious area* or *alter hydrology from pre- to post-development* conditions.
- Facility buildings, including ski lodges, restroom buildings, pumphouses, ski lift terminals, and maintenance and groomer garages
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills; including creation of landfills or capping landfills.
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTWs, water treatment plants, and water storage tanks
- Golf courses
- Office complexes

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES (SMPS)

The following *construction activities*:

- Permanent laydown yards and equipment storage lots
- Playgrounds that include the construction or reconstruction of *impervious area*
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surfaces
- Road construction or reconstruction, outside the municipal boundaries of NYC
- Road construction within the municipal boundaries of NYC
- Stand-alone road reconstruction, within the municipal boundaries of NYC where the total soil disturbance from that road reconstruction involves soil disturbance of one (1) acre or more of land
- Parking lot construction or reconstruction (as with all Table 2 bullets, this includes parking lots constructed as part of the *construction activities* listed in Table 1, unless a Table 1 bullet specifies otherwise)
- Athletic fields (natural grass) that include the construction or reconstruction of *impervious area* (>5% of disturbed area) or *alter the hydrology from pre- to post-development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations, and well drilling pads, surfaced with *impervious cover,* and constructed as part of an overhead electric transmission line, wind-power, cell tower, oil or gas well drilling, sewer or water main, ski lift, or other linear utility project
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are part of a residential, commercial or institutional development
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are part of highway construction or reconstruction
- Solar array field areas on slopes greater than 8% that cannot maintain sheet flow using management practices identified in the BB or the DM
- Solar array field areas on slopes less than 8% that will *alter the hydrology from pre- to post-development* conditions
- Solar array field areas with tables that are not elevated high enough to achieve *final stabilization* beneath the tables
- Traditional *impervious areas* associated with solar development (e.g. roads, buildings, transformers)
- Utility pads surfaced with *impervious cover*, including electric vehicle charging stations
- All other *construction activities* that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre- to post-development* conditions, and are not listed in Table 1

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where *owners or operators* of *construction activities* identified in Table 2 of Appendix B must prepare a *SWPPP* that includes SMPs designed in conformance with the Enhanced Phosphorus Removal Standards included in the DM technical standard.

- Entire New York City Watershed located east of the Hudson River – Figure 1
- Onondaga Lake Watershed – Figure 2
- Greenwood Lake Watershed – Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

Figure 1 - New York City Watershed East of the Hudson

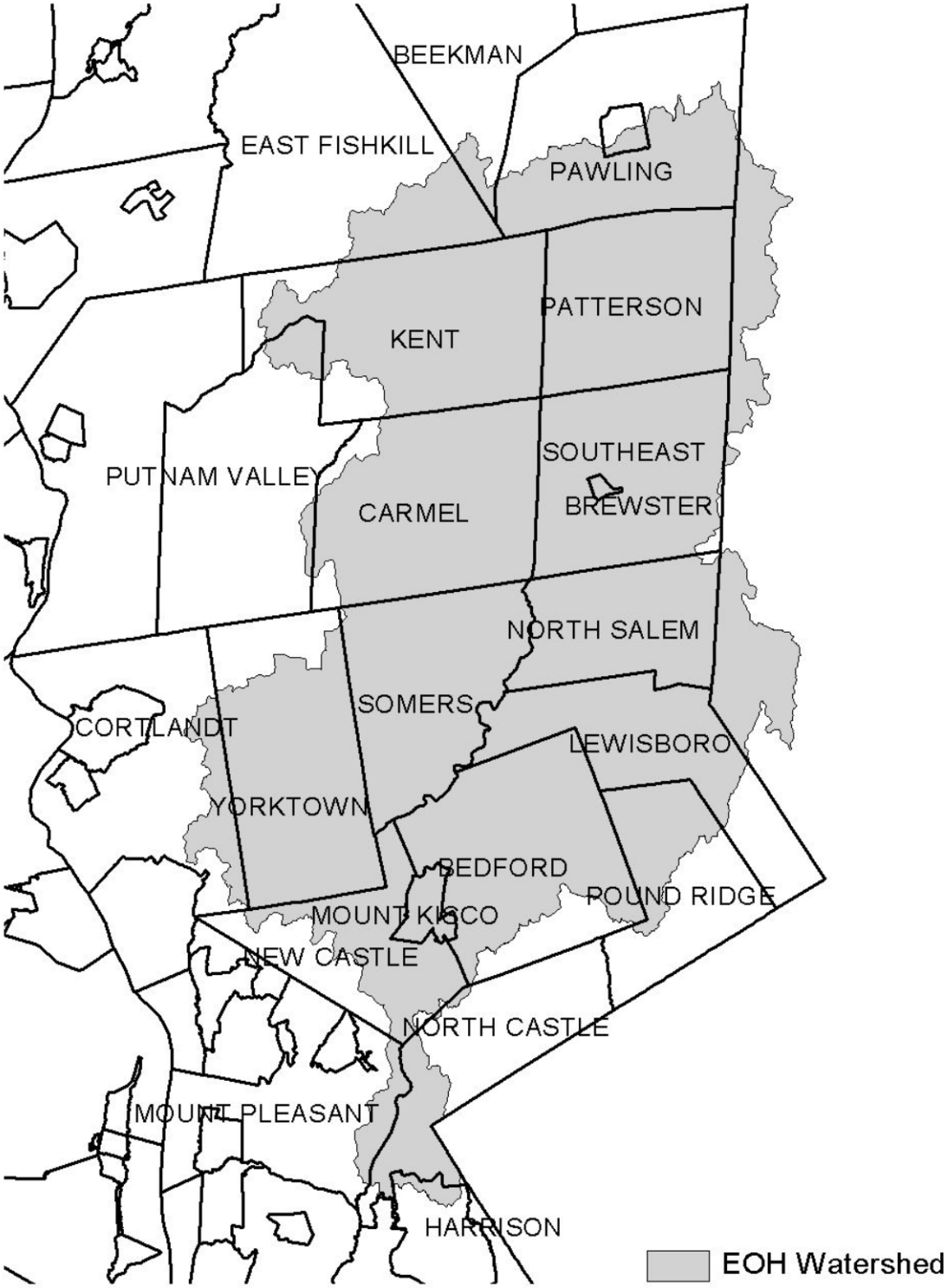


Figure 2 - Onondaga Lake Watershed



Figure 3 - Greenwood Lake Watershed

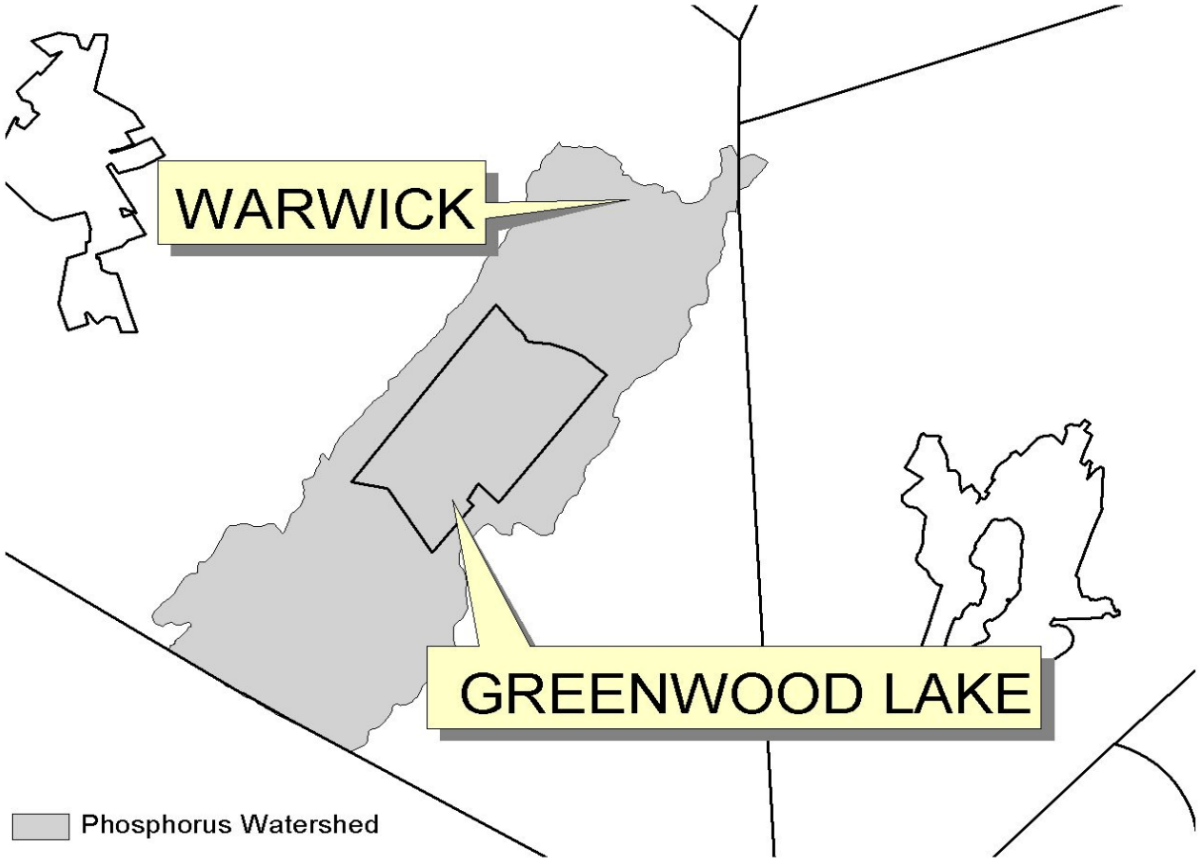


Figure 4 - Oscawana Lake Watershed

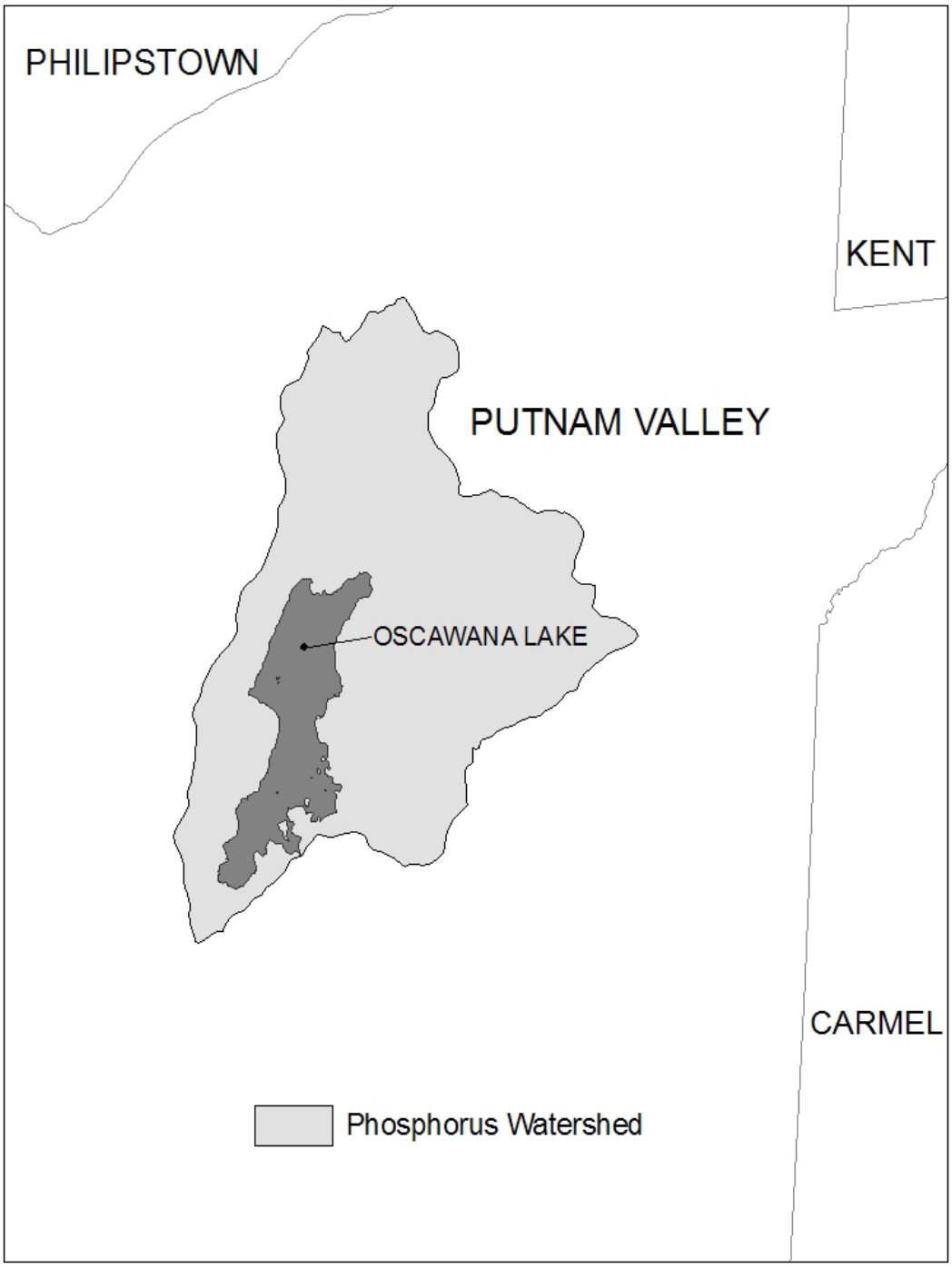
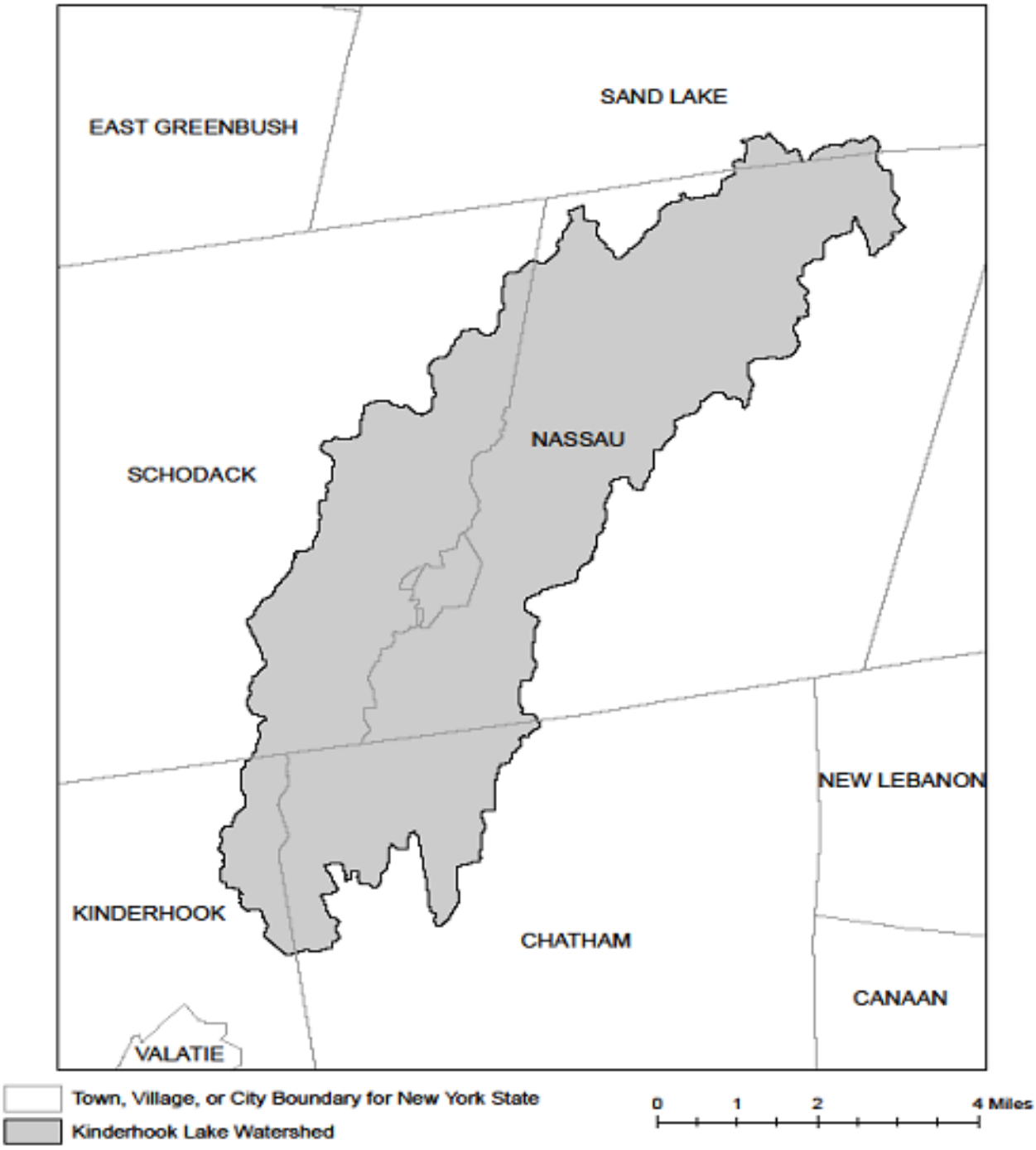


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Impaired Waterbodies (by Construction Related Pollutants)

List of waterbodies impaired by *pollutants* related to *construction activity*, including turbidity, silt/sediment, and nutrients (e.g. nitrogen, phosphorus). This list is a subset of "The Final New York State 2018 Section 303(d) List of Impaired Waters Requiring a TMDL" dated June 2020.

County	Waterbody	Pollutant
Albany	Ann Lee (Shakers) Pond, Stump Pond (1201-0096)	Phosphorus
Albany	Lawsons Lake (1301-0235)	Phosphorus
Allegany	Amity Lake, Saunders Pond (0403-0054)	Phosphorus
Allegany	Andover Pond (0403-0056)	Phosphorus
Bronx	Reservoir No.1/Lake Isle (1702-0075)	Phosphorus
Bronx	Van Cortlandt Lake (1702-0008)	Phosphorus
Broome	Blueberry, Laurel Lakes (1404-0033)	Phosphorus
Broome	Fly Pond, Deer Lake (1404-0038)	Phosphorus
Broome	Minor Tribs to Lower Susquehanna (0603-0044)	Phosphorus
Broome	Whitney Point Lake/Reservoir (0602-0004)	Phosphorus
Cattaraugus	Allegheny River/Reservoir (0201-0023)	Phosphorus
Cattaraugus	Beaver Lake/Alma Pond (0201-0073)	Phosphorus
Cattaraugus	Case Lake (0201-0020)	Phosphorus
Cattaraugus	Linlyco/Club Pond (0201-0035)	Phosphorus
Cayuga	Duck Lake (0704-0025)	Phosphorus
Cayuga	Owasco Inlet, Upper, and tribs (0706-0014)	Nutrients
Chautauqua	Chadakoin River and tribs (0202-0018)	Phosphorus
Chautauqua	Hulburt/Clymer Pond (0202-0079)	Phosphorus
Chautauqua	Middle Cassadaga Lake (0202-0002)	Phosphorus
Clinton	Great Chazy River, Lower, Main Stem (1002-0001)	Silt/Sediment
Columbia	Robinson Pond (1308-0003)	Phosphorus
Cortland	Dean Pond (0602-0077)	Phosphorus
Dutchess	Fallkill Creek (1301-0087)	Phosphorus
Dutchess	Hillside Lake (1304-0001)	Phosphorus
Dutchess	Wappingers Lake (1305-0001)	Phosphorus
Dutchess	Wappingers Lake (1305-0001)	Silt/Sediment
Erie	Beeman Creek and tribs (0102-0030)	Phosphorus
Erie	Delaware Park Pond (0101-0026)	Phosphorus
Erie	Ellicott Creek, Lower, and tribs (0102-0018)	Phosphorus
Erie	Ellicott Creek, Lower, and tribs (0102-0018)	Silt/Sediment
Erie	Green Lake (0101-0038)	Phosphorus
Erie	Little Sister Creek, Lower, and tribs (0104-0045)	Phosphorus
Erie	Murder Creek, Lower, and tribs (0102-0031)	Phosphorus

Erie	Rush Creek and tribs (0104-0018)	Phosphorus
Erie	Scajaquada Creek, Lower, and tribs (0101-0023)	Phosphorus
Erie	Scajaquada Creek, Middle, and tribs (0101-0033)	Phosphorus
Erie	Scajaquada Creek, Upper, and tribs (0101-0034)	Phosphorus
Erie	South Branch Smoke Cr, Lower, and tribs (0101-0036)	Phosphorus
Erie	South Branch Smoke Cr, Lower, and tribs (0101-0036)	Silt/Sediment
Genesee	Bigelow Creek and tribs (0402-0016)	Phosphorus
Genesee	Black Creek, Middle, and minor tribs (0402 0028)	Phosphorus
Genesee	Black Creek, Upper, and minor tribs (0402-0048)	Phosphorus
Genesee	Bowen Brook and tribs (0102-0036)	Phosphorus
Genesee	LeRoy Reservoir (0402-0003)	Phosphorus
Genesee	Mill Pond (0402-0050)	Phosphorus
Genesee	Oak Orchard Cr, Upper, and tribs (0301-0014)	Phosphorus
Genesee	Oatka Creek, Middle, and minor tribs (0402-0031)	Phosphorus
Genessee	Tonawanda Cr, Middle, Main Stem (0102-0002)	Phosphorus
Greene	Schoharie Reservoir (1202-0012)	Silt/Sediment
Greene	Sleepy Hollow Lake (1301-0059)	Silt/Sediment
Herkimer	Steele Creek tribs (1201-0197)	Phosphorus
Herkimer	Steele Creek tribs (1201-0197)	Silt/Sediment
Kings	Hendrix Creek (1701-0006) 18	Nitrogen
Kings	Prospect Park Lake (1701-0196)	Phosphorus
Lewis	Mill Creek/South Branch, and tribs (0801-0200)	Nutrients
Livingston	Christie Creek and tribs (0402-0060)	Phosphorus
Livingston	Conesus Lake (0402-0004)	Phosphorus
Livingston	Mill Creek and minor tribs (0404-0011)	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs (0402-0033)	Phosphorus
Monroe	Buck Pond (0301-0017)	Phosphorus
Monroe	Cranberry Pond (0301-0016)	Phosphorus
Monroe	Durand, Eastman Lakes (0302-0037)	Phosphorus
Monroe	Lake Ontario Shoreline, Western (0301-0069) 9	Phosphorus
Monroe	Long Pond (0301-0015)	Phosphorus
Monroe	Mill Creek and tribs (0302-0025)	Phosphorus 2
Monroe	Mill Creek/Blue Pond Outlet and tribs (0402-0049)	Phosphorus
Monroe	Minor Tribs to Irondequoit Bay (0302-0038)	Phosphorus
Monroe	Rochester Embayment - East (0302-0002) [9]	Phosphorus
Monroe	Rochester Embayment - West (0301-0068) 9	Phosphorus
Monroe	Shipbuilders Creek and tribs (0302-0026)	Phosphorus 2
Monroe	Thomas Creek/White Brook and tribs (0302-0023)	Phosphorus

Nassau	Bannister Creek/Bay (1701-0380)	Nitrogen
Nassau	Beaver Lake (1702-0152)	Phosphorus
Nassau	Browswere Bay (1701-0383)	Nitrogen
Nassau	Camaans Pond (1701-0052)	Phosphorus
Nassau	East Meadow Brook, Upper, and tribs (1701-0211)	Silt/Sediment
Nassau	East Rockaway Channel (1701-0381)	Nitrogen
Nassau	Glen Cove Creek, Lower, and tribs (1702-0146)	Silt/Sediment
Nassau	Grant Park Pond (1701-0054)	Phosphorus
Nassau	Hempstead Bay, Broad Channel (1701-0032)	Nitrogen
Nassau	Hempstead Lake (1701-0015)	Phosphorus
Nassau	Hewlett Bay (1701-0382)	Nitrogen
Nassau	Hog Island Channel (1701-0220)	Nitrogen
Nassau	Massapequa Creek, Upper, and tribs (1701-0174)	Phosphorus
Nassau	Milburn/Parsonage Creeks, Upp, and tribs (1701-0212)	Phosphorus
Nassau	Reynolds Channel, East (1701-0215) [12]	Nitrogen
Nassau	Reynolds Channel, West (1701-0216) 12	Nitrogen
Nassau	Tidal Tribs to Hempstead Bay (1701-0218)	Nitrogen
Nassau	Tribs (fresh) to East Bay (1701-0204)	Silt/Sediment
Nassau	Tribs (fresh) to East Bay (1701-0204)	Phosphorus
Nassau	Tribs to Smith Pond/Halls Pond (1701-0221)	Phosphorus
Nassau	Woodmere Channel (1701-0219)	Nitrogen
New York	Harlem Meer (1702-0103)	Phosphorus
New York	The Lake in Central Park (1702-0105)	Phosphorus
Niagara	Bergholtz Creek and tribs (0101-0004)	Phosphorus
Niagara	Hyde Park Lake (0101-0030)	Phosphorus
Niagara	Lake Ontario Shoreline, Western (0301-0053) 9	Phosphorus
Niagara	Lake Ontario Shoreline, Western (0301-0072) 9	Phosphorus
Oneida	Ballou, Nail Creeks (1201-0203)	Phosphorus
Onondaga	Ley Creek and tribs (0702-0001) 10	Nutrients (phosphorus)
Onondaga	Minor Tribs to Onondaga Lake (0702-0022) 10	Nutrients (phosphorus)
Onondaga	Minor Tribs to Onondaga Lake (0702-0022) 10	Nitrogen (NH3, NO2)
Onondaga	Onondaga Creek, Lower (0702-0023) 10	Nutrients (phosphorus)
Onondaga	Onondaga Creek, Lower, and tribs (0702-0023)	Turbidity
Onondaga	Onondaga Creek, Middle, and tribs (0702-0004)	Turbidity
Onondaga	Onondaga Creek, Upper, and tribs (0702-0024)	Turbidity
Ontario	Great Brook and minor tribs (0704-0034)	Phosphorus 2
Ontario	Great Brook and minor tribs (0704-0034)	Silt/Sediment

Ontario	Hemlock Lake Outlet and minor tribs (0402-0013)	Phosphorus
Ontario	Honeoye Lake (0402-0032)	Phosphorus
Orange	Brown Pond Reservoir (1303-0013)	Phosphorus
Orange	Lake Washington (1303-0012)	Phosphorus
Orange	Minor Tribs to Middle Wallkill (1306-0061)	Phosphorus
Orange	Monhagen Brook and tribs (1306-0074)	Phosphorus
Orange	Orange Lake (1301-0008) [16]	Phosphorus
Orange	Quaker Creek and tribs (1306-0025)	Phosphorus
Orange	Wallkill River, Middle, Main Stem (1306-0038)	Phosphorus
Orange	Wallkill River, Upper, and Minor tribs (1306-0017)	Phosphorus
Orleans	Glenvwood Lake (0301-0041)	Phosphorus
Orleans	Lake Ontario Shoreline, Western (0301-0070) 9	Phosphorus
Orleans	Lake Ontario Shoreline, Western (0301-0071) 9	Phosphorus
Oswego	Lake Neatahwanta (0701-0018)	Nutrients (phosphorus)
Oswego	Pleasant Lake (0703-0047)	Phosphorus
Putnam	Lost Lake, Putnam Lake (1302-0053)	Phosphorus
Putnam	Minor Tribs to Croton Falls Reservoir (1302-0001)	Phosphorus
Queens	Bergen Basin (1701-0009) 18	Nitrogen
Queens	Jamaica Bay, Eastern, and tribs, Queens (1701-0005) 18	Nitrogen
Queens	Kissena Lake (1702-0258)	Phosphorus
Queens	Meadow Lake (1702-0030)	Phosphorus
Queens	Shellbank Basin (1701-0001) 18	Nitrogen
Queens	Willow Lake (1702-0031)	Phosphorus
Rensselaer	Nassau Lake (1310-0001)	Phosphorus
Rensselaer	Snyders Lake (1301-0043)	Phosphorus
Richmond	Grassmere Lake/Bradys Pond (1701-0357)	Phosphorus
Rockland	Congers Lake, Swartout Lake (1501-0019)	Phosphorus
Rockland	Rockland Lake (1501-0021)	Phosphorus
Saratoga	Ballston Lake (1101-0036)	Phosphorus
Saratoga	Dwaas Kill and tribs (1101-0007)	Phosphorus
Saratoga	Dwaas Kill and tribs (1101-0007)	Silt/Sediment
Saratoga	Lake Lonely (1101-0034)	Phosphorus
Saratoga	Round Lake (1101-0060)	Phosphorus
Saratoga	Tribs to Lake Lonely (1101-0001)	Phosphorus
Schenectady	Collins Lake (1201-0077)	Phosphorus
Schenectady	Duane Lake (1311-0006)	Phosphorus
Schenectady Lake	Mariaville Lake (1201-0113)	Phosphorus
Schuyler	Cayuta Lake (0603-0005)	Phosphorus

Seneca	Reeder Creek and tribs (0705-0074)	Phosphorus
St.Lawrence	Black Lake Outlet, Black Lake (0906-0001)	Phosphorus
St.Lawrence	Fish Creek and minor tribs (0906-0026)	Phosphorus
Steuben	Smith Pond (0502-0012)	Phosphorus
Suffolk	Agawam Lake (1701-0117)	Phosphorus
Suffolk	Big/Little Fresh Ponds (1701-0125)	Phosphorus
Suffolk	Canaan Lake (1701-0018)	Phosphorus
Suffolk	Canaan Lake (1701-0018)	Silt/Sediment
Suffolk	Fresh Pond (1701-0241)	Phosphorus
Suffolk	Great South Bay, East (1701-0039)	Nitrogen
Suffolk	Great South Bay, Middle (1701-0040)	Nitrogen
Suffolk	Great South Bay, West (1701-0173)	Nitrogen
Suffolk	Lake Ronkonkoma (1701-0020)	Phosphorus
Suffolk	Mattituck/Marratooka Pond (1701-0129)	Phosphorus
Suffolk	Mill and Seven Ponds (1701-0113)	Phosphorus
Suffolk	Millers Pond (1702-0013)	Phosphorus
Suffolk	Moriches Bay, East (1701-0305)	Nitrogen
Suffolk	Moriches Bay, West (1701-0038)	Nitrogen
Suffolk	Quantuck Bay (1701-0042)	Nitrogen
Suffolk	Shinnecock Bay and Inlet (1701-0033)	Nitrogen
Suffolk	Tidal Tribs to West Moriches Bay (1701-0312)	Nitrogen
Sullivan	Bodine, Mongomery Lakes (1401-0091)	Phosphorus
Sullivan	Davies Lake (1402-0047)	Phosphorus
Sullivan	Evens Lake (1402-0004)	Phosphorus
Sullivan	Pleasure Lake (1402-0055)	Phosphorus
Sullivan	Swan Lake (1401-0063)	Phosphorus
Tompkins	Cayuga Lake, Southern End (0705-0040)	Phosphorus
Tompkins	Cayuga Lake, Southern End (0705-0040)	Silt/Sediment
Ulster	Ashokan Reservoir (1307-0004)	Silt/Sediment
Ulster	Esopus Creek, Lower, Main Stem (1307-0010) [17]	Turbidity
Ulster	Esopus Creek, Middle, Main Stem (1307-0003) 17	Turbidity
Ulster	Esopus Creek, Upper, and minor tribs (1307-0007)[3]	Silt/Sediment
Ulster	Wallkill River, Lower, Main Stem (1306-0027)	Phosphorus
Warren	Hague Brook and tribs (1006-0006)	Silt/Sediment
Warren	Huddle/Finkle Brooks and tribs (1006-0003)	Silt/Sediment
Warren	Indian Brook and tribs (1006-0002)	Silt/Sediment
Warren	Lake George (1006-0016) and tribs	Silt/Sediment
Warren	Tribs to Lake George, East Shore (1006-0020)	Silt/Sediment
Warren	Tribs to Lake George, Lk.George Village (1006-0008)	Silt/Sediment

Washington	Wood Cr/Champlain Canal and tribs (1005-0036)	Phosphorus
Westchester	Lake Katonah (1302-0136)	Phosphorus
Westchester	Lake Lincolndale (1302-0089)	Phosphorus
Westchester	Lake Meahagh (1301-0053)	Phosphorus
Westchester	Lake Mohegan (1301-0149)	Phosphorus
Westchester	Lake Shenorock (1302-0083)	Phosphorus
Westchester	Mamaroneck River, Lower (1702-0071)	Silt/Sediment
Westchester	Mamaroneck River, Upp, & minor tribs (1702-0123)	Silt/Sediment
Westchester	Saw Mill River (1301-0007)	Phosphorus
Westchester	Saw Mill River, Middle, and tribs (1301-0100)	Phosphorus
Westchester	Sheldrake River (1702-0069)	Phosphorus
Westchester	Sheldrake River (1702-0069)	Silt/Sedimnt
Westchester	Silver Lake (1702-0040)	Phosphorus
Westchester	Teatown Lake (1302-0150)	Phosphorus
Westchester	Truesdale Lake (1302-0054)	Phosphorus
Westchester	Wallace Pond (1301-0140)	Phosphorus

APPENDIX E – List of NYSDEC Regional Offices

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	50 Circle Road Stony Brook, NY 11790 Tel. (631) 444-0365	50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	220 White Plains Road, Suite 110 Tel. (914) 428 - 2505
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	1115 State Route 86, Po Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Golf Course Road Warrensburg, NY 12885-1172 Tel. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	5786 WIDEWATERS PARKWAY SYRACUSE, NY 13214-1867 TEL. (315) 426-7438	5786 WIDEWATERS PARKWAY SYRACUSE, NY 13214-1867 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	700 DELAWARE AVENUE BUFFALO, NY 14209-2999 TEL. (716) 851-7165	700 DELAWARE AVENUE BUFFALO, NY 14209-2999 TEL. (716) 851-7070

APPENDIX F – SWPPP Preparer Certification Form

The SWPPP Preparer Certification Form required by this permit begins on the following page.

SWPPP Preparer Certification Form

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

Project/Site Name:

eNOI Submission ID:

Owner/Operator Name:

Certification Statement – SWPPP Preparer

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) has been prepared in accordance with the requirements of GP-0-25-001. I certify under penalty of law that the SWPPP and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SWPPP Preparer First Name | MI | SWPPP Preparer Last Name

Signature

Date

Revised: January 2025

APPENDIX G – MS4 SWPPP Acceptance Form

The MS4 SWPPP Acceptance Form required by this permit begins on the following page.

MS4 SWPPP Acceptance Form

for construction activities seeking authorization under the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

I. Project Owner/Operator Information
1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:
II. Project Site Information
5. Project/Site Name:
6. Street Address:
7. City/State/Zip:
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information
8. SWPPP Reviewed by:
9. Title/Position:
10. Date Final SWPPP Reviewed and Accepted:
IV. Regulated MS4 Information
11. Name of MS4 Operator:
12. MS4 SPDES Permit Identification Number: NYR20A
13. Street Address:
14. City/State/Zip:
15. Telephone Number:

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in section II. of this form has been reviewed and meets the substantive requirements in the SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP). Note: The MS4 Operator, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 Operator does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name[1]:

Title/Position:

Signature:

Date:

VI. Additional Information

[1] Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.

APPENDIX H – NYCDEP SWPPP Acceptance/Approval Form

The City of New York Department of Environmental Protection (NYCDEP) SWPPP Acceptance/Approval form required by this permit begins on the following page.

THE CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Environmental Planning and Analysis
59-17 Junction Blvd., 9th Floor; Flushing, NY 11373

SWPPP Acceptance/Approval

Application Number:

I. Project Owner/Operator Information

1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:

II. Project Site Information

5. Project/Site Name:
6. Street Address:
7. City/State/Zip:

III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance/Approval

8. SWPPP Reviewed by:
9. Title/Position: /
10. Date Final SWPPP Reviewed and Accepted:
11. Acceptance/Approval Expiration Date:

IV. Regulated MS4 Information for projects that require coverage under the NY State Pollution Discharge Elimination System General Permit for Stormwater Discharges from Construction Activity

12. Name of MS4: *CITY OF NEW YORK*
13. MS4 SPDES Permit Identification Number: *NY-0287890*
14. Contact Person:
15. Street Address: *59-17 Junction Blvd. 9th Floor*
16. City/State/Zip: *Flushing, NY 11373*
17. Telephone Number:

Projects in the MS4 area must submit a copy of this SWPPP Acceptance with a Notice of Intent for coverage under the NY SPDES General Permit for Stormwater Discharges from Construction Activity to: NYS Department of Environmental Conservation, Division of Water; 625 Broadway, 4th Floor; Albany, New York 12233-3505.

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s).

Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

Date:

VI. Conditions of Acceptance/Approval and Additional Information

Projects in the MS4 area must submit a copy of this SWPPP Acceptance with a Notice of Intent for coverage under the NY SPDES General Permit for Stormwater Discharges from Construction Activity to: NYS Department of Environmental Conservation, Division of Water; 625 Broadway, 4th Floor; Albany, New York 12233-3505.

APPENDIX I – MS4 No Jurisdiction Form

The MS4 No Jurisdiction Form required by this permit begins on the following page.

MS4 No Jurisdiction Form

for construction activities seeking authorization under the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

I. Project Owner/Operator Information

a. Owner/Operator Name:

b. Contact Person:

c. Street Address:

d. City/State/Zip:

II. Project Site Information

a. Project/Site Name:

b. Street Address:

c. City/State/Zip:

d. eNOI Submission ID:

III. Traditional Land Use Control MS4 Operator Information

a. Name of MS4 Operator:

b. MS4 SPDES Permit ID Number: NYR20A

c. Street Address:

d. City/State/Zip:

e. Telephone Number:

IV. Certification Statement

In accordance with CGP Part I.D.2.b.ii.3., I hereby certify that the Traditional Land Use Control MS4 Operator identified in section III. of this form does not have review authority over the construction project identified in section II. of this form, which is owned/operated by the entity identified in section I. of this form. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

a. Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.:

b. Title/Position:

c. Signature:

d. Date:

APPENDIX J – Owner/Operator Certification Form

The Owner/Operator Certification Form required by this permit begins on the following page.

Owner/Operator Certification Form

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b. or Part I.F.2. and 3., the completed form must be attached to the eNOI or the Request to Continue Coverage, and submitted to NYSDEC electronically.

Project/Site Name: _____

eNOI Submission ID: _____

eNOI Submitted by: ☐ **Owner/Operator** ☐ **SWPPP Preparer** ☐ **Other**

Certification Statement - Owner/Operator

I hereby certify that I read, and will comply with, the GP-0-25-001 permit requirements. I understand that authorization to discharge under the permit for the project/site named above is dependent on receipt of a Letter of Authorization (LOA) or a Letter of Continued Coverage (LOCC) from the New York State Department of Environmental Conservation (NYSDEC) in accordance with CGP Part I.D.3.b. or Part I.F.4. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner/Operator First Name MI Owner/Operator Last Name

_____

Signature

_____

Date

Revised: January 2025

APPENDIX H
Third Party Certification Statement

VILLAGE OF HEAD OF THE HARBOR
THIRD PARTY CERTIFICATION STATEMENT

The Village of Head of the Harbor, in order to fulfill its requirements under NYS Phase I regulations (New York State Pollutant Discharge Elimination System ("SPDES") General Permit for Stormwater Discharge from Municipal Separate Storm Sewer Systems (GP-0-24-001), requires all contractors, who provide services to the Village of Head of the Harbor and all contractors, who are involved in private development, and whose services may cause discharge of product into water bodies, drainage structures, water courses or any may cause discharge of product into areas that may eventually lead to water bodies, drainage structures, water courses to comply with permit requirements applicable to the work performed.

The undersigned certifies that:

- ❑ Provide assurances that he and/or company will comply with permit requirements.

- ❑ The activities that he and/or company will be responsible for includes:
  (The Village will list the specific activity(ies) that are covered by this certification.

- ❑ Description of the work and location of the work to be performed:
  (The Village will list the work and location that are covered by this certification.

- ❑ _____
  Name and Title of person providing the signature below

- ❑ _____
  Name of entity

- ❑ _____
  Address of entity

- ❑ _____
  Telephone number of entity

_____ _____
Signature Date

APPENDIX I
Construction Oversight Program

VILLAGE OF HEAD OF THE HARBOR
CONSTRUCTION OVERSIGHT PROGRAM

The Village of Head of the Harbor, in order to fulfill its requirements under NYS Phase I regulations (New York State Pollutant Discharge Elimination System ("SPDES") General Permit for Stormwater Discharge from Municipal Separate Storm Sewer Systems (GP-0-24-001), requires all projects that involve the clearing of more than one acre of land, and whose project may cause discharge of storm water run-off into water bodies, drainage structures, water courses or may cause discharge of storm water run-off into areas that may eventually lead to water bodies, drainage structures, water courses to comply with permit requirements applicable to the work performed.

Procedure: Once it is determined that the proposed project meets or exceeds the one acre clearing threshold the applicant or authorized agent must:

- ❑ Provide the Village of Head of the Harbor with four (4) hard copies of a written Storm Water Management and Erosion Control Plan along with four (4) copies of a site plan clearly defining the measures to be taken to control run-off from the site during construction and post construction.

- ❑ The plan must follow the procedures as outlined in:

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES
FROM CONSTRUCTION ACTIVITY
PERMIT No. GP-0-25-001

Note: Permit No. GP-0-25-001 is available for review at the Village Hall in the Village of Head of the Harbor's Stormwater Management Plan

The plan to include:

- A certification statement site workers will become familiar with the plan, have reviewed conditions of the plans approval and agree to comply with the plan as well as the terms and conditions of the New York State Pollutant Discharge Elimination Systems (SPDES) general permit.
- Background and/or description of the project.
- The soil conditions of the site and supporting soil borings.
- Existing storm water management, if any, on the site.
- Proposed storm water management to contain run-off on the site during construction and post construction.
- A schedule of construction activities.
- Special pollutants that may be associated with the project.
- Maintenance of Erosion Control during construction.
- Long term maintenance of post construction erosion control measures.
- Easement agreement to allow Village to periodically inspect the completed work.

VILLAGE OF HEAD OF THE HARBOR
CONSTRUCTION OVERSIGHT PROGRAM

- ❑ The Village Building Inspector will distribute the plan for review to:

  - Planning Board
  - Joint Coastal Commission
  - Village Engineer - who will assure that all requirements are included in the SWPPP.

- ❑ All reviewers will provide comments to the Village Engineer who will cause the applicant or authorized agent to correct, modify and/or improve the plan.

- ❑ The Planning Board shall have the final approval responsibility.

- ❑ Once the plan is approved the applicant shall submit to the Village a completed Notice of Intent (NOI) as well as the MS4 Acceptance Form.

- ❑ When approved by the Planning Board, the MS4 Acceptance Form, signed by the Planning Board Chairman, and the NOI shall be forwarded to New York State Department of Environmental Control.

- ❑ The New York State Department of Environmental Control will advise the applicant that the NOI is accepted and that acceptance shall be forwarded to the Village.

- ❑ New York State Department of Environmental Control approval is required prior to the commencement of construction.

- ❑ The approved plan, NOI, MS4 Acceptance Form will be maintained in the Building Department file for the specific project and property.

- ❑ The approved plan, NOI, MS4 Acceptance Form, will be provided to the applicant or authorized agent where it shall be maintained on-site. In addition inspection reports shall also be maintained on-site. Copies of the inspection reports are to be provided to the Building Inspector who shall maintain the reports in the Building Department file for the specific project and property.

CONSTRUCTION SITE INSPECTIONS

The Village of Head of the Harbor, in order to fulfill its requirements under NYS Phase I regulations (New York State Pollutant Discharge Elimination System ("SPDES") General Permit for Stormwater Discharge from Municipal Separate Storm Sewer Systems (GP-0-24-001), is required to conduct inspections:

1. Pre-Construction Meeting – Prior to commencement of construction activities, the Village of Head of the Harbor will conduct a pre-construction meeting with the owner/operator listed on the CGP NOI, the Village of Head of the Harbor Building Inspector and/or a trained individual under their direct

supervision, contractor(s) responsible for implementing the SWPPP for the construction activity, and the qualified inspector. The date and content of the preconstruction inspection/meeting will be documented in the SWMP Plan as part of the Construction Site Inventory. It is the owner/operator's responsibility to ensure that all individuals responsible for conducting weekly and/or heavy rainfall SWPPP inspections are working under the direct supervision of a qualified professional or inspector and have the following training:

- Four (4) hours of NYSDEC endorsed training in proper erosion and sediment control principles from a Soil & Water Conservation District, or other NYSDEC endorsed entity. This training must be completed within three (3) years of the EDC and every three (3) years thereafter.

2. Construction Site Inspections - Upon commencement of work, the applicant shall notify the Village a minimum of 48 hours before construction begins so inspections can be scheduled accordingly. The Village Building Inspector will notify the Village Engineer and Highway Foreman of the work schedule. The Village Building Inspector or trained individuals under their direct supervision shall inspect the site a minimum of once per year. The subcontractor shall inspect the site once every seven (7) days and/or after more than 0.5" of precipitation. The Village Highway Foreman, Village Engineer and the Building Department shall have the ability to issue a Notice of Violation, Stop-Work Order and/or Summons for each item identified as not in conformance with the SWPPP. The date and content of the meeting will be documented in the SWMP Plan as part of the Construction Site Inventory.

3. Construction Site Close-Out - Prior to closing out a construction site, the Village Building Inspector or trained individual under their supervision will conduct a final site inspection. If all work was constructed in conformance with the SWPPP, they will sign the Notice of Termination (NOT) that must be submitted to NYSDEC prior to requesting termination of coverage. All NOT forms can be found on the NYSDEC website.

VILLAGE OF HEAD OF THE HARBOR
CONSTRUCTION OVERSIGHT PROGRAM

TRAINED INDIVIDUALS

The Village of Head of The Harbor, in order to fulfill its requirements under NYS Phase I regulations (New York State Pollutant Discharge Elimination System ("SPDES") General Permit for Stormwater Discharge from Municipal Separate Storm Sewer Systems (GP-0-24-001), has the following employees that conduct inspections and review SWPPPs for compliance:

TITLE	NAME	PHONE	EMAIL	TRAINING DATE
Building Inspector	Robert O'Shea	T (631)-584-5602 F (631)-862-1417	hohbuilding@yahoo.com	Qualified Professional *exempt
Village Engineer	Daniel Falasco	T (631)-584-5550 F (631)-862-1417	Dan.falasco@outlook.com	Qualified Professional *exempt

APPENDIX J
Construction Site Inventory Log

Village of Head of the Harbor
2024 Stormwater Management Program Plan
Construction Site Inventory

Address	Owner/Operator	Receiving Waterbody Name & Class	Receiving Waterbody WI/PWL Segment ID	Prioritization (high or low)	Construction Project SPDES ID	SWPPP Approval Date	Inspection History	Status

APPENDIX K
Enforcement Response Plan

VILLAGE OF HEAD OF THE HARBOR ENFORCEMENT RESPONSE PLAN

This section of the Village SWMP Plan was prepared in accordance with Part IV.F of the MS4 General Permit, which requires municipalities to develop and implement an Enforcement Response Plan (ERP) to ensure compliance with the MS4 General Permit and the Village's stormwater local laws, Chapter 85, "Erosion and Drainage", Chapter 165, Article XX, "Stormwater Management", and Chapter 166, "Illicit Discharges to Storm Sewers". The purpose of this ERP is to specify the criteria by which the Village will determine the enforcement actions most appropriate for instances of non-compliance and to specify how enforcement tools will be used to resolve non-compliance.

OBJECTIVES

The procedures within this ERP have been developed to satisfy the following objectives:

- Prevent pollutants from entering the MS4 and causing environmental harm
- Establish enforcement actions based on the nature of the violation
- Ensure that violators achieve compliance in a timely manner
- Recover costs incurred by the Village

ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE)

The MS4 General Permit requires the Village to detect and eliminate illicit discharges to the storm sewer system. The Village of Head of the Harbor Local Law Chapter 166, "Illicit Discharges to Storm Sewers", regulates the contributions of pollutants to the Village's storm sewer system as it is not designed to accept, treat, or discharge non-stormwater wastes. When an illicit connection or discharge to the municipal storm sewer system is confirmed, staff conduct appropriate procedures to identify the source of the discharge and undertake the appropriate communications or enforcement actions to achieve abatement of the discharge consistent with applicable laws.

CONSTRUCTION/POST-CONSTRUCTION

The MS4 General Permit requires the Village to ensure that construction site operators whose projects disturb an acre or more comply with the NYSDEC SPDES General Permit for Discharges from Construction Activity (GP-0-25-001, Construction General Permit) and to address stormwater discharges to the MS4 from construction and post-construction activities. The Village of Head of the Harbor Local Laws Chapter 85, "Erosion and Drainage" and Chapter 165, Article XX, "Stormwater Management" requires construction site operators to comply with the Construction General Permit.

Though the one-acre threshold for regulation of construction activity is rarely met in the Village, the Village Building Inspector and/or a trained individual under their direct supervision conduct inspections as required by the MS4 General Permit to ensure that erosion and sediment controls and post-construction controls are installed and functioning in accordance with the approved Construction Stormwater Pollution Prevention Plan (SWPPP) and the Construction General Permit. If violations are observed, staff undertake the appropriate communications or enforcement actions to achieve compliance consistent with applicable laws.

VILLAGE OF HEAD OF THE HARBOR ENFORCEMENT RESPONSE PLAN

DETERMINING THE APPROPRIATE LEVEL OF RESPONSE

The Village has varying levels of responses, which increase in severity based on the type, magnitude, and duration of the violation, effect of the violation on the receiving water, compliance history of the operator, and good faith of the operator in compliance efforts. When the Village receives reports from the public, it coordinates internally to designate the responsible personnel for follow-up actions and enforcement, as applicable. The Village utilizes the following types of enforcement responses, separately, combined or in sequence, to address violations:

1. Verbal Warnings and Written Notices of Violation - Verbal Warnings and Written Notices of Violation are classified as “informal” per the MS4 General Permit. The Village may utilize informal enforcement mechanisms as initial attempts at correcting a violation. The Building Inspector and Village Engineer and/or a trained individual under their direct supervision administer Verbal Warnings and/or Written Notices of Violation.

    a. The Village is permitted to advance enforcement actions as necessary, perhaps surpassing Verbal Warnings and Written Notices of Violation, contingent on the violation and its associated characteristics. When informal means of addressing violations are utilized, correction of the deficiencies must not exceed sixty (60) days in duration from the date of initial enforcement to the date of return to compliance as per Part IV.F of the MS4 General Permit. The Village will maintain documentation relating to specific violations in the SWMP Plan.

2. Citations, Summonses, and Stop Work Orders - If a violation is not corrected within the allotted sixty (60) day timeframe for Verbal Warnings and Written Notices of Violation, if the violation is a repeat offense, or if the Village determines the violation requires stricter action, enforcement measures will be escalated to include Citations, Summonses, Fines, Stop Work Orders, and Injunctions as necessary. The Building Inspector and Village Engineer may issue Citations, Summonses, Fines and/or Stop Work Orders.

    a. Penalties - Violations are punishable by a fine not exceeding $350.00 or imprisonment for a period not to exceed six months or both. The fine increases with subsequent violations or for non-compliance.

VILLAGE OF HEAD OF THE HARBOR ENFORCEMENT RESPONSE PLAN

ENFORCEMENT TRACKING

Tracking of the Village's enforcement measures will include the documentation listed below. Enforcement tracking will be recorded with the Village SWMP Plan files.

- Name of the owner/operator of the facility or site of the violation.
- Location of the violation (e.g., illicit discharge or construction site).
- Description of the violation.
- Schedule for returning to compliance.
- Description of enforcement response used, including escalated responses if repeat violations occur or violations are not resolved in a timely manner.
- Documentation of enforcement response (e.g., notices of noncompliance, notices of violation).
- Any referrals to different departments or agencies; and,
- The date the violation was resolved.

APPENDIX L
Post-Construction SMP Inspection & Maintenance Program

VILLAGE OF HEAD OF THE HARBOR POST-CONSTRUCTION SMP INSPECTION & MAINTENANCE PROGRAM

This section of the Village SWMP Plan was prepared in accordance with Part VI.E of the MS4 General Permit, which requires municipalities to develop and implement Post-Construction Stormwater Management Practices (SMP) program to ensure proper operation and maintenance of post construction SMPs for new or redeveloped sites. This section is to ensure compliance with the MS4 General Permit and the Village's stormwater local laws, Chapter 85, "Erosion and Drainage", Chapter 165, Article XX, "Stormwater Management", and Chapter 166, "Illicit Discharges to Storm Sewers". The purpose of this program is to promote the long-term performance of post-construction SMPs in removing pollutants from stormwater runoff.

SMP INSPECTION & MAINTENANCE PROCEDURES

The MS4 General Permit requires the Village to perform Post-Construction SMP inspections and maintenance at the frequency specified in the NYSDEC 2024 Stormwater Design Manual Chapter 12 Maintenance Guidance or as specified in the O&M plan contained in the approved SWPPP (Part VI.D.6.), if available. The Village of Head of the Harbor only has wetland ponds, recharge basins, and infiltration drywells located within their jurisdiction. The Village currently has an on-going program to clean and inspect infiltration drywells once on an annual basis and wetland ponds and recharge basins twice annually. The full breakdown of procedures for maintenance of these specific Post-Construction SMPs and their associated inspection checklists are attached as an addition to this Appendix.

TRAINING PROVISIONS

The MS4 General Permit requires any individuals conducting the Post-Construction SMP inspections and maintenance to be trained on the procedures prior to conducting any inspections or maintenance. To satisfy this request, the Village conducted internal trainings within their department using the 2024 Stormwater Design manual as guidance to describe the procedures required for each specific Post-Construction SMP. The Highway Director also provides training to staff on key facts that apply specifically to their jobs throughout the day. This training is to be completed by staff once every five (5) years and/or as new staff are added. The following table shows the list of trained employees that conduct Post-Construction SMP inspections and maintenance:

TITLE	NAME	PHONE	EMAIL	DATE
Building Inspector	Robert O'Shea	T (631)-584-5602 F (631)-862-1417	hohbuilding@yahoo.com	08/31/24
Village Engineer	Daniel Falasco	T (631)-584-5550 F (631)-862-1417	Dan.falasco@outlook.com	08/31/24
Highway Director	Frank Prinzevalli	T (631)-584-3701 F (631)-862-1417	frankprinzehoth@gmail.com	08/31/24

APPENDIX L.a
NYSDEC 2024 Stormwater Design Manual Chapter 12 Maintenance Guidance

Chapter 12: Maintenance Guidance

SMPs will not function to protect water resources without proper attention to operation and maintenance (O&M). In order to ensure long-term performance, it's critical that O&M tasks and responsibilities are identified, clearly outlined in an inspection and maintenance plan, and assigned to various stakeholders. This Chapter was developed to address the need for maintenance guidance, and is structured in the following sections:

- **Section 12.1** introduces the 10 SMP groups used in this Chapter, establishes the 3 level hierarchy for inspection and maintenance responsibilities and procedures, and provides an overview of planning and budgeting for maintenance.
- **Section 12.2** outlines the key components to be inspected, the Level 1 inspection and maintenance procedures, and common triggers for Level 2 and Level 3 inspections, for each of the 10 SMP groups.
- **Section 12.3** includes diagnostic measures for specific problems, as well as guidance for performing repair activities.

Section 12.1 Introduction

12.1.1 Stormwater Management Practice (SMP) Groups

For the purpose of this Chapter, the standard SMPs and Runoff Reduction Techniques have been clustered into ten SMP groups (**Table 12.1**), containing practices that share common inspection components and maintenance concerns. This grouping has been applied to the detailed inspection guidance provided in **Section 12.2,** as well as the fillable **Level 1 and Level 2 Inspection Checklists** that are available for download on the NYSDEC Construction Stormwater Toolbox website (www.dec.ny.gov). The checklists identify common problems with key components of the SMPs, recommend follow-up actions to correct them, and outline triggers for Level 2 and Level 3 inspections. These checklists have been developed as a guideline to assist responsible parties with efficient and thorough O&M.

Table 12.1 Practices Discussed in this Chapter, by Group

SMP Group	Practices Included	
1. Sheet Flow and Disconnection	• Sheet Flow to Filter Strip • Rooftop Disconnection	• Sheet Flow to Riparian Buffers
2. Tree Planting	• Tree Planting	
3. Swales	• Vegetated Swale	• Wet Swale
4. Bioretention	• Tree Pit • Tree Trench • Rain Garden • Stormwater Planter	• Infiltration Bioretention • Filtration Bioretention • Bioslope • Dry Swale
5. Rainwater Harvesting	• Rain Barrel	• Cistern
6. Porous Pavements	• Porous Asphalt • Porous Paver	• Porous Concrete • Stabilized Grid/Cell
7. Green Roofs	• Extensive Green Roof	• Intensive Green Roof
8. Ponds and Wetlands	• Stormwater Ponds	• Stormwater Wetlands
9. Infiltration	• Infiltration Trench • Infiltration Basin	• Dry Well • Underground Infiltration
10. Sand Filters	• Surface Sand Filters • Perimeter Sand Filters	• Underground Sand Filters

12.1.2 Maintenance Hierarchy

This Chapter is structured around a hierarchy concept, where the severity of the problem directly correlates to the level of experience needed to perform the inspection and identify corrective maintenance measures.

Many SMP maintenance problems start out as minor and can be easily identified by individuals with limited experience (**Level 1**). As long as these issues are detected early, through regular inspections, they can typically be addressed in an expedient and cost-effective manner.

However, in some cases, issues may arise that require additional technical knowledge or capabilities to diagnose the problem and identify the appropriate remedy (**Level 2**). At this point, assistance from an individual with training in SMP inspection, operation and maintenance, may be necessary.

Similarly, some problems escalate to the point where a Qualified Professional or specialized expert is needed to return the SMP to proper functioning condition (**Level 3**).

The step-wise approach of the Maintenance Hierarchy (**Figure 12.1**) was developed to ensure long-term performance of SMPS, through cost-effective implementation of inspection and maintenance.



Figure 12.1 The SMP Maintenance Hierarchy

Level 1: Individuals with Limited or No Training

Level 1 includes routine inspection and maintenance activities conducted by:

- Property owners, property managers, or HOA representatives, for privately owned SMPs.
- Municipal maintenance staff/interns or volunteers, for municipally owned SMPS.

These individuals typically have very limited training in stormwater operation, inspection, and maintenance, but can use available guidance to quickly identify and rectify common or minor issues with SMP performance. For most SMPs, the majority of inspection and maintenance activities can be conducted at this skill level, thus Level 1 forms the base of the Maintenance Hierarchy pyramid. Many well-functioning SMPs can be adequately maintained for long periods of time using Level 1 capabilities.

Some issues may arise that require a higher level of resources and expertise. Such issues are referred to in this Chapter and the Inspection Checklists as “kick-outs to Level 2.”

Level 2: Trained Individuals

Level 2 includes inspection and maintenance activities conducted by municipal employees or landscape contractors who have completed training on SMP operation, inspection, and maintenance. Level 2 inspections can occur in response to two circumstances:

1. As part of an ongoing, municipal inspection program whereby SMPs are visited on a rotating basis at a frequency of once every five years, or a frequency established by the local program; or
2. In response to a “kick-out” from a Level 1 Inspector.

Circumstance #2 requires coordination and communication between the Level 1 and Level 2 Inspectors, with documentation and background provided by the Level 1 Inspector. This is essential to make the hierarchy approach successful.

As with kick-outs from Level 1 to Level 2, the same can exist from Level 2 to Level 3. If the Level 2 Inspector encounters a problem where a Qualified Professional is needed to re-design certain components of the SMP, and/or a Qualified Contractor is needed to undertake a more serious repair, then Level 3 is activated.

Level 3: Qualified Professionals

Level 3 includes inspection and maintenance conducted by Qualified professionals, including professional engineers and landscape architects, that can revisit design issues associated with chronic or serious problems. For repair and maintenance of the SMPs at this level, individuals with specific skills and certifications, such as a certified plumber with experience working with rainwater harvesting systems or a horticulturalist with knowledge on proper plantings, may need to be called in by the Qualified Professional.

Table 12.2 describes how SMP inspection and maintenance activities differ at each level of the Maintenance Hierarchy.

Table 12.2 SMP Inspection and Maintenance Hierarchy Levels

	Level 1: Individuals with Limited or No Training	**Level 2: Trained Individuals**	**Level 3: Qualified Professionals**
Qualifications/ Training of Inspectors	No special training, but person is provided educational materials	On-the-job training and/or workshops	Professional License, such as a PE or RLA
Frequency of Inspection	At least annually	Routine as determined by the local program OR as kick-out from Level 1 inspection	Only as needed from Level 2 inspection
Inspection Guidance	Inspection guidance is included in **Section 12.2.** Refer to the NYSDEC Construction Stormwater Toolbox website (www.dec.ny.gov) for **Level 1 Inspection Checklists**.	Refer to the NYSDEC Construction Stormwater Toolbox website (www.dec.ny.gov) for **Level 2 Inspection Checklists**.	Guidance on diagnosing common problems is included in **Section 12.3.** Refer to the NYSDEC Construction Stormwater Toolbox website (www.dec.ny.gov) for a **Level 3 Inspection Form**.
Typical Maintenance Activities	Routine mowing. Trash removal. Plant care and upkeep. Mulching as needed. Removal of small amounts of sediment from pretreatment areas of the practice.	Removal of larger amounts of sediment. Structural damage repair. Minor regrading and scarification of soil surface to restore permeability.	Redesign an improperly functioning practice, to include: regrading the contributing drainage area, replacing filter media or plantings, modifying conveyance structures, etc.
Triggers for Inspection or Maintenance by this Level	Regular inspection (no trigger)	Common triggers for Level 2 inspection are included in **Section 12.2.**	Common triggers for Level 3 inspection are included in **Section 12.2.**

12.1.3 Level 1, 2 and 3 Inspections

12.1.3.1 General Guidance for Level 1 Inspections

Read through this guidance before performing an inspection and use the specific guidance in **Section 12.2** for the SMP Group that includes the practice being inspected. Refer to **Chapter 11** for guidance on plant maintenance, as well as control of invasive species.

When to Conduct a Level 1 Inspection

Level 1 Inspections are the most common and are intended to identify minor maintenance issues early and keep up with routine maintenance tasks. They should be conducted *at least annually* for all practices and supplemented with additional visits after large storms, winter salting and sanding, or other seasonal changes. In addition, it is recommended that inspections take place more frequently during the first few years after installation of an SMP. Many issues can be identified and corrected during this early period, so that they do not lead to larger problems in subsequent years. Once the SMP is stable and seems to be functioning properly, the inspections can become less frequent.

What to Take into the Field

The Level 1 Inspection is simple, and it is assumed that very little measurement is needed. However, the Inspector should take pictures to document findings and keep a record of all inspections. The following items may be needed during a Level 1 Inspection:

1. Letter of permission to access property if the Inspector is from an outside agency
2. Clipboard and pencils (if using paper forms), or Tablet or smartphone (if using digital forms)
3. Level 1 Inspection Checklists (paper or digital copies)
4. Notes or records from past inspections
5. Approved Site Plan, Planting Plan (includes planting/seed mixes), and/or details for SMP's
6. Digital camera or smartphone
7. Engineer's scale
8. Flagging/stakes and waterproof marker (to mark problem areas that need to be revisited)
9. 25-ft Measuring Tape (optional, to measure pipe sizes and SMP dimensions)
10. Safety equipment: safety vest, steel-toe shoes, traffic cones, etc. (if SMP is located near traffic)
11. Bug spray (if needed)
12. Sun block (if needed)

Level 1 Checklists

The **Level 1 Inspection Checklists** are available for download on the NYSDEC Construction Stormwater Toolbox website (www.dec.ny.gov). These checklists outline common problems with key components of the SMPs and describe follow-up actions for each observed condition. Refer to **Figure 12.2**, for an example checklist.

The Checklists are intended to be used as follows:

- Check the box in the LEFT column if the problem is present at the site.
- Check the appropriate follow-up action(s) in the RIGHT column, or add an action as needed to fix the problem.
- Record all your actions. Keep copies of the Level 1 Inspection Checklists, plus notes, photos, or other documentation of corrective measures to fix problems. Record dates of actions and any follow-up inspections. This will be important for communicating with Level 2 Inspectors and/or the local maintenance program.
- Activate a Level 2 Inspection using the blue cells to identify conditions when a more detailed inspection is necessary to further diagnose a problem. Refer to **Section 12.2** for common triggers of Level 2 Inspection for each of the SMP Groups. Consult the local stormwater program authority for the most appropriate Level 2 inspection option.

Porous Pavement 1. Drainage Area	
Problem (Check if Present)	**Follow-Up Actions**
 ☐ Bare soil, erosion of the ground (rills washing out the dirt)	☐ Seed and mulch areas of bare soil to get vegetation established. ☐ Fill in erosion areas with soil, compact, and seed straw to get vegetation established. ☐ If a rill or small channel is forming, try to redirect water flowing to this area by creating a small bern or adding topsoil to area by creating a small berm or adding topsoil to areas that are heavily compacted. ☐ Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths.

Figure 12.2 Example Level 1 Inspection Checklist, with Follow-Up Actions. *Note "Kick-Out to Level 2" highlighted in light blue.*

12.1.3.2 General Guidance for Level 2 and 3 Inspections

Read through this guidance before performing an inspection, and use the specific guidance in **Section 12.2** for the SMP Group that includes the practice being inspected, or **Section 12.3** for the specific problem encountered.

When to Conduct a Level 2 Inspection

Level 2 Inspections occur as routine inspections for compliance with local stormwater regulations or when triggered by a Level 1 Inspector to address or diagnose specific problems. In this situation, the Level 2 Inspector should confer with the Level 1 Inspector about problems they have identified and then conduct a follow-up inspection that focuses on diagnosing the causes of the problems and possible solutions.

The frequency of Level 2 Inspections is typically defined by the municipality, but shall occur at least once every five years. As with Level 1 inspections, the frequency may change with the age of the SMP, with higher inspection frequency the first couple of years after installation.

Notifying the Owner/Operator

Consult the project files and maintenance agreement to ascertain the Owner/Operator. Confirm that there is right of access through the local code, signed maintenance agreement, or other means. Contact the Owner/Operator at least three business days in advance of the proposed inspection. If the Owner/Operator cannot be found or contacted, make a reasonable effort through file research to contact a property representative, and document those efforts in writing. If the inspection is in response to a Level 1 inspection and referral to your agency, speak with the person who conducted the Level 1 inspection and get any documentation they may have. For publicly owned and managed SMPs, the municipality or other regulated MS4 is responsible for long-term operation and maintenance.

What to Take in the Field

Level 2 inspections may require authorized access to private property. Therefore, additional identification shall be provided for these inspections. It is recommended that the following items be taken into the field during a Level 2 Inspection:

1. Letter on municipal letterhead granting access to property and/or agency photo badge
2. Clipboard and pencils (if using paper forms), or Tablet or smartphone (if using digital forms)
3. Level 2 Inspection Checklists (paper or digital copies)
4. Dry erase board and marker (optional) to include in photos to keep track of SMP tracking # in municipal database (see **Figure 12.3** as example)
5. Notes or records from past inspections
6. Approved Site Plan, Planting Plan (includes planting/seed mixes), and/or details for SMP's
7. SMP As-Built Plan (if available)
8. Digital camera or smartphone
9. Engineer's scale
10. Flagging/stakes and waterproof marker (to mark problem areas that need to be revisited)
11. 100-ft Measuring Tape
12. Hand level and pocket rod (if needed to measure relative elevations)
13. Pipe wrench (to open underdrain clean-out caps)
14. Flashlight (to look into underdrain cleanouts and/or manholes)
15. Manhole cover puller
16. Soil probe, auger, and/or shovel
17. Safety equipment: safety vest, steel-toe shoes, traffic cones, etc. (if SMP is located near traffic)
18. Bug spray (if needed)
19. Sun block (if needed)

Level 2 Checklists

The **Level 2 Inspection Checklists** are available for download on the NYSDEC Construction Stormwater Toolbox website (www.dec.ny.gov). These checklists outline recommended repairs for common problems with key SMP components, and common triggers for Level 3 Inspection.

Conducting the Inspection

In general, the inspection should follow a consistent, logical approach, such as outlined below.

- Conduct a quick tour of the practice to identify any obvious issues and important components: inlets (number, location), surface area, outlet structures, berms or impoundments, outfalls, downstream conveyance channels or receiving waters. Check these components against the approved design plan or as-built drawing (if available).



Figure 12.3 Use a white board and digital camera to note SMP tracking #, date of inspection, and other forms of documentation. Alternatively, tag photographs using a smartphone

- Starting at the upland area, use the Level 2 Checklist to evaluate the practice. The inspection will proceed from the upland drainage area to inlets, side slopes, berms, treatment area, and outlets/outfalls. Make sure to fill in key information on the inspection form, such as SMP identifier number, site name, Inspector name, date, and weather conditions.
- Take photos of key practice components or maintenance concerns. Mark photo locations and orientation on a sketch Site Plan.
- Review the Inspection Checklists before leaving the site to make sure that all necessary information has been collected.

Follow-Up Actions

Upon completion of an inspection, complete these follow-up actions as soon as possible:

- Enter the inspection information in the appropriate database or hard copy file
- Download and label photos
- Communicate problems and corrective measures to the Owner/Operator (private or public). This may involve the Level 2 Inspector making a judgement call as to whether observed problems warrant a Level 3 investigation, providing a timeframe for correcting simpler issues, and coordinating with the Owner/Operator to pursue such an investigation, if required. Many local programs have existing protocols for sending letters, activating a compliance procedure, or verifying that repairs and corrections are completed by the Owner/Operator.

The **Level 2 Inspection Checklists** summarize follow-up actions and recommended repairs associated with various observations of SMP condition (blue cells) and highlight specific conditions that would trigger Level 3 Inspection (grey cells).

Level 3 Inspection Guidance

Level 3 Inspections are conducted in response to more complex issues identified during a Level 2 inspection, with the goal of developing specific repairs to resolve the issues. Therefore, the inspection primarily focuses on the problematic components of the SMP, but it is good practice to perform a cursory review of all system components. **Section 12.3** identifies twelve problems that are typically addressed in Level 3 inspections and discusses how to diagnose the cause of each problem, as well as repairs needed to address them. It should be noted that the problems addressed in each subsection can occur in a variety of SMPs. As a result, each subsection identifies the SMPs where the problem most commonly occurs and, in some cases, an SMP-specific diagnosis procedure.

Section 12.2 Inspections by SMP Group

12.2.1 Sheet Flow and Disconnection

Includes: Sheet Flow to Riparian Buffers/Filter Strips (RR-2) and Disconnection of Rooftop Runoff (RR-4)

Components

The intent of sheet Flow and disconnection is for runoff from small areas of impervious cover to spread out evenly and dissipate in a grassy, vegetated, riparian, or reforestation area. It is a low-technology practice intended to reduce runoff at its source. Key components to inspect for Sheet Flow and Disconnection include the following:

- **S&D-1 Drainage Area:** The drainage area consists of rooftops and/or impervious surfaces such as parking lots, driveways, or sidewalks. Pervious areas such as lawns or forests may also be part of the drainage area.
- **S&D-2 Level Spreader/Energy Dissipator:** Some sheet flow and disconnection practices have a mechanism in place to dissipate concentrated runoff and return it to sheet flow.
- **S&D-3 Treatment Area:** After runoff is dissipated as sheet flow, it enters the treatment area.

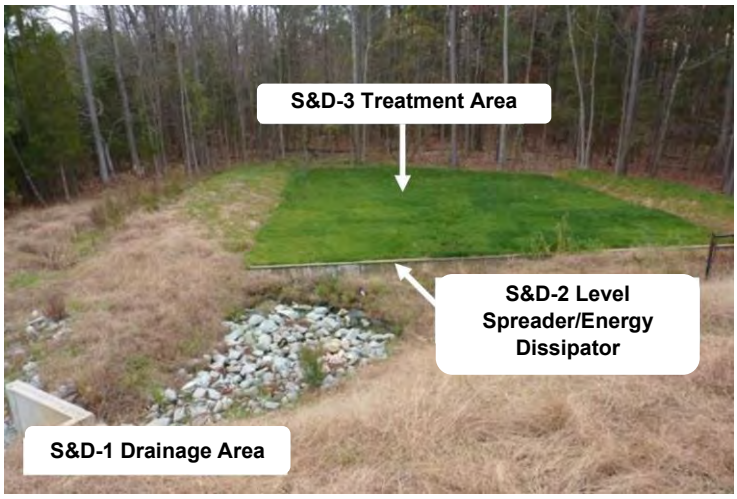


Figure 12.4 Key Areas for Level 1 Inspection of Sheet Flow and Disconnection with filter strip shown. (R. Winston, NCSU)

Level 1 Inspections

Frequency: *2 times per year in early spring and fall. Recommend an additional inspection during a storm to better see any active blockages, bypassing, or other problems.*

Triggers for Level 2 Inspection

The most likely triggers for Level 2 Inspection of S&D practices are:

- Widespread sediment accumulation in paved tributary area
- Deterioration at pavement edge
- Deterioration of level spreader/energy dissipator
- Erosion in the treatment area

Triggers for Level 3 Inspection

The most likely triggers for Level 3 Inspection of S&D practices are:

- Major sediment or erosion caused by uphill issue
- Significant damage to level spreader/energy dissipator

12.2.8 Ponds and Wetlands

Includes: Micropool Extended Detention (P-1), Wet Pond (P-2), Wet Extended Detention Pond (P-3), Multiple Pond Systems (P-4), Shallow Wetland (W-1), Extended Detention Wetland (W-2), Pond/Wetland System (W-3), Pocket Wetland (W-4), Gravel Wetland (W-5)

Note: It is strongly recommended to have as-built drawings and copies of previous inspections at hand, if available. Aerial photos may be needed to help direct the Inspector to the pond or wetland location if it is obscured by vegetation.

Components

Key components to inspect for ponds and wetlands include the following:

- **PW-1 Drainage Area:** The drainage area conveys runoff to and is uphill from the inlet. When it rains, water runs off through roof drains, yard drains, parking lots, roadways, and underdrains to the ponds. Flow is through underground piping systems, overland via swales, or across the ground as sheet flow.
- **PW-2 Inlets:** Free, unobstructed flow from the drainage area to stormwater ponds and wetlands is necessary to prevent shallow flooding and even structural damage from flooding. Inlets can consist of pipes, ditches, swales, or other means to convey stormwater to the pond or wetland.

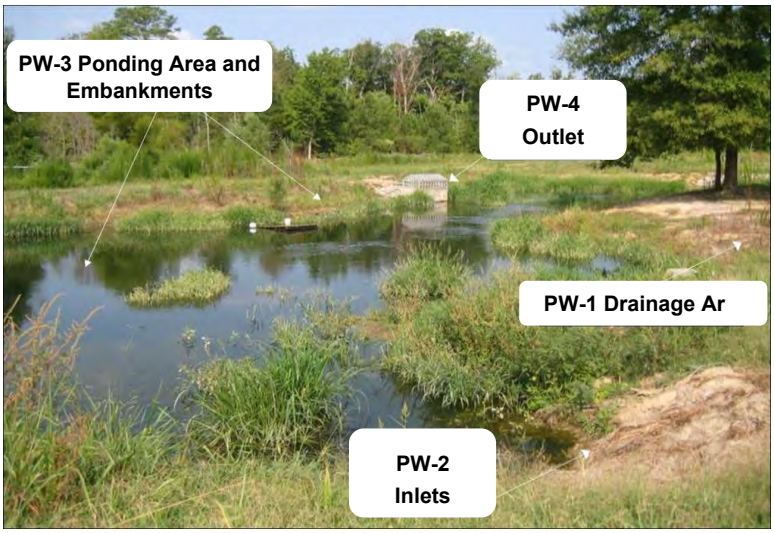


Figure 12.16 Key Areas for Level 1 Inspection of Ponds

- **PW-3 Ponding Area and Embankments:** The ponding area and embankment can consist of the following elements: forebays, safety/aquatic benches, side slopes and permanent pools of water.
- **PW-4 Outlets:** The outlet enables the ponded water to discharge to downstream drainage systems or stream channels. The outlet is often at the base of the dam/embankment on the downstream side.

Level 1 Inspections

Inspection Frequency: *1 time per year in early spring. Recommend additional inspections following major storm events. Inspect the permanent pool and safety elements during every inspection.*

Maintenance Frequency: *At least 2 times per year, the emergency spillway should be mowed and cleared of obstructions. Remove buildup of trash, vegetation, or sediment during every inspection.*

Triggers for Level 2 Inspection

The most likely triggers for Level 2 Inspection of PW practices are:

- Extensive bare soil and erosion in the drainage area
- Manholes or inlet pipes buried or covered with vegetation
- Excessive sediment buildup or overgrown vegetation

Triggers for Level 3 Inspection

The most likely triggers for Level 3 Inspection of PW practices are:

- Severe erosion of the drainage area
- Buried or submerged manholes, pipes or other structures need to be located
- Excessive algae or aquatic plants
- Pipe or headwall settlement, erosion, corrosion, or failure
- Major sediment buildup
- Solving the problem would require practice redesign or extensive regrading of the drainage area

12.2.9 Infiltration

Includes: Infiltration Trench (I-1), Infiltration Basin (I-2), Dry Well (I-3), Underground Infiltration System (I-4)

Components

Key components to inspect for Infiltration include the following:

- **IN-1 Drainage Area:** The drainage area conveys runoff to and is uphill from the infiltration cell. When it rains, water runs off and flows to the infiltration cell and soaks into its underlying layers.
- **IN-2 Inlets:** The inlets are where water flows into the practice. Depending on the design, inlets can include curb cuts, openings in a parking lot or roadway, downspouts, pipes, or ditches. Water can also enter the practice directly as sheet flow.

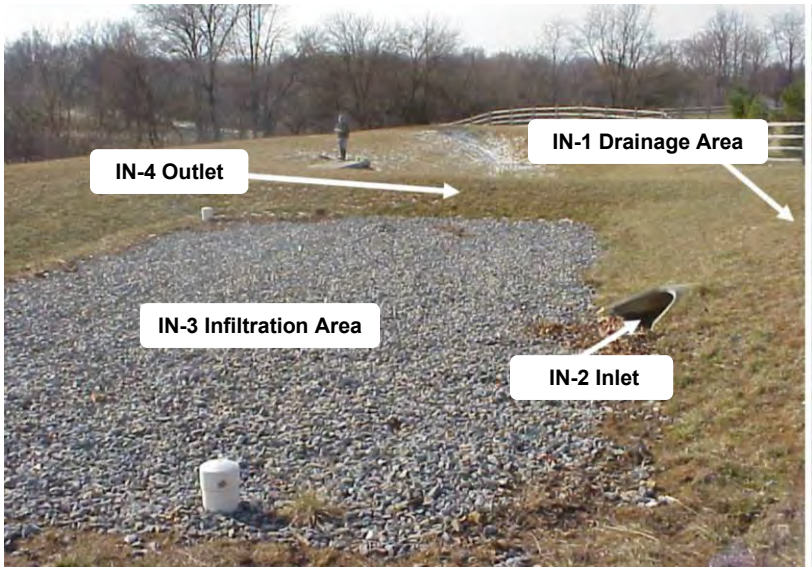


Figure 12.17 Key Areas for Level 1 Inspection of Infiltration Practices

- **IN-3 Infiltration Area:** The area that collects water and allows it to seep into the underlying soil.
- **IN-4 Outlets:** Outlets are where water exits the surface of the infiltration area during larger storms when the underground infiltration reservoir fills up and the excess water needs somewhere to go. Note that not all infiltration practices will have an identifiable outlet if the design is for all the water to infiltrate into the ground. Outlets may be a berm, stone weir, or pipe.

Level 1 Inspections

Frequency: *At least 2 times a year, especially in early spring, to ensure that the practice has survived the winter. Debris cleanout and dewatering inspection should occur monthly. Inspection of sediment traps, forebays, inlets and outlets should occur at least 1 time per year along with sediment cleanout and aggregate repairs.*

Triggers for Level 2 Inspection

The most likely triggers for Level 2 Inspection of IN practices are:

- Water stands on the surface for more than 72 hours after a storm event
- Erosion of inlets, infiltration area or outlets
- Excessive sediment buildup

Triggers for Level 3 Inspection

The most likely triggers for Level 3 Inspection of IN practices are:

- Standing water caused by clogged media
- Severe erosion of infiltration area, inlets, or around outlets
- Reoccurring significant sediment accumulation that is getting worse with time
- Solving the problem would require practice redesign or modification

Section 12.3 Diagnostics and Maintenance Measures

This Section summarizes the most common problems found in SMPs, as well as typical maintenance or repair solutions. The guidance provided in this section has some similarities to **Section 12.2**, but differs in the following ways:

1. The primary audience of this Section is the Level 3 Inspector, who is tasked with diagnosing and repairing SMPs that are not working properly. However, this information may also be useful for a Level 2 Inspector seeking to diagnose a particular problem.
2. The maintenance measures described in this Section are more detailed and focus on repairs to specific problems rather than on routine maintenance, such as weeding or minor sediment removal.
3. Because the problems described in this section can be applied to several different practices, this section is organized by the problem type rather than the practice type.

Common problems addressed during Level 3 inspection/maintenance are summarized in **Table 12.9**. This list is not exhaustive but does address SMP issues that require some advanced knowledge and skill to inspect and diagnose solutions. Each problem category is discussed in a separate subsection.

Table 12.9 Common Level 3 Inspection/Maintenance Issues

Subsection/Category	Description
12.3.1 Contributing Drainage Area – Pollutant Sources	Sediment or pollution sources in the Drainage Area
12.3.2 Physical Obstructions	Physical obstructions to maintenance access, overflow, or emergency spillway
12.3.3 Erosion	Erosion on side slopes, practice bottom, at inlet or outlets. Rills and gullies forming where there should be sheet flow
12.3.4 Departure from Design Dimensions	Practice dimensions have been altered, either due to filling with sediment, redesign or filling in, or improper implementation.
12.3.5 Improper Flow Paths	Flow is short-circuiting the practice, or drainage flow paths have been otherwise modified.
12.3.6 Sediment Buildup	Sediment has accumulated in a pool, practice bottom, pretreatment area, or vault.
12.3.7 Clogging	The filter media or other components are clogged, and there may be standing water for longer than intended.
12.3.8 Vegetation	Excessive, inadequate, and/or unhealthy vegetation to support a practice
12.3.9 Embankment and Overflow Condition	Issues with an embankment or overflow weir or channel
12.3.10 Structural Damage	SMP infrastructure, such as concrete or metal elements, have been damaged.
12.3.11 Pool Stability	Permanent pool of water is at the improper elevation.
12.3.12 Pool Quality	Permanent pool of water suffers from poor quality due to algal growth or other issues.

12.3.1 Contributing Drainage Area – Pollutant Sources

Applies Most Commonly To: Sheet Flow/Disconnection, Swales, Bioretention, Porous Pavement, Ponds/Wetlands, Infiltration, and Sand Filters.

Problem #1: Bare soil washing into SMP from drainage area

General Approach for All Practices:

- Identify the specific source(s) of sediment in the drainage area by tracking sediment flow during a rainfall or looking for a track of sediment staining during dry weather.
- For an active sedimentation event, attempt to filter incoming runoff if conditions allow (e.g., enough space upstream of the practice for temporary ponding). Consider installing a silt fence, silt socks (at curb inlets), staked straw bales, or other filtering material at the inlets of the SMP. This will keep at least some of the sediment from getting into the practice.
- Runoff from active construction should not enter the SMP; divert to a temporary and approved sediment control practice.
- For areas of bare soil *not* due to active construction **(bottom photo)**, prep the soil and re-seed/plant with grass species or other thick ground cover appropriate for the region. May also need starter fertilizer, topsoil, and/or compost.
- For steep slopes with bare soil, consider also installing erosion-control matting to hold soil, seed, and straw in place until the vegetation becomes well established.
- For fill and topsoil stockpiles in the drainage area, provide temporary or permanent cover as soon as possible. Alternatively, surround the base of the stockpile with silt fence, or equivalent, to prevent the transport of sediment-laden runoff.





Helpful Skills:

- Erosion and sediment control knowledge and skills
- Landscaping knowledge to understand appropriate ground cover species for re-vegetating bare areas

Equipment Typically Used for Fixing Sediment Sources:

- Silt fencing and other sediment barriers
- Erosion-control matting and/or straw
- Rakes and shovels
- Light excavation or grading equipment for larger jobs
- Equipment to deliver topsoil or compost as needed
- Plants and/or seed mix, plus a way to move and store plant stock without damaging it or drying it out
- Starter fertilizer, topsoil, and/or compost

Problem #2: Other pollution sources in the drainage area

General Approach for All Practices:

- Pollutants may include: road salt, oils, fuels, food grease, wash water, paints and solvents, trash, and many others.
- Identify the source(s) of pollution.
- For pollutants spilled on the ground, remove by hand or use absorbents to soak up wet material. Absorbents and other waste materials shall be disposed of properly.
- For materials stored outside, move them to a covered area or build/add cover over the materials. Provide secondary containment, if possible.
- Make sure all waste containers have lids and fix any leaks (**see improper practice in photo at right**).
- For sites prone to frequent oil leaks and staining (e.g., vehicle maintenance yards), consider installing an oil/water separator to pre-treat runoff that enters the SMP.
- For routine dumping of wash water, grease, paints, or other pollutants, enforce behavior change and explain good housekeeping practices.
- Develop a pollution prevention plan for the site to ensure that hazardous materials and other potential pollutants are not stored where they are exposed to rainfall.
- For areas that receive a heavy salt and/or sand load during the winter, consider diverting upslope runoff, especially for practices such as porous pavement. Some monitoring of winter road or parking lot clearing activities may also be warranted.



Helpful Skills:

- Knowledge of good housekeeping and pollution prevention practices
- Good communication with employees and managers at site (e.g., for correcting bad site operations)

Equipment Typically Used for Correcting Other Pollutant Sources:

- Tarps to cover stockpiles
- Absorbents to soak up spills
- Secondary containment barriers that will hold back any liquids or solids that may leak out of their primary container
- Storage barns, sheds, pole barns and other permanent cover for potential pollutants

12.3.2 Physical Obstructions

Applies Most Commonly To: Sheet Flow/Disconnection, Swales, Bioretention, Rainwater Harvesting, Green Roofs, Ponds/Wetlands, Infiltration, and Sand Filters

Problem #1: Maintenance access is obstructed

Ground-Level SMPs:

- Where a path for vehicles and construction equipment to access the practice was established during construction but is now overgrown, remove woody vegetation and any other tall vegetation. This path should be bush hogged once or twice a year.
- If the SMP needs a large quantity of trash and/or sediment removed in areas where access is limited due to steep grades, overgrown vegetation, etc., it will be necessary to establish safe vehicular access by clearing and possibly re-grading the area. It is advisable to have a maintained, all-weather surface to critical parts of the SMP.
- It is most important to provide access nearest to parts of the practice where sediment and trash tend to accumulate the most: forebay and outlet control structure.
- For an SMP blocked by fences **(photo at right)**, install a gate that is wide enough for vehicles to enter for any current or future maintenance.
- Sometimes access is blocked by unauthorized structures, such as sheds, property fences, retaining walls, etc. Confer with the local stormwater authority on the presence of any maintenance easements and means to gain access to the practice.
- The solutions above should also provide for safe foot access for routine inspection and maintenance.



Rainwater Harvesting:

- Ensure that no structures are covering the filter or the tank's access/inspection port.

Green Roofs

- Ensure that individuals can safely reach the roof with tools in hand (e.g., buckets, pruners, hoses). If the roof cannot be accessed via a walk-through door, this may require installing a wide ladder or fire escape-style stairs on the inside or outside of the building.
- If there is a concern of getting too close to the roof's edge while doing maintenance, install a railing around the edge for safety. Alternatively, for sloped roofs, workers may need to use harnesses during maintenance activities.

Helpful Skills:

- Use of motorized landscaping equipment
- Chainsaw skills
- Use of grading equipment for larger jobs
- *Note*: OSHA safety requirements and certifications may apply to green roof maintenance.

Equipment Typically Used to Regain Proper Access:

- Mower, trimmer
- For very overgrown areas, chainsaw and/or bush hog
- For areas that need to be regraded, excavator, skid steer, or other grading equipment

Problem #2: Flow is obstructed in or out of the practice

General Approach for All Practices:

- Flow can bypass an SMP when there is too much sediment/debris buildup near the inlets or due to grading changes in the drainage area (e.g., repaving of parking lot). If the cause of blockage or bypass is not obvious, inspect the practice during rainfall to watch the flow paths. (See **Section 12.3.5** for additional guidance.)
- Obstruction of overflow or emergency spillway structures is most often due to buildup of debris, such as trees, sticks, trash. It is *very* important to keep these structures clear of such blockages in order to avoid flooding or a dam breach (**avoid conditions caused by beaver activity - top photo**).
- Where debris cannot easily be cleared by hand, special equipment and skills may be needed. An obstructed outlet control structure in a wet pond may need to be accessed by boat **(bottom photo)**. In cases where large sticks, tree branches, trash, or other debris obstruct the overflow or spillway, they may need to be cut up by chainsaw. Large debris will usually need to be hauled away with a truck.





Helpful Skills:

- Chainsaw skills
- Muscle strength to haul large debris
- Boating capabilities

Equipment Typically Used to Clear Obstructions:

- Gloves, shovels, pruners, rakes, and other hand tools
- Waders for wetlands
- Chainsaw for large sticks and branches
- Cable puller (come-along) to remove large branches that cannot be pulled out by hand
- Boat and personal floatation device for outlet control structures in wet ponds
- Truck to haul away debris

12.3.3 Erosion

Applies Most Commonly To: Sheet Flow/Disconnection, Swales, Bioretention, and Ponds/Wetlands

Problem: Erosion on practice surface, inlets, and/or outlets

General Approach for All Practices:

- See **Section 12.3.9** for how to repair erosion on side-slope embankments.
- Rill and gully erosion occur when runoff flow is concentrated. Deep rills and gully erosion on the practice surface **(top photo)** will require the surface to be regraded to make uniform again. Use the lightest equipment possible in order to minimize soil compaction during excavation.
- After excavation, reseed/plant the area with ground cover that is appropriate for the moisture conditions of the practice. Amend or enhance soil as needed according to a soil test; soil may need more organic material to support plants.
- To prevent further erosion on the surface of the practice, ensure that flow from the inlets can spread out adequately and has enhanced energy dissipation features. This may require installing or enhancing a stone apron outlet protection that flares out and down to the level of the practice to slow and spread out the flow. Other options include check dams, energy dissipation devices, or an armored low-flow channel. A stilling basin **(bottom photo)** can also dissipate flow as it comes out of an inlet or outlet pipe. Apply similar treatments to any outlets that are experiencing erosion.
- Any sloped soils that are disturbed during excavation will likely need erosion-control matting to hold it in place while vegetation becomes established.





Helpful Skills:

- Landscaping/Gardening
- Consult with Cooperative Extension Office or independent laboratory for soil testing
- Skills with excavation equipment
- Knowledge of sediment and erosion control practices and resources appropriate for the area

Equipment Typically Used for Fixing Erosion:

- Rakes, shovels, wheelbarrows, and other “landscaping” equipment
- Light excavation or grading equipment for larger jobs
- Equipment to deliver, unload, and move stone and other materials around
- Plants and/or seed mix, plus a way to move and store plant stock without damaging it or drying it out

12.3.4 Departure from Design Dimensions

Applies Most Commonly To: Swales, Bioretention, Ponds/Wetlands, Infiltration, and Sand Filters

Problem: Practice dimensions have been altered

General Approach for All Practices:

- Once constructed, the dimensions of an SMP may become altered from the original design for a variety of reasons. These reasons can include:
- The SMP was not constructed to the proper dimensions at initial installation.
- Sediment accumulation in the SMP reduces the intended storage volume of the practice **(top photo).**
- Redevelopment or regrading of the site encroaches into the footprint of the SMP.
- Dumping of leaves, trash, or other debris into the SMP reduces the intended storage volume of the practice.
- If it appears that the dimensions of an SMP have been altered, proceed as follows:
- Consult the original design or as-built plans and sizing computations for the SMP to identify the intended dimensions and storage volume of the practice. Measure the length, width, and depth of the practice to estimate the current storage volume. Calculate the difference in volume to determine whether it is significant enough to warrant restoring the practice to its original dimensions. If the loss in volume is greater than about 10%, this likely warrants action.
- If the SMP's original storage volume cannot practically be restored because of current site conditions, an additional SMP may need to be built elsewhere on the site in order to regain adequate storage and treatment volume for the site.
- For problems of dumping by individuals on or near the site, install "No Dumping" or similar signage to inform people that this is not an appropriate place to dispose of debris. Any debris that has already been dumped should be removed from the practice either by hand or with equipment.





Helpful Skills:

- Basic surveying
- Understanding stormwater design plans and sizing computations
- Stormwater management design
- Skills with excavation equipment and erosion and sediment control

Equipment Typically Used to Investigate and Fix Dimensions:

- Simple level or survey equipment, tape measure, and other tools to measure SMP dimensions
- Light excavation or grading equipment for larger jobs
- Rakes, shovels, wheelbarrows, and other "landscaping" equipment for small jobs
- Soil stabilization materials

12.3.5 Improper Flow Paths

Applies Most Commonly To: Sheet Flow/Disconnection, Swales, Bioretention, Rainwater Harvesting, Infiltration, and Sand Filters

Problem #1: Flow intended to go into a practice is diverted by debris or grit buildup or capacity issues at inlets

Bioretention, Swales, Infiltration, Sand Filters:





- Grit, sediment, leaves, and other debris builds up at curb inlets or other inlets, sometimes to the point where flow is diverted completely around the practice (photos above). This is a common issue for practices that rely on curb cuts or other small inlet structures to get water into the practice for treatment. A minor amount of debris may be OK and not affect the ability of water to enter the practice. However, be aware of conditions where flow *that is supposed to be treated* is diverted to a downgradient storm drain or other structures in such a way that the stormwater treatment is entirely or partially bypassed.

- In many cases, correcting the problem may simply involve removing debris or unclogging the inlet.
- However, this problem can be chronic if the inlet design is susceptible to clogging. This can occur if the slope from the inlet into the practice is flat and/or there are controllable sources of sediment and debris in the drainage area.
- For chronic problems, consider redesigning inlets to be more clog proof. One solution is to build in a 2 to 3" drop from the curb inlet onto a gravel or stone diaphragm along the edge of the practice (see example in **photo at right**).
- Inlets that are undersized for the flow coming to them should be enlarged and armored with an appropriate erosion-resistant lining.



Rainwater Harvesting:

- Water intended to be collected in rainwater harvesting systems is sometimes not delivered to the tank or cistern if the system of gutters, downspouts, pipes, etc. is not sized properly or if the first-flush diverter or vortex filter is not functioning correctly and diverting too much water away from the tank.
- As with inlets, this may simply be a matter of routine cleaning of gutters, downspouts, vortex filters, etc.
- It may also be a design or capacity issue, in which case, installing larger gutters or a more robust piping system may be in order.



Source: Rainwater Management Solutions 1

Example of enhancing the gutter and piping system leading to a rainwater harvesting system

Helpful Skills:

- Basic surveying
- Typical landscaping skills using materials such as soil, rock/stone, edging material, mulch, etc.
- Light construction of gutters, downspouts, piping
- Some knowledge of first-flush diverter and vortex filter products

Problem #2: Flow is not uniformly accessing the entire treatment area

Bioretention, Swales, Infiltration, Sheet Flow and Disconnection, Sand Filters:

Improper flow path issues in this category include:

- Water forming channels or rills through the treatment bed of bioretention, swales, infiltration, or surface sand filters, and thus not spreading out across the treatment area surface
- Water ponding only at one end of the treatment area because the surface is not level
- Water piping through weak spots to an outlet or underdrain, such as where filter media meets a concrete structure
- See **Section 12.3.3** for issues of channeling or erosion on the treatment surface.
- For uneven treatment area and preferential ponding, assess the severity of the problem. Compare the relative elevations of the "high" part of the treatment area (the area where water does not seem to pond) and any overflow structure or weir where high water flows will leave the practice. If there is still some freeboard (such that the overflow structure is higher than all of the treatment bed surface), then there will still be some ponding for larger rainfall events. Try some minor raking or moving filter media and mulch around to even out the filter bed.
- However, the problem is more serious if parts of the treatment area are higher than the overflow structure. These areas will never be valuable for treatment purposes. The treatment area is supposed to fill up like a bathtub, so some regrading is needed to level out the treatment area.
- If water is piping or short-circuiting through the soil or filter media, forming sinkholes, or otherwise bypassing the intended treatment mechanism, it will be necessary to repair these spots. Around concrete or metal overflow structures, use soil material right around the structure that can be compacted (bioretention filter media tends to be light, sandy, and fluffy and won't compact very well). Another option is to "ramp up" the soil layer to the lip of the structure so that there won't be a hydraulic jump at this potentially weak point. See the figure below.

These three issues are illustrated below:



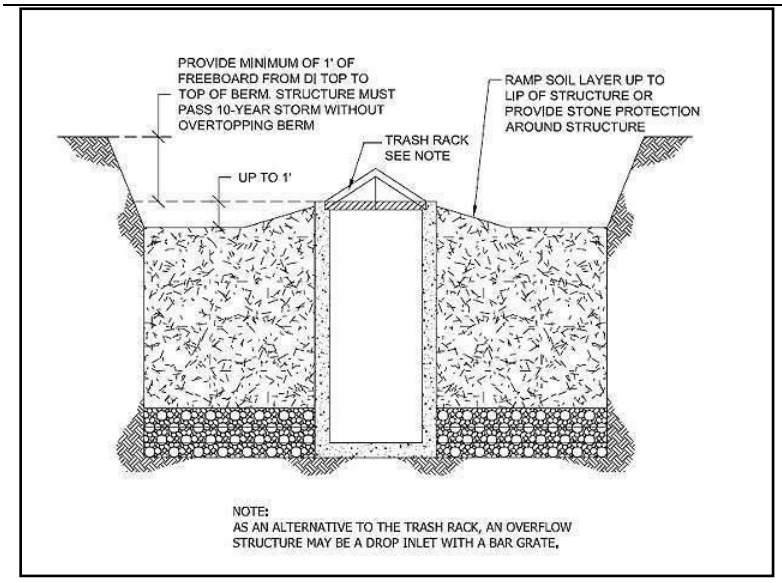
Water from the inlet at top of photo is channeling through the bioretention area.



Water is preferentially ponding only at one end of the bioretention because the surface is not flat.



Water is "piping" down to the underdrain at the weak spot where the filter media meets the concrete overflow structure.



Ramp up soil layer to the lip of the structure to address this being a weak interface where water can work down and create bypassing. (Source: Virginia 2013 Stormwater BMP Specifications, Specification #9, Bioretention, Figure 9.13.)

Impervious Disconnection:

The most likely flow path issues with Impervious Disconnection are: (1) owners intentionally diverting downspouts away from pervious area and onto impervious area **(left photo below),** and (2) slight grading issues diverting the water away from the intended pervious receiving area **(right photo below).**





Both issues are fairly straightforward to address but involve communicating and working with property owners to explain the purpose of disconnection and how to properly maintain it. The second issue may involve some minor regrading or building low-profile berms to get water to flow to the intended disconnection area.

Helpful Skills:

- Rudimentary surveying
- Typical landscaping skills—using materials such as soil, rock/stone, edging material, mulch, etc.

Equipment Typically Used for Inspecting and Fixing Flow Paths

- Surveying equipment (i.e. Site level or total station) to get relative elevations among different parts of treatment area, inlets, overflow structures, etc.
- Small, simple tools—flat shovels, wheelbarrows, rakes, other common landscape/gardening tools
- Large, more complicated equipment—small excavators to move material around or do regrading. Always work from the side of the practice and NOT within the practice itself.

12.3.6 Sediment Buildup

Applies Most Commonly To: Swales, Bioretention, Porous Pavement, Ponds/Wetlands, Infiltration, and Sand Filters

Problem: Sediment accumulation more than 2" thick covering 25% or more of the practice surface area

Bioretention, Swales:

- Determine the source(s) of sediment. The most likely sources are: (1) premature installation of the practice during the construction process and discharge of construction site sediment loads; (2) erosion in the contributing drainage area *after* construction is complete; and (3) erosion along the practice side slope or within the practice itself. If it is an ongoing source, it must be abated (see **Section 12.3.1**, and **Section 12.3.3).**
- Use a soil auger to auger holes in various places across the Bioretention or Swale surface area, especially in areas where sediment is accumulating. Determine how deep the sediment is penetrating into the filter media layer. Usually, it will be the top 2 to 3" that are most affected. Note that for swales *without* an engineered filter media, the sediment layer will likely be confined to the surface.
- Remove the "fouled" filter media to the affected depth (using flat shovels or small excavators and working from the side) and replace with clean material from an approved vendor (bioretention filter media or equivalent). If no vendors are available in your area, use the filter media specifications from the Design Manual to replicate the right mix of sand, topsoil, and composted organic material.
- Check to ensure that the practice is filtering at the proper rate after the next several storm events.

Infiltration:

- For infiltration practices excavated to a suitable infiltrating soil layer (e.g., not stone reservoir layer), use the same procedures as for Bioretention/Swales above.
- For infiltration trenches and basins that have a stone reservoir layer, use similar procedures, but use a shovel to dig into the stone layer to ascertain how deep the sediment incursion is into the stone. Remove down to this layer and replace with clean material.
- If the infiltration practice is clogged, see **Section 12.3.7.**
- As with Bioretention, check for controllable sources of sediment in the Drainage Area (**Section 12.3.1**).

Porous Pavement:

- NOTE: Routine sweeping with a regenerative air vacuum (max. power 2,500 rpm) is important to avoid more costly repairs that result from deferred maintenance. It is best to sweep the pavement surface in early spring after winter sanding/salting materials or snow piles have led to sediment or winter slag accumulation. If the area is surrounded by tree canopy, fall cleanup is essential, as vegetative debris is broken up by vehicle traffic and ground into the pavement surface.
- Observe the pavement surface during a storm event to see whether the sediment is clogging the pavement (i.e., standing water on the surface after the storm stops). If so, see **Section 12.3.7.**
- Remove several of the paver blocks in different parts of the structure to ascertain how deep the sediment is penetrating into the bedding and reservoir layers. Most of the time, sediment incursion will be limited to the top 1 or 2" of the pavement bedding layer (for porous interlocking concrete pavers and concrete grid pavers).
- Based on the above observations, it may be worthwhile to quantify the infiltration rate using ASTM C-1701 and ASTM C1781. This is most useful in conducting the test in the *same place within the pavement surface through the course of several years* to document reduction in infiltration rates. Repair or restorative sweeping is warranted when infiltration rates drop below around 10" per hour. NOTE: As stated above, this can likely be avoided if routine annual sweeping is conducted.
- If sediment covers more than 25% of the surface, is deeper than 2", or vegetation is starting to grow where sediment has accumulated, consult a street-sweeping vendor about *restorative* sweeping. In this case, it will be necessary to use a higher RPM sweeper or vacuum sweeper to suck out more of the bedding pea gravel that has been fouled, then replace with clean material.
- Vegetation growing in pavement joints should be removed either manually or with a water-safe herbicide (e.g., glysophate without surfactants). It is important to not let weeds proliferate in the pavement surface because pulling them out by the roots may damage the pavement structure. (Note: The application of herbicides within wetlands or other waters of the U.S. may require an Aquatic Pesticide Permit from the NYSDEC)



Infiltration test using ASTM C-1781



Pulling grass and weeds from the joints can damage parking surface if roots are firmly established in the bedding layer.

- Check the pavement surface after a storm event to ensure that it is draining properly.

The North Carolina State University (NCSU) Stormwater Engineering Group has an informative Urban Waterways publication, *Maintaining Permeable Pavements (2011).*



Routine, air-vacuum sweeping in the early spring and fall is the best approach for porous pavement maintenance (Photo source: Toronto and Region Conservation)

Ponds and Wetlands:

- Sedimentation is an inevitable process in ponds and wetlands. NOTE that upstream erosion, especially along stream channels or ditches leading to the practice will accelerate the sedimentation process and lead to more frequent and costly sediment removal operations. Whenever possible, it is important to mitigate any upstream erosion issues.
- Forebays and/or pre-treatment areas should be cleaned out when they reach 50% of their design capacity. Once cleanout is complete, it will be worthwhile to install a graduated rod into the forebay with a clear marking of future sediment clean-out levels.
- The main body of a pond or wetland may need to be dredged on an infrequent basis or when sediment has replaced 50% of the design capacity. There are many dredging methods available. Excavators with long arms can handle most small or moderate-sized ponds. Other methods may be necessary for larger facilities. Dredging can be a complicated operation involving dewatering, storage of wet sediment, and possibly hauling to on-site or off-site disposal or refuse areas. Consult a qualified contractor to explore available methods and costs for the particular application. Once again, installation of a graduated rod can help mark future clean-out levels. Note: The dredging of accumulated sediment within regulated wetlands, ponds or at outlet structure may require permits from NYS DEC and/or USACE. In addition, removed sediment should be properly disposed of in a regulated solid waste management facility or in an upland area that is at least 100 ft from regulated wetlands or streams. Sediment managed in upland disposal areas shall be graded, seeded, and mulched.

Sand Filters:

- See the section above on Bioretention/Swales as some of the procedures will be similar, especially for above-ground filters. It is important to determine whether the drainage area is generating a controllable source of sediment that can be abated.
- Underground trench or vault filters will require routine maintenance to: (1) remove accumulated sediment, trash, and floatables from the sedimentation chamber, usually with a vac truck; and (2) remove sediment, grit, and sludge from the top layer of the filter media and replace with clean material. NOTE: Depending on the configuration of the underground filter, confined-space procedures may apply. For a normally operating practice, these maintenance tasks should be conducted every two to three years. If the filter is treating a stormwater hotspot or a particularly dirty drainage area (e.g., vehicle maintenance, washing, repair), the frequency may increase to annually or more often, as dictated by Level 2 inspections. Also, in these cases, it may be warranted to test the material to ensure proper disposal.
- Some proprietary filters require replacement of special cartridges or filter material. Consult the vendor or manufacturer for special maintenance procedures.



Routine cleaning of a perimeter or "Delaware" sand filter. This can be done from the surface, but deeper, vault-type filters will require confined-space entry procedures.

Helpful Skills:

- Most common contracting skills
- Excavation, dewatering, and sediment disposal in some cases
- Knowledge of maintenance equipment, such as vac trucks, street sweepers, etc.
- Knowledge of preferred conditions for bioretention filter media
- Soil testing in some cases where sediment is being removed from stormwater hotspots

Equipment Typically Used for Sediment Removal Activities:

- Small, simple tools—flat shovels, wheelbarrows, rakes, other common tools
- Larger jobs—small or large excavators, loaders, dewatering equipment (pumps, dirt bags, etc.), trucks to haul material to on-site or off-site disposal or reuse areas, erosion and sediment-control supplies.

12.3.7 Clogging

Applies Most Commonly To: Bioretention, Porous Pavement, Infiltration, and Sand Filters

Problem: Filter media clogged; water standing on practice surface for 48 to 72 hours or longer after a storm

Bioretention:

Standing water on the bioretention surface 48 to 72 hours after a storm event is a sure indication of clogging (top photo). Clogging of bioretention practices can be tricky to diagnose as there are several probable causes:

a. Clogged underdrain
b. Filter fabric between filter media and underdrain stone
c. Sediment/grit buildup at surface
d. Erosion of contributing drainage area
e. Improper filter media





The following procedure can be used to work through diagnosing the most common causes, beginning with the simplest and easiest to fix and progressing through more complex remedies:

1. Look for a thin, crusty layer of sediment that covers some or all of the filter media. It is often grayish in color. This thin layer can sometimes be enough to cause slow drainage. Scrape this crust off and ascertain sources of sediment in the drainage area (see **Section 12.3.1**). Often, this problem can be caused by the bioretention filter media being installed too early in the construction process, but other chronic sediment sources should also be checked.
2. Open the underdrain cleanout and pour water in to verify that the underdrains are functioning and not clogged or otherwise in need of repair. The purpose of this check is to see whether there is standing water all the way down through the soil. If there is standing water on the surface, *but not in the underdrain*, then there is clogging somewhere in the soil layer. If the underdrain and cleanout have standing water and there is not water coming out the other end (outlet) of the underdrain pipe, then the underdrain is clogged and will need to be rooted out.
3. Use a soil auger to auger several holes down through the filter media to the underdrain layer (if present) or underlying soil. Check to see whether there is a layer of filter fabric at the bottom of the soil layer. The auger will pierce through any filter fabric that is present, and pieces of fabric in the auger bucket should be removed. Notice if the fabric is “blinded” or clogged with sediment. This is a common issue with older bioretention practices. If the practice has a clogged the filter fabric layer, go to step #6, install wick drain.
4. While checking for filter fabric in auger holes, also note whether there is a layer of saturated filter media or bad filter media (e.g., too much clay content) that may be on top of a good media layer. This will be fairly obvious as the top 3 or 4” will be mucky and saturated, with dry and sandy media below. If this is the case, it will be necessary to remove the bad material and replace with good, clean bioretention filter media in accordance with the design specifications. Till or incorporate the good material into the underlying existing filter media to establish a good contact.
5. If the entire profile of filter media is bad, has too much clay content, or does not appear to meet the specifications for filter media, it will be worthwhile to test the soil and compare against the recommended specifications (e.g., clay content, particle sizes, etc.). If the soil does not meet specifications, see steps #6 and #9 below.

6. If the problem appears to be filter fabric or bad filter media (steps #3 or #5 above), there is a critical decision to be made. It is an expensive proposition to dig up the entire facility to either remove the filter fabric or replace the entire soil layer. If the clogging problem is not severe in nature, an intermediate (and much cheaper) option may be to install wick drains. Using a 6" auger bucket, auger numerous vertical holes around the practice surface area, making sure to auger all the way down to the underdrain stone or underlying soil (if there is no underdrain). Hammer 6" perforated PVC or other type of pipe into these holes. Perforations should be about 3/8" diameter. Fill the pipes with clean underdrain gravel (#57 stone) mixed in with coarse construction sand. These drains will serve to wick fines from the surrounding filter media and will provide alternative drainage. Check after the next several storm events to see whether the wick drains improve drainage.
7. Sometimes the cause of saturated filter media is springs or some type of baseflow coming into the practice. This is a more difficult problem as bioretention is not supposed to receive this type of constant flow. It will be necessary to identify and reroute springs or baseflow or perhaps replace the bioretention practice with a different type of practice.
8. Another possible source of poor drainage or clogging is that there can be too much water on top of the filter media when the bioretention practice fills up. Most specifications call for a maximum ponding depth of 12", but sometimes the ponding depth can be 18 or even 24". While this increases the amount of head pushing water down through the filter media, it can also lead to compaction or too much sediment building up. If the bioretention practice has a ponding depth greater than 12", consider configuring the outlet or large storm overflow to reduce the ponding depth to 12" or less. Check with the local stormwater authority to ensure that doing this will not compromise the required treatment volume of the practice.



Adding sand to a wick drain. The vertical perforated PVC pipe has already been placed in the auger hole.

9. If clogging is too severe to be fixed with wick drains or other remedies listed above, it may be necessary to rebuild the bioretention practice by digging up the existing soil, taking out any filter fabric that is between the filter media and underdrain stone, and rebuilding and replanting according to the design specifications.
10. Whatever the chosen remedy, check to ensure that the practice is filtering at the proper rate after the next several storm events.

The Chesapeake Stormwater Network (CSN) has produced an excellent reference guide for inspecting and diagnosing Bioretention issues, *Technical Bulletin #10, Bioretention Illustrated.* This tool can be used as an additional reference and can be downloaded using this link: http://chesapeakestormwater.net/category/publications/

Infiltration:

- Clogging of infiltration practices can be simple to resolve or fatal:
- On the *simple* side, clogging (or poor drainage) may arise from sediment, vegetative debris, parking lot grit, or other debris clogging the top few inches of soil or stone.
- With luck, the practice will have an observation well (vertical perforated PVC pipe with cap that extends through the stone reservoir in an infiltration trench or basin). Check the observation well three days after a storm event of ½" or more. If water is standing in the observation well to the surface, then the whole profile may be clogged (see below under *fatal*). If the observation well has only a few inches or no water and there is still water standing on the surface, then surface clogging is a likely culprit.
- For infiltration practices in soil (no stone reservoir), auger several holes around the infiltration surface area. If saturated soil seems to be on top of good, clean, dry soil, then surface clogging seems likely.
- For infiltration trenches and basins with a gravel reservoir, dig several holes around the surface to determine, again, whether there seems to be a layer of gravel clogged with sediment, leaves, vegetative debris, parking lot grit, etc. If possible, dig down to where the gravel meets the underlying soil to see whether a layer of filter fabric is present (which may be common with older practices). If this is the case, blinding of the filter fabric may be a cause of the clogging.
- For surface clogging, remove the affected material down to the level where the soil or gravel seems clean, and replace with clean material. If filter fabric seems to be a problem, it will be necessary to dig up the gravel, remove the filter fabric, and rebuild the reservoir layer in accordance with the current design specifications. In either case, check after a storm event to ensure that this has resolved the issue.
- On the *fatal* side, the underlying soil may not be suitable for infiltration, either due to soil characteristics, compaction during construction, or other causes. Check the original design package to see whether any soil testing was done at the time. It may be worthwhile to auger down to the infiltration interface layer (e.g., where stone reservoir meets the underlying soil and then another several inches below this interface), and take several soil samples for lab analysis to compare to current soil specifications (see information below about infiltration soil analysis).
- It may be that a geotechnical analysis would reveal that there is a good infiltration soil layer, but it is lower than the existing

interface. This would still require a complete rebuild and excavation down to the suitable soil layer. Restoring porosity at the designed elevation would require replacing soil above this suitable layer and avoiding compaction.

- Another option would be to convert the practice to a bioretention practice with an underdrain. Check with the local stormwater authority to see whether this would require any site plan or stormwater plan amendments or other permits.
- Many updated state stormwater manuals and specifications include protocols for infiltration soil testing and analysis that reference various ASTM standards. For example, see: *Virginia 2013 BMP Standards & Specifications, Specification #8: Infiltration, Appendix 8-A, Infiltration and Soil Testing*.

Porous Pavement:

- As noted in **Section 12.3.6,** routine sweeping with a regenerative air vacuum (maximum power 2,500 rpm) is important to avoid more costly repairs that result from deferred maintenance. Preventative maintenance is the best and most cost-effective way to prevent clogging in the first place.
- If there is standing water on the pavement surface 48 to 72 hours after a storm event of ½" or more, then the pavement surface is clogged.
- Check the design plan or as-built plan to see whether the porous pavement design includes an underdrain. There may also be underdrain cleanouts at the edge of the porous pavement.
- If there is an underdrain, the first thing to check is whether the underdrain is clogged, crushed, or broken. Check to see whether there is standing water in the underdrain cleanout 48 to 72 hours after a storm event. If the underdrain is dry, pour water into the underdrain with a hose and see whether it comes out the other end. If the underdrain is clogged, snake it out, as this is the first and easiest thing to try.
- If the underdrain is working, then clogging may be due to: (1) clogged surface or bedding layer; or (2) underlying soil is not suitable for infiltration for designs with no underdrain. First, refer to the guidance in **Section 12.3.6,** and then proceed as follows:
- If there is no underdrain and the design is based on soil infiltration under the pavement, it will be worthwhile to check the soil because unclogging the surface layer will likely not fix the problem. Check the original design package for any soil infiltration testing. It is likely worthwhile to remove the entire pavement section in several places down to the soil layer and to do a geotechnical investigation of the soil profile. See: ASTM C-1701/1701M and/or *Virginia 2013 BMP Standards & Specifications, Specification #8: Infiltration, Appendix 8-A, Infiltration and Soil Testing* for examples of soil infiltration protocols (URL above).
- If the soil is not suitable for an infiltration design, it will probably be necessary to rebuild the pavement using an underdrain design or possibly adding subsurface drainage along the perimeter of the parking area.
- If there is an underdrain or the soil is suitable for infiltration, the best approach to try to unclog the pavement is restorative sweeping with a vacuum sweeper. Regenerative air sweepers may not have enough suction to relieve the clogging.
- If vacuum sweeping is not successful, it may be necessary to rebuild any layers fouled with sediment and fines. It is likely that this will be confined to the bedding layer and gravel used in the paver stone joints, but some clogging can possibly move down into the underlying stone reservoir layer.
- The North Carolina State University (NCSU) Stormwater Engineering Group has an informative Urban Waterways publication, *Maintaining Permeable Pavements (2011).*



Water standing on the parking surface 48 to 72 hours after a storm is an indication of clogging. Snow piles at the edge of the photo point to possible clogging from winter sanding or plowing.

Sand Filters:

- See the section above on Bioretention/Swales as some of the procedures will be similar, especially for above-ground filters.
- Also see **Section 12.3.6** for guidance on routine maintenance of the sedimentation and filter chambers.
- As with Bioretention, there can be various causes for clogged filters:
- Filter fabric layer under the filter media that has blinded or clogged
- Clogging of the surface of the filter layer or filter cartridges
- Bad filter media (e.g., sand media)
- "Plumbing" issues with configuration of overflow and underdrain pipes
- Fortunately, filters are usually confined within concrete vaults or manholes, so diagnosing and rectifying clogging problems should be more straightforward. Check the original design or as-built plans. Some of the following guidance may also be helpful:
- For proprietary cartridge or special filter media structures, consult the vendor or manufacturer for recommended solutions.
- See **Section 12.3.6** for guidance on removing the top layer of filter media and replacing with clean material, as well as vacuuming out any sedimentation chambers.
- If it is suspected that overflow or outlet pipes are not configured correctly, check against the design plans and also standard drawings from the manufacturer.
- Chronic clogging problems are likely due to excessively dirty drainage areas, including uncontrolled sources of sediment, oil and grease wash off, vegetative debris from surrounding trees or shrubs, or other sources. It will be important to check and resolve any controllable sources of clogging in the drainage area (see **Section 12.3.1**).



Standing water on the parking lot is evidence that this perimeter sand filter (under the sidewalk) is clogged.

Helpful Skills:

- Soil infiltration analysis techniques as per ASTM and/or current BMP design specifications
- Excavation, dewatering, and sediment disposal in some cases
- Knowledge of maintenance equipment, such as vac trucks, street sweepers, etc.
- Knowledge of preferred conditions for bioretention, sand filter media, or standard porous pavement types and bedding layers
- General practice of trying easier or less expensive strategies before jumping right to wholesale reconstruction of a practice

Equipment Typically Used for Unclogging Activities:

- Soil infiltration testing or geotechnical equipment
- Small or large excavators, loaders, dewatering equipment (pumps, dirt bags, etc.), trucks to haul material to on-site or off-site disposal or reuse areas, erosion and sediment control supplies
- Pavement demolition and repair equipment
- Mulch, plants, filter media, and other materials needed to rebuild practices

12.3.8 Vegetation

Applies Most Commonly To: Tree Planting, Swales, Bioretention, Green Roofs, and Ponds/Wetlands

Problem #1: Not enough vegetation; vegetation *is unhealthy*

Tree Planting, Swales, Bioretention:

- Test soil/media to ensure proper conditions exist for plant survival.
- Check water drawdown after a storm to make sure that wet/saturated conditions are not the cause of plant failure. If this IS an issue, see **Section 12.3.7.**
- Amend or enhance soil as needed; soil may need more organic material to support plants, but do not use uncomposted organic material or animal waste, as it will likely export undesirable nutrients to the stormwater system.
- If plants have continued to die, consider a different species or entire planting palette or revised planting plan **(photo to right shows the need for a whole new planting plan)**. Also consider using an appropriate bioretention or swale native seed mix to supplement use of plugs or other nursery stock.
- Consult a horticulturalist or plant nursery if there is evidence of disease or pests.
- Replant and add mulch or ground cover as needed.



Ponds and Wetlands:

- See **Section 12.3.12** for general guidance on pond and wetland vegetation maintenance, as well as the following.
- For emergent vegetation, determine whether water depths are too deep or shallow for survival (i.e., depths are different from design depths, or original design included improper vegetation).
- If a small amount of supplemental vegetation is needed, plant wetland plugs per nursery guidance.
- For large-scale plantings, drain the permanent pool and plant during the early spring.

Green Roof:

- Consult with a green roof plant vendor about possible causes of plant failure. Lack of watering during initial establishment could be the main culprit.
- Work with a qualified vendor to develop and install a new planting plan.
- Speak with building facilities maintenance personnel to ensure they understand need for watering and caring for new plants after they are installed.

Helpful Skills:

- Landscaping/gardening
- Consult with Cooperative Extension Office or independent laboratory for soil testing
- If original planting plan is deemed inadequate, consult a landscape architect or horticulturalist to determine whether a revised planting plan is needed.
- Knowledge of native plant and/or wetland plant nurseries in general region

Problem #2: Too much vegetation, overgrown (with invasive species), not maintained

General Approach for All Practices:

- Determine which invasive plants are present. For a list of regulated and prohibited invasive plants in New York State, see *New York State Prohibited and Regulated Plants* (NYS DEC, NYS Agriculture and Markets, 2014) at: http://www.dec.ny.gov/docs/lands_forests_pdf/isprohibitedplants2.pdf . Invasive plants shall be properly disposed of in a manner that renders them non-living and non-viable to prevent the establishment, introduction or spread of disposed species.
- Review whether the original planting plan relied on these plants; for example, some wetland plans may rely on "aggressive colonizers" such as cat tails.
- For more detailed information regarding appropriate control measures for each species, consult the Cornell Cooperative Extension Invasive Species Program at the following link: http://ccetompkins.org/environment/invasive-nuisance-species/invasive-plants. If invasive species have taken over the facility, wholesale removal and replanting with desirable species may be necessary.
- If (non-invasive) plants are overgrown, (**example in photo to right**), remove, thin, or trim back excessive vegetation.
- If an entire new planting plan is deemed necessary, use SMP-Specific Guidance in the remainder of this manual, along with landscaping goals for the site location, to devise a plan that allows for adequate growth over a long period of time. A simple, clear planting design (**example in photo below**) with a long-term plan has the best chance of being maintained through time. Maintenance crews need to know which plants are part of the design versus weeds and how the practice should look from year to year.
- Develop a plan to ensure proper weeding, pruning, trimming, and replanting to maintain the plan over time.
- See **Section 12.3.12** for general guidance on pond and wetland vegetation maintenance, as well as the following.





Helpful Skills:

- Knowledge of exotic and invasive species is needed. Consult a local Cooperative Extension Office.
- Specific measures may include mechanical hand pulling, regrading (requires construction equipment), or herbicide/pesticide application by a certified pesticide applicator. See DEC webpage for "Pesticide Applicator/Technician Guidance".
- Landscape architect
- Knowledge of wetland plants (for ponds/wetlands)
- Knowledge of SMP design (to understand hydrologic regime for plant selection)

Equipment Typically Used for Vegetation Maintenance Activities

- Soil auger to diagnose issues of soil drainage that may affect vegetation health
- Rakes, shovels, wheelbarrows, and other "landscaping" equipment
- Light excavation or grading equipment for larger jobs
- Equipment to deliver, unload, and move filter media, mulch, and other materials
- Plants and/or seed mix, plus a way to move and store plant stock without damaging it or drying it out
- Planting bars, soil drills, etc.
- For planting in standing water (e.g., ponds, wetlands), pumps or pump-around systems and dirt bags or other ways to temporarily dewater planting area

12.3.9 Embankment and Overflow Condition

Applies Most Commonly To: Swales, Bioretention, and especially Ponds/Wetlands

Problem #1: Rill and channel erosion and bare dirt areas of embankments

Swales, Bioretention:



- Erosion and areas of bare dirt indicate two basic issues: 1) soils and moisture levels are not suitable for the plants or turf used; and 2) vegetation cannot take hold because of concentrated flow, physical wear, or poor soil conditions. Address these issues first with a soil/media test to ensure proper conditions exist for plant survival.
- High salt content from winter deicing of pavement is a common culprit of poor soil conditions for roadside plants. If this is the case, restore area with plant species that can tolerate salt levels, or replace edge plants with a stone diaphragm to intercept runoff from road.
- Amend or enhance soil as needed; soil may need more organic material to support dense ground cover.
- For concentrated flow and physical wear, redirect concentrated flow so that it disperses in mulched and vegetated areas. Anchor mulch and replant with vigorous plants recommended through the soils test.
- If plants have continued to die, consider a different species or entire planting palette or a revised planting plan (see **Section 12.3.8** and **photo to right)**. Also consider using an appropriate bioretention or swale native seed mix to supplement use of plugs or other nursery stock.
- Consult a horticulturalist or plant nursery if there is evidence of disease or pests.
- Replant and add mulch or ground cover as needed.

Ponds and Wetlands:



- Where erosion has deposited soil within the pond or wetland water line, remove this material and reshape the slope.
- If a small amount of supplemental vegetation is needed, plant wetland plugs per nursery guidance.
- To address rill and channel erosion, first obtain a soil sample test to get soil amendment recommendations. Undercut the eroded sections and replace with clean amended soil, based on the soil test, and reseed as appropriate for the season.
- It may be necessary to stake in seed blankets or erosion-resistant lining (e.g., erosion-control matting or even rock in extreme situations) to stabilize eroded areas. Again, choose seed types appropriate for the season.
- Based on soil test guidance, reseed bare areas to prevent further erosion.
- For persistent problems, reroute the flow to more stable receiving areas using berms, diversions, etc.

Helpful Skills:

- Landscaping/gardening
- Consult with Cooperative Extension Office or independent laboratory for soil testing.
- If original planting plan is deemed inadequate, consult a landscape architect or horticulturalist to determine whether a revised planting plan is needed.
- Knowledge of sediment and erosion control practices and resources appropriate for the area

Problem #2: Settlement, loss of armoring material, erosion of emergency overflow

General Approach for All Practices:

- Settlement, loss of armoring material, erosion and accumulated debris can affect the dimension, water velocity or capacity of the emergency overflow such that embankment failure could occur in flood events (**photos below**).
- Inspect for exposure of soil or geotextile base material in the overflow and re-armor areas of exposure.
- In cases of settlement, a qualified engineer should be sought to assess its capacity and impact on pond capacity.
- Erosion of spillways should be repaired and revegetated as described for embankments.





Helpful Skills:

- Knowledge of sediment and erosion control practices for the area
- Completion of self-guided training on dam safety through Association of State Dam Safety Officials: http://www.damsafety.org

Problem #3: Impounding structure (embankment or dam) integrity issues due to tunneling or digging animals, woody vegetation, or seepage

Ponds/Wetlands:

- Impounding structure stability is a serious concern, especially where trees have become established on the slopes, or there's evidence of animal burrows or seepage.
- The best approach for trees on the crest, slopes, and adjacent to an impounding structure or embankment is to cut them down before they reach significant size. If large trees have been cut down but their root systems not removed, carefully monitor the area around the remaining stumps for signs of seepage.
- Exercise judgement for trees on the surrounding side slopes that are NOT impounding structures (not designed to hold back water in the pool). Sometimes a forested edge can enhance the appeal of a pond, but access for maintenance must also be available, and some trees can drop debris into ponds, leading to quality issues.
- Animal burrows can be dangerous to the structural integrity of the embankment because they weaken it and can create pathways for seepage. Professional exterminators may be needed to trap and remove animal pests.
- Seepage as water flow or boiling sand on the lower portion of the exterior slope or toe area of an impounding structure should be brought to the attention of a qualified engineer.
- Leakage around conveyance structures such as barrel pipes or spillways should be monitored for increase since the last inspection. A qualified engineer is needed to resolve issues of piping or seepage along the barrel pipe through a dam.
- Turbidity or cloudiness in seepage should also be brought to the attention of a qualified engineer.

Helpful Skills:

- Completion of self-guided training on dam safety through the Association of State Dam Safety Officials: http://www.damsafety.org

Equipment Typically Used for Embankment and Overflow Maintenance Activities

- Excavation or grading equipment for larger jobs
- Equipment to deliver, unload, and move filter media, mulch, and other materials
- Plants and/or seed mix, seed blanket and erosion control materials
- Rod and level for settlement measurements
- Clear glass bottle for seepage visual test

12.3.10 Structural Damage

Applies Most Commonly To: Any Practice

Problem: Structural damage to pipes, headwalls, standpipes, inlet/outlet structures, grates, curbs, and other structural components

- Structural components are necessary for water to flow into and out of stormwater practices as intended. This is a broad category that involves components composed of concrete, metal, plastic, and other materials. Some common examples include:
- Deteriorated or broken curbs that allow water to bypass a practice
- Slumping or sinkholes where soil meets a concrete drop inlet or outlet structure
- Broken or collapsed inlets
- Connections in an inlet or manhole structure that are not parged and are leaky
- Collapsed or crushed pipes (especially corrugated metal)
- Missing or broken steps or other safety features in a manhole or outlet control structure
- Root penetration and clogging of underdrain or other pipes
- Broken check dams
- There are too many particular instances to mention here, but the general idea is to inspect and repair any structural components that are affecting the performance of a practice or leading to a potential health or safety issue.

Helpful Skills:

- General contracting skills—concrete work, metal, proper joint sealing
- Routing out clogged pipes
- Perhaps CCTV experience to look for broken or clogged pipes

Equipment Typically Used for Fixing Erosion:

- General contracting
- CCTV

12.3.11 Pool Stability

Applies Most Commonly To: Ponds/Wetlands

Problem: Flooded or dry pond outlet issues

General Approach for Ponds and Wetlands:

- Note high-water marks on structures or pond banks and compare with outlet structure weir.
- If the outlet weir is submerged, investigate downstream for plugs such as beaver dams, woody debris or sediment bars. Refer to **Section 12.3.2** for removal of obstructions.
- If the pond is retaining more water than it is supposed to and there is no flow from the outlet with no visible blockages in the outlet pipe, look for obstructions above the weir or outlet pipe. Woody debris, vegetation and silt can plug outfall weirs or blind rock outfall protection. Removal of such blockages tends to be a hand exercise. A jet/vacuum truck or other heavy equipment may be needed to clear excessive or precarious blockages (**photo on right**).
- If the pond is too low and not holding water in the designated pool, the outlet structure should be closely inspected to see whether it has settled from the original construction or there is leakage through joints or cracks. Finding no deficiencies with the structure, investigate the pond embankment as described in **Section 12.3.9** for evidence of seepage.
- If there is no evidence of seepage and the outlet structure has no apparent structural defects, an engineer should be consulted to review the pond design and determine the proper outlet elevation.





Helpful Skills:

- The ability to navigate uneven surfaces, to follow ditch banks and to sight drainage obstructions is implicit with this task.
- Ability to use a level to sight adequate elevation fall is helpful.

Equipment Typically Used for Pool Stability Evaluations

- Bright flashlight for pipe inspection
- Manhole hook for manhole cover access
- Brush hook to clear debris and walking surfaces
- Rod and level to check elevation differentials

12.3.12 Pool Quality

Applies Most Commonly To: Ponds/Wetlands

Problem #1: Littoral shelves and pond edge: not enough vegetation; vegetation *is unhealthy;* invasive plants have taken over

Ponds and Wetlands:



- If there is not enough vegetation or no vegetation, determine whether maintenance practices have killed the plants. If so, work with the owner to educate those responsible for pond maintenance on correct methods. Consult plans for original planting and replant.
- For emergent vegetation, determine whether water depths are too deep or shallow for survival (i.e., depths are different from design depths, or original design included improper vegetation).
- If a small amount of supplemental vegetation is needed, plant wetland plugs per nursery guidance.
- For large-scale plantings, drain the permanent pool and plant during the early spring. If ponds are overgrown so that less than 25% of the surface area is visible, the pond water level should be lowered to enable selective plant removal.
- Invasive plants, such as phragmites or common reed, should be removed with their roots. Be sure to restore areas that have been disturbed with replacement vegetation because root removal exposes soil to erosion. Invasive plants shall be properly disposed of in a manner that renders them non-living and non-viable to prevent the establishment, introduction or spread of disposed species.
- Native plants selected based on environmental conditions have the greatest chance for survival.
- Consult a horticulturalist or plant nursery if there is evidence of disease or pests.

Helpful Skills:

- Landscaping/gardening
- If original planting plan is deemed inadequate, consult a landscape architect or horticulturalist to determine whether a revised planting plan is needed.
- Knowledge of native plants and/or wetland plant nurseries in general region
- Familiarity with New York invasive terrestrial and wetland plants and their control: http://nyis.info/

Problem #2: Pond color, scum, odor, algae, and plant overgrowth



- Ponds that have algae covering more than 20% of the surface should have maintenance to remove it. Raking or mechanical harvesting of filamentous algae offers short-term control, but feasible long-term strategies should be considered.
- Pond maintenance companies should be relied on to identify the algae and appropriately control them. Pond specialists can control the algae growth in ponds, but its growth and reproduction are dependent on nutrients. When nutrients are in abundance, so will be the algae or vegetation.
- Plants can be used in shallow shelfs at inlets to take up nutrients. However, they must be maintained, and cuttings shall be removed to take nutrients out of the pond system.
- If (non-invasive) plants are overgrown, remove or trim back excessive vegetation. Remove cuttings and trimmings. Do not allow vegetative debris to remain in the pond.
- Pond clarity and color can be impacted by excessive sediment discharge or flow shortcircuiting. For issues of clarity and color, follow the recommendations in **Section 12.3.6**.
- If invasive aquatic plants are identified, follow DEC guidelines for reporting and controlling invasives (see **Section 12.3.8**).
- Some color, odor, and pond quality issues can be caused by leaks, spills, and other releases in the drainage area. Any petroleum odor or oily sheen (aside from natural rainbow sheen associated with decomposition of organic matter) should be reported to the appropriate state or local response agency. Other peculiar colors or odors can be investigated in collaboration with relevant agencies. Common issues are grease, paint, or other substances poured into storm drains, dumpster management, and stockpiles of various materials exposed to rainfall.

Helpful Skills:

- Ability to recognize invasive aquatic plants
- Specific measures may include mechanical hand pulling, regrading (requires construction equipment), or herbicide/pesticide application by a certified pesticide applicator. See DEC webpage for “Pesticide Applicator/Technician Guidance”.
- Knowledge of wetland plants and common types of algae and aquatic weeds
- Knowledge of types of pond maintenance practices

Equipment Typically Used for Pool Quality Investigations

- High-top rubber boots
- Canoes or small boats
- Brush hook to clear vegetation and access pond bank
- Secchi disk to check and compare pond color and clarity
- Large-mouth bottle to collect algae and water quality samples
- Various materials to control aquatic weeds and algae

Infiltration Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

IN Drainage Area

Look for both pervious and impervious areas that are uphill from the Infiltration cell.

Problem (Check if Present)		**Follow-Up Actions**
	☐ Bare soil, erosion of the ground (rills washing out the dirt)	☐ Seed and straw areas of bare soil to establish vegetation. ☐ Fill in erosion areas with soil, compact, and seed and straw to get vegetation established. ☐ If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. ☐ Other:

IN Drainage Area

Look for both pervious and impervious areas that are uphill from the Infiltration cell.

Problem (Check if Present)		Follow-Up Actions
		☐ Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths.
☐ For Dry Wells: Leaves, sticks, or other debris in gutters and downspouts		☐ Remove all debris by hand. ☐ Other:
	☐ Piles of grass clippings, mulch, dirt, salt, or other materials	☐ Remove or cover piles of grass clippings, mulch, dirt, etc. ☐ Other:
	☐ Open containers of oil, grease, paint, or other substances	☐ Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. ☐ Other:

IN Inlets

Look for all the places where water flows into the Infiltration practice.

Problem (Check if Present)	Follow-Up Actions
 ☐ Inlets are collecting grit and debris or grass/weeds are growing. Some water may not be getting into the Infiltration practice.	☐ Use a flat shovel to remove grit and debris (especially at curb inlets or openings). Parking lots generate fine grit that will accumulate at these spots. ☐ Pull out clumps of growing grass or weeds and scoop out the soil or grit that the plants are growing in. ☐ Remove any grass clippings, leaves, sticks, and other debris that is collecting at inlets. ☐ For pipes and ditches, remove sediment and debris that is partially blocking the pipe or ditch opening where it enters the Infiltration practice. ☐ Dispose of all material properly in an area where it will not re-enter the practice. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Inlets are blocked to the extent that most of the water does not seem to be entering the Infiltration practice.
☐ Some or all of the inlets are eroding so that rills, gullies, and other erosion is present, or there is bare dirt that is washing into the Infiltration practice.	☐ For small areas of erosion, smooth out the eroded part and apply rock or stone (e.g., river cobble) to prevent further erosion. Usually, filter fabric is placed under the rock or stone. ☐ In some cases, reseeding and applying erosion-control matting can be used to prevent further erosion. Some of these materials may be available at a garden center, but it may be best to consult a landscape contractor. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Erosion is occurring at most of the inlets and it looks like there is too much water that is concentrating at these points. The inlet design may have to be modified.

IN Infiltration Area

Examine the surface of the infiltration area and the observation well. Note: The following Problem and Follow-Up Actions apply to infiltration practice pretreatment areas also.

Problem (Check if Present)	Follow-Up Actions
 ☐ For grass-covered Infiltration practices: grass has grown very tall, *Photo credit: Stormwater Maintenance, LLC*	☐ Mow infiltration area at least twice per year. ☐ Other:
 ☐ For grass-covered Infiltration practices: sparse vegetation cover or bare spots	☐ Add topsoil (as needed), grass seed, straw, and water during the growing season to re-establish consistent grass coverage. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Sparse vegetation cover can be a sign that the infiltration area is not infiltrating at the proper rate and water is standing too long after a storm. The surface may be saturated or squishy, and the conditions do not enable grass to grow. This situation should be evaluated by a Level 2 Inspection and likely corrected by a qualified contractor.
☐ Minor areas of sediment, grit, trash, or other debris are accumulating on the surface.	☐ Use a shovel to scoop out minor areas of sediment or grit, especially in the spring after winter sanding materials may wash in and accumulate. Dispose of the material where it cannot re-enter the Infiltration practice. ☐ If removing the material creates a hole or low area, rake the surface smooth and level. ☐ Remove trash, debris, and other undesirable materials. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Sediment has accumulated more than 2-inches deep and covers 25% or more of the surface of the Infiltration area.

IN Infiltration Area

Examine the surface of the infiltration area and the observation well. Note: The following Problem and Follow-Up Actions apply to infiltration practice pretreatment areas also.

Problem (Check if Present)	Follow-Up Actions
 ☐ There is erosion on the surface; water seems to be carving out rills as it flows across the surface of the Infiltration area or sinkholes are forming in certain areas.	☐ For minor areas of erosion, try filling the eroded areas with clean topsoil, sand, or stone (whatever the existing cover is). ☐ If the problem recurs, you may have to use larger stone (e.g., river cobble) to fill in problem areas. ☐ Other: ☐ Kick-Out to Level 2 Inspection: The problem persists or the erosion is more than 3-inches deep and seems to be an issue with how water enters and moves through the infiltration area. ☐ Kick-Out to Level 2 Inspection: The problem does not seem to be caused by flowing water but a collapse or sinking of the surface (e.g., “sinkhole”) due to some underground problem.
 ☐ Observation well is damaged or cap is missing	☐ Kick-Out to Level 2 Inspection: Requires replacing pipes or caps.

IN Infiltration Area

Examine the surface of the infiltration area and the observation well. Note: The following Problem and Follow-Up Actions apply to infiltration practice pretreatment areas also.

Problem (Check if Present)	Follow-Up Actions
 ☐ Water still visible in the observation well more than 72 hours after a rain storm. The Infiltration practice does not appear to be draining properly.	☐ Kick-Out to Level 2 Inspection: This is generally a serious problem, and it will be necessary to activate a Level 2 Inspection.

IN Outlets

Locate and inspect all outlets.

Problem (Check if Present)	Follow-Up Actions
 ☐ Outlet obstructed with sediment, debris, trash, etc.	☐ Remove the debris and dispose of it where it cannot re-enter the infiltration area. ☐ Other:
	☐ Kick-Out to Level 2 Inspection: Outlet is completely obstructed; there is too much material to remove by hand or with simple hand tools.
☐ Rills or gullies are forming at outlet.	☐ For minor rills, fill in with soil, compact, and seed and straw to establish vegetation. ☐ Other:
	☐ Kick-Out to Level 2 Inspection: Rills are more than 2" to 3" deep and require more than just hand raking and re-seeding.

Additional Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Infiltration Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

Level 2 Inspection: INFILTRATION

Recommended Repairs	Triggers for Level 3 Inspection
Observed Condition: Water Stands on Surface for More than 72 Hours after Storm	
☐ Condition 1: Small pockets of standing water For infiltration basins with soil, use a soil probe or auger to examine the soil profile. For gravel infiltration trenches or basins, use a shovel to dig into the gravel layer where the problem is occurring. If isolated areas have accumulated grit, fine silt, or vegetative debris or have bad soil or clogged gravel, try removing and replacing with clean material. If the practice is supposed to have grass cover, it will likely be necessary to replant once the problem is resolved. ☐ Condition 2: Standing water is widespread or covers entire surface Look in the observation well (if it exists) and use a tape measure to estimate the depth of water standing in the soil or gravel. Requires diagnosis and resolution of problem: • Too much sediment/grit washing in from drainage area? • Too much ponding depth? • Improper infiltration media? • Underlying soil not suitable for infiltration? As above, the resolution will likely require replanting and re-establishment of good grass cover if this is part of the design.	• Infiltration media is clogged and problem cannot be diagnosed from Level 2 inspection. • Level 2 inspection identifies problem, but it cannot be resolved easily or it is associated with the original design of the practice. ☐ Level 3 Inspection necessary
Observed Condition: Severe erosion of infiltration bed, inlets, or around outlets	
☐ Condition 1: Erosion at inlets The lining (e.g., grass, matting, stone, rock) may not be adequate for the actual flow velocities coming through the inlets. First line of defense is to try a less erosive lining and/or extending the lining further down to where inlet slopes meet the infiltration surface. If problem persists, analysis by a Qualified Professional is warranted. ☐ Condition 2: Erosion of infiltration bed This is often caused by “preferential flow paths” along the surface. The source of flow should be analyzed and methods employed to dissipate energy and disperse the flow (e.g., check dams, rock splash pads).	• Erosion (rills, gullies) is more than 12 inches deep • The issue is not caused by moving water but some sort of subsurface defect, which may manifest as a sinkhole or linear depression and be associated with problems with the underlying stone or soil. ☐ Level 3 Inspection necessary

Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Pond and Wetland Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

PW Drainage Area

Look for areas that are uphill from the pond.

Problem (Check if Present)	**Follow-Up Actions**
☐ Bare soil, erosion of the ground (rills washing out the dirt)	☐ Seed and straw areas of bare soil to establish vegetation. ☐ Fill in eroded areas with soil, compact, seed and mulch with straw to establish vegetation. ☐ Other:

☐ Bare soil, erosion of the ground (rills washing out the dirt)	☐ Kick-Out to Level 2 Inspection: If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. ☐ If large areas of soil have been eroded or larger channels are forming, this may require rerouting of flow paths or use of an erosion-control seed mat or blanket to reestablish acceptable ground cover or anchor sod where it is practical.
 ☐ Piles of grass clippings, mulch, dirt, salt, or other materials	☐ Remove or cover piles of grass clippings, mulch, dirt, etc. ☐ Remove excessive vegetation or woody debris that can block drainage systems. ☐ Other:
 ☐ Open containers of oil, grease, paint, or other substances exposed to rain in the drainage area	☐ Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. ☐ Other:

Pond Inlets

Look for all areas where water flows into the pond during storms. Note that there may be multiple points of inflow and types of structures (e.g., pipes, open ditches, etc.).

Problem (Check if Present)	Follow-Up Actions
 ☐ Inlets are buried, covered or filled with silt, debris, or trash, or blocked by excessive vegetation.	☐ If the problem can be remedied with hand tools and done in a safe manner, remove vegetation, trash, woody debris, etc. from blocking inlet structures. ☐ Other: ☐ Kick-Out to Level 2 or 3 Inspection: If the amount of material is too large to handle OR there are ANY safety concerns about working in standing water, soft sediment, etc., the work will likely have to be performed by a qualified contractor.

Pond Inlets

Look for all areas where water flows into the pond during storms. Note that there may be multiple points of inflow and types of structures (e.g., pipes, open ditches, etc.).

Problem (Check if Present)		Follow-Up Actions
	☐ Inlets are buried, covered or filled with silt, debris, or trash, or blocked by excessive vegetation.	☐ Kick-Out to Level 2 or 3 Inspection: If the amount of material is too large to handle OR there are ANY safety concerns about working in standing water, soft sediment, etc., the work will likely have to be performed by a qualified contractor.
	☐ Inlets are broken, and, with pieces of pipe or concrete falling into the pond, there is erosion around the inlet, there is open space under the pipe, or there is erosion where the inlet meets the pond	☐ Kick-Out to Level 2 Inspection: These types of structural or erosion problems are more serious and will require a qualified contractor to repair.

PW Pond Area and Embankments

Examine both interior and exterior pond banks as well as the pond body. Observe from the inlet pipes to the outfall structure and emergency overflow.

Problem (Check if Present)		Follow-Up Actions
	☐ The pretreatment area(s) or forebay(s) are filled with sediment, trash, vegetation, or other debris.	☐ If the problem can be remedied with hand tools and done in a safe manner, use a flat shovel or other equipment to remove small amounts of sediment. ☐ Remove trash and excessive vegetation from forebays if this can be done in a safe manner. ☐ Other:

PW Pond Area and Embankments

Examine both interior and exterior pond banks as well as the pond body. Observe from the inlet pipes to the outfall structure and emergency overflow.

Problem (Check if Present)		Follow-Up Actions
	☐ The pretreatment area(s) or forebay(s) are filled with sediment, trash, vegetation, or other debris.	☐ Kick-Out to Level 2 Inspection: Large amounts of sediment or debris will have to be removed by a qualified contractor. ANY condition that poses a safety concern for working in standing water or soft sediments should be referred to a Level 2 Inspection or qualified contractor.
	☐ The pond area itself has accumulated sediment, trash, debris, or excessive vegetation that is choking the flow of the water, OR the pond area is covered with algae or aquatic plants.	☐ Level 1 includes handling only small amounts of material that can be removed by hand, or with rakes or other hand tools. Do not attempt any repair that poses a safety issue. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Most cases will call for a Level 2 Inspection and/or a qualified contractor. ☐ You are not sure what type and amount of vegetation is supposed to be in the pond. ☐ The algae or aquatic plants should be identified so that proper control techniques can be applied.
	☐ The side slopes of the pond are unstable, eroding, and have areas of bare dirt.	☐ If there are only minor areas, try filling in small rills or gullies with topsoil, compacting, and seeding and mulching all bare dirt areas with an appropriate seed. Alternatively, try using herbaceous plugs to get vegetation established in tricky areas, such as steep slopes. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Erosion and many bare dirt areas on steep side slopes will require a Level 2 Inspection and repair by a qualified contractor.

PW Pond Area and Embankments

Examine both interior and exterior pond banks as well as the pond body. Observe from the inlet pipes to the outfall structure and emergency overflow.

Problem (Check if Present)		Follow-Up Actions
 	☐ The riser structure is clogged with trash, debris, sediment, vegetation, etc., OR is open, unlocked, or has a steep drop and poses a safety concern. The pond level may have dropped below its "normal" level.	☐ If you can safely access the riser on foot or with a small boat, clear minor amounts of debris and remove it from the pond area for safe disposal. ☐ Other: ☐ Kick-Out to Level 2 Inspection: The riser cannot be accessed safely, the amount of debris is substantial, or the riser seems to be completely clogged and the water level has risen too high. ☐ There are safety issues with the riser and concern about access to pipes, drops, or any other life safety concern. ☐ The riser is leaning, broken, settling or slumping, corroded, eroded or any other structural problem.
	☐ The dam/embankment is slumping, sinking, settling, eroding, or has medium or large trees growing on it.	☐ If there are small isolated areas, try to fix them by adding clean material (clay and topsoil) and seeding and mulching. ☐ Periodically mow embankments to enable inspection of the banks and to minimize establishment of woody vegetation. ☐ Remove any woody vegetation that has already established on embankments. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Most of these situations will require a Level 2 Inspection or evaluation and repair by a qualified contractor. Seepage through the dam or problems with the pipe through the dam can be a serious issue that should be addressed to avoid possible dam failure.

PW Pond Area and Embankments

Examine both interior and exterior pond banks as well as the pond body. Observe from the inlet pipes to the outfall structure and emergency overflow.

Problem (Check if Present)		Follow-Up Actions
	☐ The emergency spillway or outfall (if it exists) has ☐ Erosion, settlement, or loss of material. Rock-lined spillways have excessive debris or vegetation.	☐ Clear light debris and vegetation. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Displacement of rock lining, excessive vegetation and erosion/settlement may warrant review and decision by Level 2 Inspector to check against original plan. ☐ Any uncertainty about the integrity of the emergency spillway should be referred to a Level 2 Inspector. ☐ Erosion or settlement such that design has been compromised should be reviewed by an engineer.

PW Pond Outlet

Examine the outlet of the pipe on the downstream side of the dam/embankment where it empties into a stream, channel, or drainage system.

Problem (Check if Present)	Follow-Up Actions
 ☐ The pond outlet is clogged with sediment, trash, debris, vegetation, or is eroding, caving in, slumping, or falling apart.	☐ If there is a minor blockage, remove the debris or vegetation to allow free flow of water. ☐ Remove any accumulated trash at the outlet. ☐ Outlet: ☐ Kick-Out to Level 2 Inspection: ☐ If the area at the outlet cannot be easily accessed or if the blockage is substantial, a Level 2 Inspection is warranted. ☐ Erosion at and downstream of the outfall should be evaluated by a qualified professional. ☐ Any structural problems, such as broken pipes, structures falling into the stream, or holes or tunnels around the outfall pipe, should be evaluated by a Level 2 Inspector and will require repair by a qualified contractor. ☐ The pool of water at the outlet pipe is discolored, has an odor, or has excessive algae or vegetative growth.

Additional Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Pond and Wetland Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

Level 2 Inspection: PONDS and WETLANDS

Recommended Repairs and Required Skills	Triggers for Level 3 Inspection
Observed Condition: Bare Soil or Erosion in the Drainage Area	
☐ Condition 1: Extensive problem spots, but no channels or rills forming Reseed problem areas. If problem persists or grass does not take, consider hiring a landscape contractor. ☐ Condition 2: Problem is extensive, and rills/channels are beginning to form May be necessary to divert or redirect water that is causing the erosion problem. If it appears that simple regrading—such as installing a berm or leveling a low spot–will fix the problem, make repairs and ensure that the problem is repaired after the next storm.	• Large rills or gullies are forming in the drainage area. • An attempt to regrade the drainage area has been unsuccessful. • Fixing the problem would require major regrading (i.e., redirecting more than a 100-square-foot area. • It is not clear why the problem is occurring. ☐ Level 3 inspection necessary
Observed Condition: Manholes or Inlet Pipe Buried or Covered with Vegetation	
☐ Condition 1: Nearest manhole and inlet pipe not found Consult as-built drawings to get to closest suspected location and use metal detector to search for metal manhole cover. If unsuccessful, identify nearest drain inlets and approximate pipe direction to locate next manhole. ☐ Condition 2: Manhole located and inspected Never enter a manhole, except by following confined-space entry protocols. If outlet pipe is not visible or greater than 25% full of sediment/debris or trash, it will typically require a qualified contractor to flush, clean and clear blockages. ☐ Condition 3: Inlet pipe not found at pond Clear vegetation and brush that may be covering the inlet pipe. Buried inlet pipes may be found through use of a metal probe. ☐ Condition 4: Inlet pipe buried in sediment or blocked by vegetation Once located, the pipe path can be cleared of vegetation with brush hook or other brush tools. Light digging may clear sediment from the end of the pipe.	• To locate buried manholes and lost storm lines, it is sometimes necessary to hire a pipeline inspection contractor with televising equipment or ground-penetrating radar and enter at the closest upstream access point. • Locating a buried inlet pipe may require wading in the edge of the pond and using a metal probe and brush axe to find and expose the pipe. • If other than light digging is necessary to remove accumulated sediment, a contractor with heavy equipment may be required. ☐ Level 3 inspection necessary

Level 2 Inspection: PONDS and WETLANDS	
Recommended Repairs and Required Skills	**Triggers for Level 3 Inspection**
Observed Condition: Pipe or Headwall Settlement, Erosion, Corrosion or Failure	
☐ Condition 1: Pipe or headwall settlement or failure Severe sinkholes, settlement or corrosion should be kicked out to Level 3 Inspection. ☐ Condition 2: Flow not confined to pipe and visible outside pipe wall With flashlight, observe the inside of the pipe and note its condition. Take photographs. Look for sinkholes developing that indicate pipe failure beneath the surface. Kick out to Level 3 inspection.	• Where blockages are visible, a decision is needed on whether to clear them or leave in place. If a third of the pipe is full of sediment, it should be removed by a contractor with pipe-cleaning equipment. • Corrosion of inlet pipes that allows flow around the pipe exterior is a structural concern because it can lead to settlement, sinkholes and undermining pond embankment. Evidence of this type of failure may require specialized pipe-inspection equipment and investigation by an engineer. ☐ Level 3 inspection necessary
Observed Condition: Pond Conditions	
☐ Condition 1: Pond pre-treatment zone is full of sediment or not constructed as shown on as-built drawings. ☐ Condition 2: Excessive buildup of sediment or overgrowth If the pre-treatment area or pond pool is overgrown or filled with sediment so that the original design is compromised, corrective measures are required. If plants have died, then replanting is necessary. If none of the original design exists due to alteration or sediment, kick out to Level 3 inspection.	• It may require inspection by an engineer to determine next steps for clearing, replanting or reconstruction. • Erosion or settlement such that design has been compromised should be reviewed by an engineer. Recurring erosion may require redesign and/or regrading to direct flow away from eroding area. • If sediment has filled more than 50% of the pond's capacity, dredging is likely needed and should be evaluated by a qualified contractor. • Removal or control of excessive algae or aquatic plants can be assessed by a qualified pond maintenance company. ☐ Level 3 inspection necessary

Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

APPENDIX M
Post-Construction SMP Inventory

VILLAGE OF HEAD OF THE HARBOR
2024 STORMWATER MANAGEMENT PROGRAM PLAN
POST-CONSTRUCTION SMP INVENTORY LOG

Tax Map #	Address	Type	Frequency of Inspection of Post-Construction SMPs
0801-006.00-01.00-007.004 0801-004.00-02.00-006.003 0801-004.00-02.00-006.004	Stony Brook Harbor &Wetlands	Multiple Ponds & Wetland	Twice annually
0801-006.00-01.00-030.008	18 Harbor Road, St. James, NY	Pocket Wetland/Rain Garden	Twice annually
0801-004.00-01.00-001.000	Hitherbrook Rd & Harbor Rd, St James, NY	Pond/Wetland	Twice annually
0801-005.00-02.00-034.008	North Country Rd & Mill Pond Rd, St James	Pocket Wetland	Twice annually
801-001.00-02.00-017.000	Saddle Rd & Rhododendron Rd, Stony Brook, NY	Pond/Wetland	Twice annually
0801-001.00-02.00-036.001	Harbor Rd & Mill Creek Rd, Stony Brook, NY	Pond/Wetland	Twice annually
0801-008.00-02.00-023.000	9 Buckingham Ct, St James, NY	Recharge Basin	Twice annually

APPENDIX N
Monitoring Locations Inspection and Sampling Program

VILLAGE OF HEAD OF THE HARBOR MONITORING LOCATIONS INSPECTION AND SAMPLING PROGRAM

This section of the Village SWMP Plan was prepared in accordance with Part VI.C of the MS4 General Permit, which requires municipalities to develop and implement a Monitoring Locations Inspection and Sampling Program. This section is to ensure compliance with the MS4 General Permit and the Village's stormwater local laws, Chapter 85, "Erosion and Drainage", Chapter 165, Article XX, "Stormwater Management", and Chapter 166, "Illicit Discharges to Storm Sewers". The purpose of this program is to verify adequate functionality and safety for existing structures, prevent potential failures, and track changes of the structure over time to allow for maintenance and risk mitigation.

MONITORING LOCATIONS INSPECTION AND SAMPLING PROCEDURES

The MS4 General Permit requires the Village to perform monitoring locations inspections and sampling. These procedures were established by the Village of Head of the Harbor utilizing the Environmental Protection Agency's 2021 Industrial Stormwater Monitoring and Sampling Guide in conjunction with Chapter 12.6 of the 2004 IDDE Guidance Manual from Center for Watershed Protection, which are both attached as additions to this Appendix. The Village procedures include the following:

1. During dry weather, one (1) inspection of each monitoring location identified in the inventory every five (5) years following the most recent inspection. The Village of Head of the Harbor currently has four (4) drainage outfalls within its jurisdiction.
2. Documentation of all monitoring location inspections, including any sampling results, using the Monitoring Locations Inspection and Sampling Field Sheet (found in Appendix P) or an equivalent form containing the same information.
3. Sample all monitoring locations which had inspections that resulted in a suspect or obvious illicit discharge characterization.
    a. The sampling requirement is based on the number and severity of physical indicators present in the flow to better inform track down procedures. If the source of the illicit discharge is clear and discernable (e.g., sewage), sampling is not necessary.
    b. Sampling may be done with field test kits or field instrumentation that are sufficiently sensitive to detect the parameter below the sampling action level used and are not subject to 40 CFR Part 136 requirements for approved methods and certified laboratories.
4. Initiate track down procedures for monitoring locations with an overall characterization as suspect illicit discharge or obvious illicit discharge or that exceed any sampling action level used.
5. Re-inspect the monitoring location within thirty (30) days of initial inspection if there is a physical indicator not related to flow, potentially indicative of intermittent or transitory discharges, utilizing techniques described in Chapter 12.6 of the 2004 IDDE Guidance Manual.
    a. If those same physical indicators persist, the Village must initiate illicit discharge track down procedures.

VILLAGE OF HEAD OF THE HARBOR MONITORING LOCATIONS INSPECTION AND SAMPLING PROGRAM

TRAINING PROVISIONS FOR MONITORING LOCATIONS INSPECTION AND SAMPLING

The MS4 General Permit requires any individuals conducting monitoring locations inspection and sampling procedures to be trained on the procedures prior to conducting any inspections or maintenance. To satisfy this request, the Village conducted internal training utilizing the Environmental Protection Agency's 2021 Industrial Stormwater Monitoring and Sampling Guide in conjunction with Chapter 12.6 of the 2004 IDDE Guidance Manual from Center for Watershed Protection. This training is to be completed by staff once every five (5) years and/or as new staff are added. The following table shows the list of trained employees that conduct illicit discharge track down procedures:

TITLE	NAME	PHONE	EMAIL	DATE
Building Inspector	Robert O'Shea	T (631)-584-5602 F (631)-862-1417	hohbuilding@yahoo.com	
Village Engineer	Daniel Falasco	T (631)-584-5550 F (631)-862-1417	Dan.falasco@outlook.com	
Highway Director	Frank Prinzevalli	T (631)-584-3701 F (631)-862-1417	frankprinzehoth@gmail.com	

APPENDIX N.a
Environmental Protection Agency's 2021 Industrial Stormwater Monitoring and Sampling Guide







EPA 832-B-09-003

Industrial Stormwater Monitoring and Sampling Guide

April 2021



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Section 1: Introduction

This guide is a how-to primer for industrial facility operators on how to conduct visual assessments and analytical monitoring of stormwater discharges. The target audience is operators of facilities subject to the U.S. Environmental Protection Agency's (EPA) 2021 Multi-Sector General Permit (2021 MSGP) or a similar state- or territory-issued industrial stormwater permit. The information presented will also be useful to anyone interested in industrial stormwater monitoring.

What Does the 2021 MSGP Cover?

The 2021 MSGP covers specific industrial activities (see Appendix D of the 2021 MSGP, available at https://www.epa.gov/npdes/stormwater-discharges-industrial-activities-epas-2021-msgp) in states, territories, and Indian Country lands where EPA is the National Pollutant Discharge Elimination System (NPDES) permitting authority (i.e., in those states or territories not authorized to issue NPDES permits themselves – see Appendix C of the 2021 MSGP).

The procedures presented in this guide, specifically related to monitoring methodology and quality assurance, will help ensure that stormwater samples yield usable information.

This guide does not impose any new legally binding requirements on EPA, states, tribes, territories, or the regulated community, and does not confer legal rights or impose legal obligations upon any member of the public. In the event of a conflict between the discussion in this document and any statute, regulation, or permit, this document would not be controlling.

Interested parties are free to raise questions and objections about the substance of this guide and the appropriateness of the application of this guide to a particular situation. EPA and other decision makers retain the discretion to adopt approaches on a case-by-case basis that differ from those described in this guide where appropriate.

1.A Introduction to Stormwater Monitoring and Sampling

Most industrial stormwater permits require installation and implementation of control measures to minimize or eliminate pollutants in stormwater discharged from your facility. The control measures you choose for your facility must be documented in your facility-specific Stormwater Pollution Prevention Plan (SWPPP). For more information on how to develop a SWPPP, refer to EPA's guide *Developing Your Stormwater Pollution Prevention Plan: A Guide for Industrial Operators*, available on EPA's website at https://www.epa.gov/npdes/industrial-stormwater-guidance. The results of your stormwater monitoring will help you determine the effectiveness of your control measures, and overall stormwater management program. Evaluation of your stormwater management program will include routine facility inspections, visual assessments, and monitoring (i.e., sampling) of specified stormwater discharges. Regular stormwater inspections and visual assessments provide

Monitoring vs. Sampling

In this guide, "sampling" refers to the actual, physical collection and analysis of stormwater samples. The term "monitoring" refers to both sampling and visual observations of stormwater discharges, including the related preparation and documentation tasks.

qualitative information on whether there are unaddressed potential pollutant sources at your site, and whether existing stormwater control measures (SCMs) are effective or need to be reevaluated. Stormwater sampling provides quantitative (i.e., numeric) data to determine pollutant concentrations in stormwater discharge and, in turn, the degree to which your SCMs are effectively minimizing contact between stormwater and pollutant sources, and the success of your stormwater control approach in meeting applicable discharge requirements or effluent limits.

The following are the types of industrial stormwater monitoring requirements typically included in industrial stormwater general permits:

- **Visual Assessments of Stormwater Discharges.** Operators are required to regularly and frequently (e.g., quarterly under the 2021 MSGP) take a grab sample during a storm event (or in the case of snowmelt, during a period with a measurable discharge), and assess key visual indicators of stormwater pollution – color, odor, clarity (diminished), floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution. The findings of these assessments are used to trigger corrective actions to modify deficiencies found at the site.
- **Indicator Monitoring.** Stormwater samples are collected, either as a composite or with a grab sampling method, from a site's discharge point(s) for analysis and results are used to provide a baseline and comparable understanding of industrial stormwater discharge quality and potential water quality problems. For instance, the 2021 MSGP requires indicator monitoring of stormwater discharges for pH, total suspended solids (TSS), and chemical oxygen demand (COD) for certain sectors/subsectors and for polycyclic aromatic hydrocarbons (PAHs) for certain sectors/activities. This type of monitoring differs from "benchmark monitoring" (see below) in that the monitoring is "report only" and does not include thresholds or baseline values for comparison, therefore no follow-up action is triggered or required. Operators may find it useful to evaluate and compare indicator monitoring data over time to identify any fluctuating values and why they may be occurring, and to further inform any revisions to their SWPPP or SCMs if necessary.
- **Benchmark Monitoring.** Stormwater samples are collected, either as a composite or with a grab sampling method, from a site's discharge point(s) for laboratory analysis and the results are compared with benchmark thresholds as an indicator of the overall effectiveness of SCMs. A benchmark threshold is a level above which a stormwater discharge could adversely affect receiving water quality and, below which the facility is not expected to have an impact on receiving water quality. This type of monitoring differs from "effluent limitations monitoring" (see below) in that exceedances of the benchmark thresholds are not considered violations, but rather "red flags" that could point to a problem at the site with exposed pollutant sources or SCMs that are not working correctly. For instance, the 2021 MSGP includes "benchmarks" that are based, to a large degree, on EPA's aquatic life criteria. If an annual average exceeds an applicable benchmark threshold, additional implementation measures (AIM) are triggered for that benchmark parameter. AIM responses include

Required Monitoring

For an explanation of these monitoring requirements in the 2021 MSGP see Part 4.2. Part 8 of the 2021 MSGP includes the indicator, benchmark, and ELG monitoring requirements for each of the industrial sectors affected by such requirements.

evaluating the SWPPP and SCMs to determine if modifications to existing measures or implementation of additional measures is necessary, and conducting additional benchmark monitoring to ensure the modified or additional SCMs bring exceedances below the benchmark threshold.

- **Effluent Limitations Monitoring.** Where a facility is subject to one of the Federal effluent limitations guidelines (ELGs) addressing limits on stormwater discharges, sampling is required to determine compliance with those limits. Table 1 provides a list of the current applicable ELGs.

Table 1. Applicable Effluent Limitations Guidelines

Regulated Activity	40 CFR Part/Subpart
Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas	Part 429, Subpart I
Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished product, by-products or waste products (SIC 2874)	Part 418, Subpart A
Runoff from asphalt emulsion facilities	Part 443, Subpart A
Runoff from material storage piles at cement manufacturing facilities	Part 411, Subpart C
Mine dewatering discharges at crushed stone, construction sand and gravel, or industrial sand mining facilities	Part 436, Subparts B, C, or D
Runoff from hazardous waste landfills	Part 445, Subpart A
Runoff from non-hazardous waste landfills	Part 445, Subpart B
Runoff from coal storage piles at steam electric generating facilities	Part 423
Runoff containing urea from airfield pavement deicing at existing and new primary airports with 1,000 or more annual non-propeller aircraft departures	Part 449

These limits are required to be included in all general industrial stormwater permits. Typically, permits require corrective action and further sampling when an effluent limitation is exceeded. An exceedance of an applicable ELG constitutes a violation of the permit.

- **State, Territorial, or Tribal Required Monitoring.** General industrial stormwater permits may include state-, territorial-, or tribal-specific monitoring requirements. For instance, Part 9 of the 2021 MSGP includes monitoring requirements applicable to states, Indian Country, or territories.
- **Impaired Waters Monitoring.** General industrial stormwater permits may have special monitoring requirements for facilities that discharge pollutants of concern into impaired waters.

Discharge to an Impaired Water

Appendix A of the 2021 MSGP defines discharge to an impaired water as follows: A discharge to an impaired water occurs if the first water of the U.S. to which you discharge is identified by a state, tribe, or EPA as not meeting an applicable water quality standard, and requires development of a total maximum daily load (TMDL) (pursuant to Section 303(d) of the Clean Water Act), or is addressed by an EPA-approved or established TMDL, or is not in either of the above categories but the waterbody is covered by pollution control requirements that meet the requirements of 40 CFR 130.7(b)(1).

Section 2: Preparation for Monitoring

This section describes the information you will need before conducting stormwater monitoring. While this guide is meant to be a general primer for anyone interested in industrial stormwater monitoring, Section 2 follows the organization of the 2021 MSGP. If you are subject to a state industrial stormwater general permit, you may compare your permit's monitoring requirements to the requirements reflected in this guide to ensure that you are following all applicable state--specific requirements.

In general, preparation is critical to make sure that industrial stormwater monitoring is conducted properly and in a timely manner. Most of this information should have been collected previously for the purposes of submitting your Notice of Intent (NOI), and in developing the monitoring procedures section of your SWPPP. However, this guide reviews some of the steps necessary to develop this information, such as the site map component of the SWPPP, in case facilities have not already done so. If you have already completed any of these steps in this section, you can skip to the next applicable section or subsection in this guide. For more information on how to develop a SWPPP, refer to EPA's guide *Developing Your Stormwater Pollution Prevention Plan: A Guide for Industrial Operators*, available on EPA's website at https://www.epa.gov/npdes/industrial-stormwater-guidance.

If you have already submitted your NOI, the following documents will serve as good resources for information that you will need prior to monitoring:

- A copy of the NOI submitted to EPA or your state, along with any correspondence exchanged between you and the permitting authority specific to permit coverage.
- A copy of the authorization correspondence you received from the EPA or your state assigning your NPDES ID.
- A copy of your applicable permit, including the accompanying fact sheet.
- A complete copy of your SWPPP, which must include a detailed site map of your facility with locations of all stormwater monitoring points, and a description of the procedures you or your stormwater pollution prevention team will follow when conducting monitoring and visual assessments.

2.A Determine Where Stormwater Is Discharged From Your Property

If you have not already done so, walk the grounds and perimeter of your facility during a storm event to identify where stormwater discharges from the site (known as "discharge points"). Discharge points are locations where stormwater exits the facility property, including pipes, ditches, swales, and other structures that transport stormwater. If possible, walk outside the boundary of your facility to identify discharge points that may not be apparent from within your site.



Figure 1. Stormwater discharges to the slot drain and is conveyed offsite through a valved pipe.

You should note where:

- Concentrated stormwater exits your facility (e.g., through a pipe, ditch, swale, or similar conveyance). These outlets are usually good sampling points.
- Dispersed stormwater (i.e., sheet flow) flows offsite (e.g., through a grassy area or across a parking lot). Note whether concentrated flows commingle with the sheet flow.
- Storm drain inlets or catch basins are located. Try to determine where the storm drains send your stormwater (e.g., to your municipal separate storm sewer system [MS4], to a combined sewer system, to the separated sanitary sewer, or directly to a nearby waterbody).
- Authorized non-stormwater discharges commingle with stormwater prior to discharge (such commingled discharges may be covered under your permit).
- Run-on might enter your facility from neighboring facilities and commingle with your stormwater discharges.

Mark these locations on your facility site map, which will be included as part of your SWPPP, and label each discharge point with a unique identification code (e.g., 001, 002) to differentiate them. Using unique identifiers will help you to coordinate monitoring requirements.

In addition to marking the discharge points on the map, you will need to determine the drainage area for each discharge point. If your facility is large and has significant changes in elevation, a topographic map may be necessary. However, if your facility is small and relatively flat, the best way to define the drainage area for each discharge point is an on-the-ground visual assessment, preferably during a rain event. Sketch the basic drainage areas on the map for each discharge point. Knowing the drainage area for each discharge point is helpful when your sampling indicates problems at that discharge point. You can focus your efforts on the industrial materials and activities in that drainage area, instead of the entire site, to identify what may be causing the problem.

Terms to Know:

Combined Sewer System: Combined sewer systems are sewers that are designed to collect rainwater runoff, domestic sewage, and industrial wastewater in the same pipe. Most of the time, combined sewer systems transport all of their wastewater to a sewage treatment plant, where it is treated and then discharged to a water body. During periods of heavy rainfall or snowmelt, however, the wastewater volume in a combined sewer system can exceed the capacity of the sewer system or treatment plant. For this reason, combined sewer systems are designed to overflow occasionally and discharge excess wastewater directly to nearby streams, rivers, or other water bodies.

MS4: A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) which are owned and operated by a … public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes … that discharges to waters of the United States; designed or used for collecting or conveying stormwater; which is not a combined sewer; and which is not part of a publicly owned treatment works (POTW). [40 CFR 122.26(b)(8)].

2.B Determine Where You Will Collect Samples

Now that you have determined the different points of discharge from your site, you will need to select the exact locations from which you will be collecting your stormwater samples. Note that Part 6.2.5.3.b of the 2021 MSGP requires industrial operators to document in their SWPPPs the location where samples will be collected. Generally, industrial stormwater permits require that you sample stormwater discharges prior to the stormwater leaving your facility, and at a location downstream from all of your industrial materials and activities. The reason behind requiring such a location is so that the sample is representative of your facility's discharge, taking into account the types of pollutants that may be contained in stormwater discharged from the property.

Appropriate sample locations include:

Underground pipes that collect stormwater from drop inlets and convey stormwater to an offsite location (e.g., street, curb, or MS4). Be sure you collect only the stormwater discharging from your facility and not the baseflow in the pipes that is being discharged from facilities upstream. Do not enter underground locations to collect samples. Use a pole with a sampling container attached at the end to collect the sample.



Figure 2. Sewer drain.



Figure 3. Open ditch/gutter.

Open ditches, gutters, or swales that carry stormwater from your facility to an offsite location. If these conveyances contain run-on from another facility, it is important to note that in your SWPPP.

Facility driveways and other street access points.



Figure 4. Facility street access point.



Figure 5. Outlet discharging from detention pond.

Outlets discharging offsite from onsite stormwater detention ponds or other types of structural control measures. It is important to sample at the OUTLET of your structural control measures, as opposed to the INLET of such structures, in order to determine the quality of the water after treatment.

Where to Sample When There Are Multiple Discharge Points

You are required to monitor all discharge points that receive stormwater discharges from your industrial activity. See Part 4.1.1 of the 2021 MSGP. If you have multiple stormwater discharge points at your facility, you need to identify which discharge points are associated with industrial materials and activities and monitor those discharge points. Understanding the hydrologic connection between your discharge points and the parts of your facility that drain to those points, and the pollutants associated with the industrial activities in these areas, will assist you in designing a monitoring program that is representative of the pollutants being discharged from your site. Developing such an understanding will also help later on when you begin to assess your sampling results and determine where improvements could be made to your SCMs. The site map you prepare (see Part 6.2.2.3 of the 2021 MSGP) will help you understand the correlation between your areas of potential pollutant sources, the direction of stormwater flow from those areas, and the discharge points.

Note that you are not required to monitor at discharge points that receive stormwater flow only from unregulated areas of your site (i.e., there are no industrial materials or activities in the drainage area). For instance, a hypothetical facility may have two discharge points, one that receives discharges from an area where industrial materials are handled and stored, and a second discharge point that receives discharges from an unregulated parking lot used by employees. In this scenario, the industrial operator would only collect samples from the first discharge point because it discharges stormwater associated with industrial activity.

Alternatively, if the site's second discharge point (e.g., the discharge point receiving stormwater from the parking lot) also drains areas of the facility with regulated industrial activities, then this discharge point would also need to be sampled. In this situation, sampling for this discharge point should be done at a location prior to where the two flows commingle so that you are capturing the industrial portion of the flow. See Part 4.1.2 of the 2021 MSGP.

Where to Sample if Discharge Points Are Substantially Identical

If your facility has two or more discharge points whose discharges are "substantially identical," some industrial stormwater permits, including the 2021 MSGP, allow you to monitor the discharge at just one representative discharge point and apply the results to the other substantially identical discharge points (SIDPs). EPA defines "substantially identical" in Part 4.1.1 of the 2021 MSGP as:

> "…two or more discharge points that you believe discharge substantially identical effluents, based on the similarities of the general industrial activities and control measures, exposed materials that may significantly contribute pollutants to stormwater, and runoff coefficients of their drainage areas…."

The flexibility provided to operators to sample at just one location, which is considered representative of all SIDPs, is an exception to the rule stated above that samples must be taken from all discharge points at a facility. Note that this exception does not apply to effluent limitations monitoring, which must be conducted at each discharge point to which the ELG applies.

In choosing which of the SIDPs from which to sample, you should select the discharge point that has been observed to have the most consistent flow. To use the SIPD exception, you must document in your SWPPP how the two or more discharge points are substantially identical, based on the above definition. You will need to document the following information:

- The locations of each of the SIDPs;
- Description of the general industrial activities conducted in the drainage area of each discharge point;
- Description of the control measures implemented in the drainage area of each discharge point;
- Description of the exposed materials located in the drainage area of each discharge point that are likely to be significant contributors of pollutants to stormwater discharges;
- An estimate of the runoff coefficient of the drainage areas (low = under 40%; medium = 40 to 65%; high = above 65%); and
- Why the discharge points are expected to discharge substantially identical effluents.

The runoff coefficient is the fraction of total rainfall that will appear at the conveyance as runoff. See 40 CFR 122.26(b)(11).

Here is an example where a facility could take advantage of the SIDP exception: a metal recycling facility with a large scrap metal pile has three separate discharge points that are each connected by their own drainage ditch to different portions of the same pile, and the stormwater that is discharged is managed using the same type of control measure in each drainage area. In this scenario, the facility's operator can use the SIDP exception because the industrial activities at the site are all the same, the stormwater discharge flows through exposed areas that presumably contribute the same type of pollutants, and the drainage area has the same or similar runoff coefficients. Note that the SIDP exception could not be used if there were in fact differences in any of the required components defined above.

If your permit does allow you to use a SIDP exception, make sure you carefully review the type of monitoring for which this exception applies. For instance, while the 2021 MSGP allows operators to use the SIDP exception for benchmark and visual assessment samples, the permit prohibits use of this exception for effluent limit monitoring (e.g., for use in showing compliance with numeric ELGs). Therefore, if a facility permitted under the 2021 MSGP is subject to a numeric limit based on an EPA ELG, it would have to monitor all discharge points at the site receiving flows from the applicable industrial activities. See Part 4.2.3.2 of the 2021 MSGP.

Where to collect a sample

Sampling Sheet Flow

In some areas of your facility it may be difficult to obtain a sample because the stormwater drains as sheet flow before it becomes concentrated enough for sampling. If the flow is too shallow to directly fill a collection bottle, you can overcome this by:

Option A. Concentrating the sheet flow by excavating a small basin in an existing ditch or other location where stormwater runoff flows.

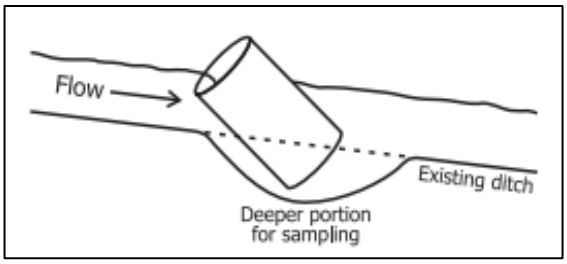


Figure 6. Deepening an existing ditch can allow samples to be collected directly into bottles in some cases. Be careful not to stir up solids from the sides or bottom of the ditch.

Option B. Installing a barrier device or trough, gutter, or ditch to intercept and concentrate stormwater flow.

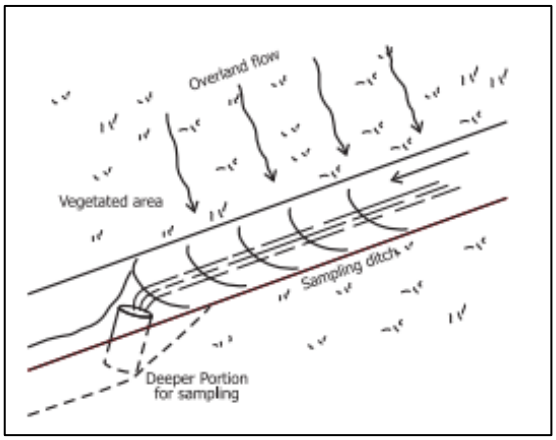


Figure 7. Overland flow from vegetated areas can be sampled by constructing a shallow ditch to intercept the runoff and a deepened area to place bottles to catch the runoff.

Option C. Constructing "speed bumps" to convey and concentrate a large area of sheet flow.

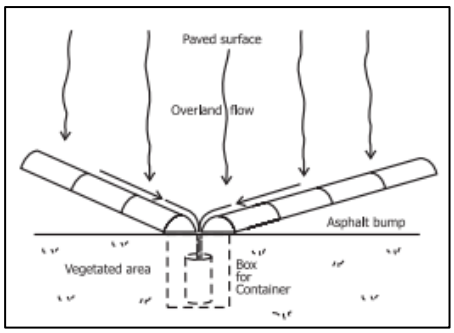


Figure 8. Overland flow on paved areas can be sampled by constructing asphalt or concrete bumps to collect and concentrate the flow. A box positioned below ground surface in the paved area or the edge of an unpaved area can provide a place to collect samples directly into bottles.



Figure 9. Collecting a sheet flow stormwater sample.

You should make these modifications during a period when rain is not forecast so any pollutants generated from the modification to consolidate sheet flow can be cleaned up before a storm hits. Also, if you dig a ditch or disturb the earth in some way, line the disturbance with concrete or plastic so that you do not contaminate your stormwater samples with sediment or other pollutants.

When collecting any type of stormwater sample it is imperative that the sample is collected before the stormwater reaches the receiving water.

Sampling from a Pipe

For stormwater discharge flowing through a pipe into a ditch or receiving water, you should sample the outflow directly

from the pipe. For hard-to-reach pipes, it may be necessary to fasten a collection bottle to a pole (see Figure 10 below).

Sampling from a Drainage Ditch or Swale

If your stormwater is discharged via a drainage ditch or vegetated swale, take a grab sample from a consistently flowing part of the ditch/swale. If the ditch/swale is too small or shallow, install a barrier device in the channel or deepen a small area so you are able to sample directly into the bottles. Allow sufficient time to pass after disturbing the bottom so that any solids stirred up do not contaminate your sample.

Sampling from a Stormwater Detention/Retention Basin or Other Treatment Device

If it is necessary for you to sample from a detention or retention basin, do so at the discharge point of the structure. Collecting samples from stagnant or slowly moving water inside a pond will not yield a representative sample as the pollutants might not be adequately mixed. Stormwater basins may hold stormwater for long periods of time. Collect your sample within 30 minutes from when the pond begins to discharge.

Potential Sampling Issues

Depending on your monitoring locations, you may encounter additional challenges beyond deciding which sampling technique to employ at each site. Table 2 identifies some stormwater sampling problems common to industrial facilities and guidance for how EPA suggests you address them if they occur at your site.

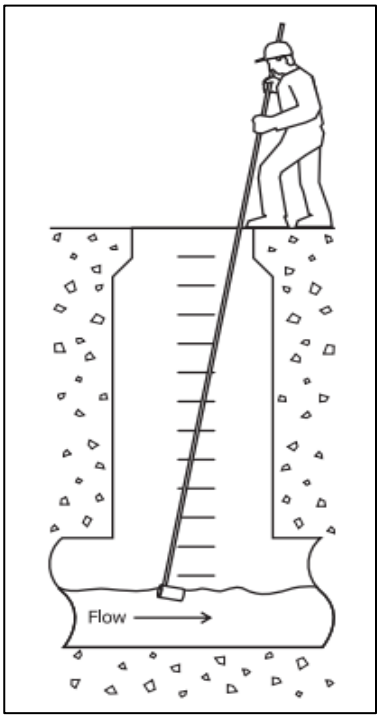


Figure 10. When sampling from a manhole, use a pole to safely sample from above ground.

Avoid touching the sides *of* the manhole or pipes with the bottle to prevent contamination. Place the opening of the bottle upstream so that the flow enters the bottle directly.

Table 2. Solutions to Typical Stormwater Sampling Problems

Problem	Solution
Run-on from Neighboring Properties	Ideally, your stormwater samples will contain only stormwater discharge from your site. However, stormwater from a neighboring facility can "run on" and commingle with your own regulated discharge, possibly adding contaminants not found at your facility. You are responsible for any and all pollutants discharged from your site irrespective of the pollutants' origin and whether the other facility has permit coverage. This responsibility includes run-on discharges from neighboring properties if this discharge commingles with your own regulated discharge. To accommodate stormwater run-on, EPA requires as part of the SWPPP site description that you document the locations and sources of run-on. As part of this documentation, if you collect and analyze samples of the run-on, you will need to report all such findings in your SWPPP.

Problem	Solution
Stormwater from industrial areas commingles with stormwater discharges from non-industrial areas or areas not regulated under the 2021 MSGP before it reaches the surface water body or MS4.	Attempt to sample the industrial stormwater discharge before it mixes with stormwater from non-industrial areas.
Adverse Weather Conditions	High tides and high flow or flood conditions can cause stormwater conveyances to reach maximum capacity, pipes to become clogged or submerged, and other unrepresentative flow situations. High flows could also be dangerous, so you should use your best professional judgment when selecting sampling locations. In some cases you may need to sample at a point before the intended discharge point.
There are numerous stormwater discharge points in one area.	Construct an impound channel or join together flows by building a weir or digging a ditch to collect discharge at a low point for sampling purposes. This artificial collection point should be lined with plastic to prevent infiltration and the introduction of sediment. Or, alternatively, sample at several locations to represent total stormwater discharged from the site.
The discharge point is inaccessible (examples include underwater discharges or unreachable discharges such as a pipe discharging out of a cliff).	Go upstream of the discharge until a sample can be taken (i.e., to the nearest manhole or inspection point). You may need to sample at several locations to best represent stormwater discharge from this discharge point if you cannot access an upstream location.
A facility has many sampling locations making it difficult to collect all of the samples during the first 30 minutes of discharge, as required by the 2021 MSGP.	Have a sampling crew ready when storms are forecast so that all discharge points can be sampled during the first 30 minutes. Also, automatic samplers may be used to collect samples within the first 30 minutes, triggered by the amount of rainfall, the depth of flow, flow volume or time.
A stormwater sample location is beneath a manhole.	For accessibility and safety, use a sampling pole to collect samples from a manhole. Before a person can enter a manhole to collect a sample, they must be trained in confined space entry.
Stormwater from more than one industry type is commingled.	You must comply with monitoring requirements for all applicable sectors and standard industrial classification (SIC) codes.

2.C Determine Which Types of Monitoring Requirements Apply at Each Discharge Point

The next step in preparing for monitoring at your site is to determine the type of monitoring requirements that correspond to each discharge point. The type of monitoring requirements to which you are subject will differ according to your permit. Different monitoring requirements may also apply to individual discharge points on your property based on the type of industrial activity discharging to that point, and even the receiving water to which you are discharging. Using your permit, determine the type of monitoring requirements to which your specific facility is subject, and document in your SWPPP the specific monitoring requirements that apply to each discharge point, including the frequency of monitoring and the specific parameters that must be monitored.

Recall that it is not necessary to monitor a discharge point if it does not have any industrial activity associated with it (e.g., discharge from an employee parking lot that does not commingle with stormwater discharge from an area of industrial activity).

The following applies to the types of monitoring required under the 2021 MSGP. If you are not subject to the 2021 MSGP, consult your state or territory permit to determine your monitoring requirements.

Visual Assessments (Part 3.2 of the 2021 MSGP) – All 2021 MSGP operators are required to collect samples of their stormwater discharge for visual inspection. The following water quality characteristics must be assessed:

- color;
- odor;
- clarity (diminished);
- floating solids;
- settled solids;
- suspended solids;
- foam;
- oil sheen; and
- other obvious indicators of stormwater pollution.

Visual assessments must be conducted at all discharge points, although if several discharge points are "substantially identical" then only one visual assessment must be conducted on the set of discharge points. The sampling frequency for visual assessments under the 2021 MSGP is quarterly. The monitoring quarters are: January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31. For facilities located in an area where limited rainfall occurs during many parts of the year or in an area where freezing conditions exist that prevent discharges from occurring for extended periods, samples for the quarterly visual assessments may be distributed during seasons when precipitation occurs more regularly.

Exceptions to the quarterly visual assessment requirements can be made in the following circumstances:

1. Adverse Weather Conditions (See Part 3.2.4.1)
2. Climates with Irregular Stormwater Discharges (See Part 3.2.4.2)
3. Areas that Receive Snow (See Part 3.2.4.3)
4. Inactive and Unstaffed Facilities (See Part 3.2.4.4)

Indicator Monitoring (Part 4.2.1 of the 2021 MSGP) – The 2021 MSGP includes indicator monitoring for pH, TSS, and COD for certain subsectors (See 2021 MSGP for applicability). The 2021 MSGP also includes indicator monitoring, for certain sectors, for the 16 individual PAHs identified at Appendix A to 40 CFR Part 423: naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, benzo[g,h,i]perylene,

indeno[1,2,3-c,d]pyrene, and dibenz[a,h]anthracene (see 2021 MSGP for applicability). Evaluation of these parameters will inform future considerations of any benchmark monitoring.

As applicable, the required indicator monitoring frequency for pH, TSS, and COD under the 2021 MSGP is quarterly and the required indicator monitoring frequency for PAHs is bi-annually (i.e., twice per year) in the first and fourth years of permit coverage. For both types of indicator monitoring, monitoring begins in the first full quarter of permit coverage.

Benchmark Monitoring (Part 4.2.2 of the 2021 MSGP) – This type of analytic monitoring applies to certain industrial sectors regulated under the 2021 MSGP. Operators subject to these requirements must take periodic samples of their stormwater discharge to compare the concentrations to their corresponding benchmark thresholds. The benchmark thresholds are based in large part on EPA's aquatic life water quality criteria and are meant to serve as indicators of the overall effectiveness of a facility's stormwater control efforts. If a particular benchmark threshold is exceeded, this indicates to an operator that there may be a problem at the site, such as a spill, exposed pollutant source, or a faulty control measure, and triggers Additional Implementation Measures (AIM) which involve review of the SWPPP and SCMs to determine if modifications are necessary, and implementation of additional measures that would reasonably be expected to bring the exceedances below the benchmark threshold. For example, a total suspended solids (TSS) concentration found in a benchmark sample of greater than 100 mg/L, which is the applicable benchmark threshold for TSS, would require a facility to re-evaluate and potentially revise control measures implemented to control dust, soil erosion, or other sources of suspended solids. Note that the exceedance of the benchmark is not a violation (because benchmarks are typically not enforceable limits), but the failure to conduct the follow-up investigation and applicable AIM responses would be a violation of the permit.

Be sure to update your SWPPP and site map whenever you change or add new control measures. Control measure maintenance activities must be documented (preferably in a log), and such records must be kept with your SWPPP and stormwater file.

Determine whether you are subject to any benchmark monitoring requirements based on your particular industrial sector or subsector. The benchmark monitoring requirements differ based on the sector or subsector under which a particular facility falls. Note that not all sectors are subject to this type of monitoring. Appendix D in the 2021 MSGP provides the Standard Industrial Classification (SIC) code and activity codes categorized by sectors and subsectors. Use Appendix D to link your industrial activities with their associated SIC code sectors/subsectors. Your facility will have a primary industrial activity and associated SIC or activity code (which is the major determinant of your permit requirements), and, possibly, additional secondary sectors/subsectors with additional requirements for which you must comply. Next, using Part 8 of the 2021 MSGP, under your particular sector or subsector, determine whether you are subject to any benchmark monitoring requirements, and the corresponding benchmark that applies. Consider the following example: if you operate a gold mine (subsector G2) you are subject in Part 8.G.8.3 to the following benchmark monitoring requirements:

Table 3. Example Benchmark Monitoring Requirements for Subsector G2

Subsector (Discharges may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Subsector G2. Iron Ores; Copper Ores; Lead and Zinc Ores; Gold and Silver Ores; Ferroalloy Ores, Except Vanadium; and Miscellaneous Metal Ores (SIC Codes 1011, 1021, 1031, 1041, 1044, 1061, 1081, 1094, 1099) (Note: when analyzing hardness for a suite of metals, it is more cost effective to add analysis of calcium and magnesium, and have hardness calculated than to require hardness analysis separately)	Total Suspended Solids (TSS)	100 mg/L
	Turbidity	50 NTU
	pH	6.0-9.0 s.u.
	Hardness (as $CaCO_3$; calc. from Ca, Mg)[2]	no benchmark value
	Total Recoverable Antimony	640 µg/L
	Total Recoverable Arsenic (freshwater)	150 µg/L
	Total Recoverable Arsenic (saltwater)[1]	69 µg/L
	Total Recoverable Beryllium	130 µg/L
	Total Recoverable Cadmium (freshwater)[2]	Hardness Dependent
	Total Recoverable Cadmium (saltwater)[1]	33 µg/L
	Total Recoverable Copper (freshwater)	5.19 µg/L
	Total Recoverable Copper (saltwater)[1]	4.8 µg/L
	Total Recoverable Lead (freshwater)[2]	Hardness Dependent
	Total Recoverable Lead (saltwater)[1]	210 µg/L
	Total Recoverable Mercury (freshwater)	1.4 µg/L
	Total Recoverable Mercury (saltwater)[1]	1.8 µg/L
	Total Recoverable Nickel (freshwater)[2]	Hardness Dependent
	Total Recoverable Nickel (saltwater)[1]	74 µg/L
	Total Recoverable Selenium (freshwater)	1.5 µg/L for still/standing (lentic) waters; 3.1 µg/L for flowing (lotic) waters
	Total Recoverable Selenium (saltwater)[1]	290 µg/L
	Total Recoverable Silver (freshwater)[2]	Hardness Dependent
	Total Recoverable Silver (saltwater)[1]	1.9 µg/L
	Total Recoverable Zinc (freshwater)[2]	Hardness Dependent
	Total Recoverable Zinc (saltwater)[1]	90 µg/L

[1] Saltwater benchmark values apply to stormwater discharges into saline waters where indicated.
[2] The freshwater benchmark values of some metals are dependent on water hardness (see Appendix J of the 2021 MSGP).

Based on this table, you then know the pollutant parameter for which you must conduct benchmark monitoring, and the corresponding benchmark threshold against which you will compare each individual sample. Each sector or subsector subject to benchmark monitoring requirements includes a similar table in Part 8 of the 2021 MSGP.

After you have determined which (if any) benchmark sampling requirements apply, document in your SWPPP which discharge points are subject to such requirements, the frequency of monitoring, and the parameters that must be analyzed. If your facility has multiple discharge points, be aware that there may be different requirements for different discharge points depending on the type of industrial activity conducted in the drainage area of each discharge

point. You are only required to conduct benchmark monitoring for those discharge points with discharges from the specific sectors/subsectors that are affected by such requirements. Where a discharge point includes no discharges from those sectors or subsectors for which benchmark monitoring requirements apply, then no benchmark samples need to be taken at that discharge point.

The required benchmark monitoring frequency under the 2021 MSGP is quarterly in the first and fourth years of the permit. The monitoring quarters, beginning with the first full quarter following either May 30, 2021 or a facility's discharge authorization date are: January 1 – March 31, April 1 – June 30, July 1 – September 30, and October 1 – December 31.

Exceptions for Facilities in Climates with Irregular Stormwater Discharges (Parts 4.2.1.2 and 4.2.2.4 of the 2021 MSGP) – The monitoring schedule for indicator or benchmark monitoring may be modified for facilities in climates with irregular stormwater discharges, provided facilities report the revised schedule to EPA by the due date of the first indicator/benchmark sample. For benchmark monitoring, when conditions prevent a facility from obtaining four samples in four consecutive quarters, monitoring must be continued until the four samples required for calculating the benchmark monitoring average have been collected.

Exceptions for Inactive and Unstaffed Facilities (Parts 4.2.1.3 and 4.2.2.5 of the 2021 MSG) – The requirement for indicator or benchmark monitoring does not apply to inactive and unstaffed facilities, providing there are no industrial materials or activities exposed to stormwater. This exception only applies to indicator and benchmark monitoring requirements and not to the other types of monitoring described above.

To invoke this special exemption, you must do the following:

- Maintain a statement with your SWPPP stating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to stormwater in accordance with the substantive requirements in 40 CFR 122.26(g) and sign and certify the statement in accordance with Appendix B, Subsection 11 [of the 2021 MSGP].
- If circumstances change and industrial materials or activities become exposed to stormwater or your facility becomes active and/or staffed, this exception no longer applies and you must immediately begin complying with the applicable indicator/benchmark monitoring requirements under Part 4.2.2 [of the 2021 MSGP] as if you were in your first year of permit coverage. You must indicate in your NOI that your facility has materials or activities exposed to stormwater or has become active and/or staffed.
- If you are not qualified for this exception at the time you are authorized under this permit, but during the permit term you become qualified because your facility is inactive and unstaffed, and there are no industrial materials or activities that are exposed to stormwater, then you must notify EPA of this change on your NOI form. You may discontinue indicator/benchmark monitoring once you have notified EPA and prepared and signed the certification statement described above concerning your facility's qualification for this special exception.

Note: This exception has different requirements for Sectors G, H, and J (see Part 8.G.8.5, Part 8.H.9.1, and Part 8.J.9.1 of the 2021 MSGP, respectively).

Hardness-Dependent Benchmarks (Appendix J of the 2021 MSGP) – The benchmark thresholds for some metals are dependent on the level of hardness in your receiving water(s) (see 2021 MSGP, Appendix J). Hardness is a characteristic of water that results from the presence of dissolved salts, especially calcium sulfate or bicarbonate, and is usually reported as carbonate, noncarbonate or calcium + magnesium (Ca + Mg). If you are required to monitor for a hardness-dependent pollutant, you must first determine the hardness of your receiving water before you can establish the corresponding benchmark threshold.

Effluent Limitations Monitoring (Part 4.2.3 of the 2021 MSGP) – Nine of the 2021 MSGP's 30 industrial sectors are required to monitor to determine if they comply with EPA-defined effluent limitation guidelines. These monitoring requirements are included in Part 8 of the 2021 MSGP. Effluent limitation guidelines are legally enforceable limitations that must not be exceeded in stormwater discharges.

Similar to the benchmark monitoring requirements, samples only need to be taken at those discharge points with discharges from the specific activities that are subject to effluent limitation guidelines; otherwise these requirements do not apply. As stated previously, operators subject to these monitoring requirements must take samples at all applicable discharge points, and no exceptions are given for substantially identical discharge points (SIDPs). However, if you are required to monitor a pollutant both for benchmark and effluent limitation guideline purposes, you only need to take one sample for both requirements.

When monitoring requirements overlap, e.g., TSS once per year for an effluent limit and once per quarter for benchmark monitoring, you may use a single sample to satisfy both monitoring requirements (i.e., one of your four quarterly benchmark samples would be used for your yearly effluent limit sample).

Table 4 identifies the industrial activities that are subject to effluent limitation guideline monitoring requirements and the associated sampling parameters. Effluent limitation guideline samples must be taken once per year (see Part 8 of the 2021 MSGP for the numerical values of each effluent limit).

Table 4. Required Monitoring for Effluent Limitations Guidelines

Regulated Activity	Where in 2021 MSGP	Sector	Effluent Limit Parameters
Discharges resulting from spray down or intentional wetting of logs at wet deck storage areas	Part 8.A.8	A	pH, debris
Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished product, by-products or waste products (SIC 2874)	Part 8.C.5	C	total phosphorus (as P), fluoride
Runoff from asphalt emulsion facilities	Part 8.D.5	D	total suspended solids (TSS), pH, oil and grease
Runoff from material storage piles at cement manufacturing facilities	Part 8.E.6	E	TSS, pH
Mine dewatering discharges at crushed stone, construction sand and gravel, or industrial sand mining facilities	Part 8.J.10	J	TSS, pH

Regulated Activity	Where in 2021 MSGP	Sector	Effluent Limit Parameters
Runoff from hazardous waste landfills	Part 8.K.7	K	biochemical oxygen demand (BOD_5), TSS, ammonia, alpha terpineol, aniline, benzoic acid, naphthalene, p- cresol, phenol, pyridine, total arsenic, total chromium, total zinc, pH
Runoff from non-hazardous waste landfills	Part 8.L.11	L	BOD_5, TSS, ammonia, alpha terpineol, benzoic acid, p-cresol, phenol, total zinc, pH
Runoff from coal storage piles at steam electric generating facilities	Part 8.O.8	O	TSS, pH
Runoff containing urea from airfield pavement deicing at existing and new primary airports with 1,000 or more annual non- propeller aircraft departures.	Part 8.S.9	S	ammonia as nitrogen

Determine whether you are subject to any effluent limitation guideline monitoring requirements. Document in your SWPPP which discharge points are subject to such requirements, the frequency of monitoring, and the parameters that must be analyzed.

State, or Tribal Required Monitoring (Part 4.2.4 of the 2021 MSGP) – The 2021 MSGP includes a number of additional monitoring requirements that are unique to individual states, Indian Country lands, and territories. These requirements are set out in Part 9 of the permit. These requirements may include additional or more frequent benchmark monitoring requirements, alternative benchmark thresholds, or additional parameters that must be monitored to establish compliance with applicable water quality standards.

Based on the state, Indian Country land, or territory in which they are located, each 2021 MSGP operator must consult the applicable Part 9 section to determine what, if any, additional monitoring requirements apply. If you are subject to such requirements, you must document in your SWPPP which discharge points are subject to these provisions, the frequency of applicable sampling, and the parameters that must be monitored. If a monitoring frequency is not specified for an applicable requirement in Part 9, you must monitor once per year for the duration of permit coverage.

Impaired Waters Monitoring (Part 4.2.5 of the 2021 MSGP) – The 2021 MSGP requires facilities to monitor annually in the first year of permit coverage), for the presence of any pollutant causing an impairment to their receiving water. If a pollutant causing an impairment is detected, annual monitoring must continue, otherwise, required annual monitoring ceases and resumes in the fourth year of permit coverage for one year for those pollutants that are both causing impairments and are associated with the industrial activity and/or are a required benchmark parameter for the operator's subsector(s). In advance of conducting impaired waters monitoring, you should already have a good idea of whether the pollutant will be found in your discharge. When you developed your SWPPP, you conducted a complete inventory of your site to determine what pollutants or pollutant constituents could be discharged in stormwater. See Section 3.A of EPA's guide, *Developing Your Stormwater Pollution Prevention Plan: A Guide for Industrial Operators*, particularly the discussion about conducting an "Inventory of Materials and

Pollutants" available on EPA's website at https://www.epa.gov/npdes/industrial-stormwater-guidance. Using this inventory from your SWPPP, you will be able to determine if any materials stored or used at your facility could contribute to impairment of your receiving water.

The next section of this guide includes specific steps to help you determine if you are subject to impaired waters monitoring requirements. After following those steps, document in your SWPPP which discharge points are subject to impaired waters monitoring requirements, the frequency of sampling, and the parameters that must be monitored.

Additional Monitoring Required by EPA (Part 4.2.6 of the 2021 MSGP) **–** It is possible EPA may require additional monitoring. EPA will notify you if they determine additional monitoring is necessary to meet the permit's effluent limitations.

2.D Determine if Your Facility is Subject to Impaired Waters Monitoring Requirements

If you are required by your industrial stormwater permit to monitor for pollutants that cause impairment to your receiving water, you must first identify the receiving waters (e.g., ditch, creek, intermittent stream, lake, arroyo, etc.) into which your facility discharges stormwater and mark them on your site map. Note that you will have already identified your receiving waters if you filed an NOI to be covered by the 2021 MSGP.

Identify Your Receiving Water(s)

Do these monitoring requirements apply to me if I discharge into a dry ditch?

Yes, if the ditch eventually conveys the stormwater to a water of the United States.

There are several ways to identify your receiving waters. Your receiving water may be a lake, stream, river, ocean, wetland or other waterbody, and may or may not be located adjacent to your facility. Your facility might discharge directly into its receiving water, or indirectly to the receiving water by discharging first through an MS4, ditch, or other conveyance.

If the discharge from your facility does not discharge into an underground storm sewer system, you can use your site map and local topographic maps to pinpoint the closest waterways. Using the contours on the topographic map and your facility's outfall locations, determine the direction stormwater discharge flows from your facility. Once you know the direction of flow, you should be able to identify the receiving waters into which you discharge and the name of the receiving water of the United States that receives stormwater from the discharge point. If, for instance, you discharge stormwater into a unnamed tributary that enters a water of the United States, you

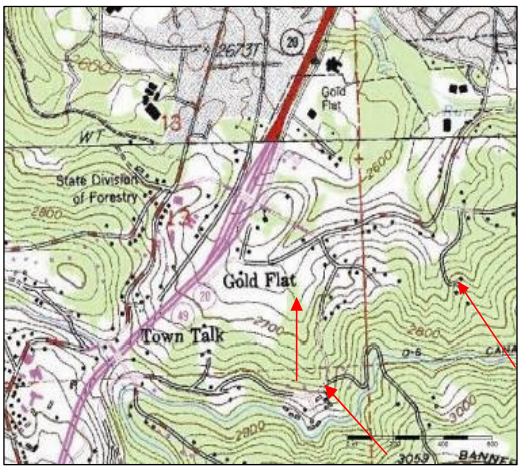


Figure 11. Sample section of a U.S. Geological Survey (USGS) quadrangle map, with arrows showing direction of flow.

could identify "unnamed tributary of the Brown River" with Brown River being the water of the United States.

After identifying where your stormwater enters a waterbody, identify any additional interconnected waters for at least one linear mile downstream from the entrance point of your discharge (in case there are concerns about impacts to these downstream waters).

Resources to help you identify receiving waters:

- How's My Waterway? (available at https://mywaterway.epa.gov) provides information about the condition of local waters based on data that states, federal, tribal, local agencies, and others have provided to EPA. Water quality information is displayed at a community, state, and national level.
- EPA's Stormwater Discharge Mapping Tools (available at https://www.epa.gov/npdes/epas-stormwater-discharge-mapping-tools) allows you to determine the receiving waters to which your facility discharges and whether they are considered "impaired" under section 303(d) of the Clean Water Act.
- EPA's EnviroMapper (available at https://enviro.epa.gov/enviro/em4ef.home) enables you to find nearby waterbodies by entering your facility's zip code, city, county state, tribe, address, facility name or identification number, EPA Region, watershed, or latitude/longitude data. Additional information on the location of impaired waterbodies can also be obtained by selecting the 'more info' link in the impaired streams or the impaired waterbodies attribute.
- Topographic maps, which can be obtained from the U.S. Geological Survey (USGS) National Map website at http://nationalmap.gov/, or through a retailer.

  If your stormwater drains into an MS4, you will likely need to contact the operator of the system (e.g., the local public works department, the highway department, etc.) to identify the first receiving water your stormwater is released to after entering the MS4. Some MS4s have their storm sewer infrastructure maps available online.

> Remember, the MS4 into which your facility's stormwater discharges is NOT your receiving water for purposes of your industrial stormwater permit. Identify the first waterbody that the MS4 discharges to after receiving your stormwater and name the receiving water of the United States that it flows. For instance, the Oak City MS4 to the Brown River where the Brown River is the water of the United States.

Determine if Your Receiving Water is Impaired and Whether a TMDL Has Been Completed

Once you have identified your receiving water(s), you will need to find out if the waterbody is impaired, and, if so, whether a total maximum daily load (TMDL) has been approved or established.

"Impaired waters" are waters identified by a state, tribe, or EPA as not meeting an applicable water quality standard, and require development of a total maximum daily load (TMDL) (pursuant to Section 303(d) of the Clean Water Act), or are addressed by an EPA-approved or established TMDL, or are covered by pollution control requirements that meet the requirements of 40 CFR 130.7(b)(1).

States, territories, and authorized tribes are required under the Clean Water Act to compile lists of known impaired waters, called 303(d) lists. Stormwater discharges to impaired waters may trigger additional control measures and monitoring requirements. For facilities subject to EPA's 2021 MSGP, see Part 2.2.2 for a more detailed discussion of water quality-based effluent limitations and conditions for discharging to impaired waters.

- **Water quality impairment status.** You need to determine whether your facility's receiving water is listed by your state, tribe, or EPA as impaired and/or has an approved or established Total Maximum Daily Load (TMDL). EPA's How's My Waterway? tool (available at https://mywaterway.epa.gov) will help identify impaired receiving waters in the vicinity of your facility. Another place to check is EPA's website on Impaired Waters and TMDLs (https://www.epa.gov/tmdl/resources-tools-and-databases-about-impaired-waters-and-tmdls) or you can also contact your State water agency (https://www.epa.gov/npdes/contact-us-general-information-about-npdes).

If your receiving water is impaired, use EPA's How's My Waterway tool or Impaired Waters and TMDLs website, or a State agency to help you determine:

- For what pollutant(s) is the water impaired? Make a separate list of all pollutants that have caused your waterbody to be impaired.
- Has an approved TMDL been completed for each of the pollutants? Some TMDL documents include information suggesting the type of monitoring that should be conducted to improve the understanding of the impairment or to demonstrate achievement of applicable wasteload allocations (WLAs).

Determine What Monitoring Requirements Apply

Having determined the pollutants that cause the impairment, you should now consult your permit to determine the type of monitoring that must be conducted, the frequency of monitoring, and whether any exceptions apply to certain pollutants. As discussed in Section 2.C above, this must all be documented in your SWPPP so that it is clear which requirements apply to which discharge point.

The 2021 MSGP lists several exceptions to and clarifications of the requirement to monitor for each impairment pollutant. In Part 4.2.5.1 of the 2021 MSGP, the permit clarifies that no monitoring is required when a waterbody's biological communities are impaired but no pollutant, including indicator or surrogate pollutants, is specified as causing the impairment, or when a waterbody's impairment is related to hydrologic modifications, impaired hydrology, or other non-pollutant. The permit also clarifies that monitoring is only required for pollutants or surrogates for which a standard analytical method exists as defined in 40 CFR Part 136. In addition, certain exceptions exist that enable the operator to be excused from impaired waters monitoring after the first and fourth years.

- If the pollutant for which the waterbody is impaired is not associated with your industrial activity or listed as a benchmark parameter for your subsector(s) you do not need to monitor for that pollutant in the fourth year of the permit term.
- If sampling results in the first or fourth year indicated the monitored pollutant is detected in your discharge, but you have determined that its presence is caused solely by natural background sources, you may discontinue monitoring for that pollutant for the duration of permit coverage.

Both the parameters that must be sampled and the frequency of monitoring for impairment pollutants may be subject to state-, Indian Country land-, or territory-specific requirements. Therefore, each 2021 MSGP operator must also consult Part 9 of the permit when determining which impaired waters sampling requirements apply.

2.E What Type of Storm Events Qualify for Monitoring

In addition to understanding which monitoring requirements apply and where, it is also critical to develop an understanding of what type of discharge event you will be sampling. Under the 2021 MSGP, two preconditions must be met before a storm or snowmelt event is considered adequate to be monitored (see Part 4.1.3 of the 2021 MSGP).

- The storm/snowmelt event must create an actual discharge from your site ("measurable storm event"). This storm event will vary based on numerous factors at your site, the most obvious being the actual size and duration of the storm event. However, the amount of impervious surface at your facility will impact this as well. If your facility is covered mostly by grass or another type of vegetation with only a small amount of paved surfaces or roofs, it will take a larger storm to create a discharge from your site than it would at a facility that is entirely paved. Another factor affecting whether and how frequently you have a measurable storm event will be how frequently rain occurs at your facility and the size of the most recent storms. Saturated soil will generate a stormwater discharge more quickly than dry soil; however, VERY dry soil can also become compacted and become nearly impervious to rain, thereby converting precipitation to runoff quickly as well. You will need to pay attention to your facility's particular characteristics to develop an understanding of what type of rain events or snowmelt results in a discharge.
- At least 72 hours (three days) must have elapsed since the previous measurable storm event (unless you are able to document that less than a 72-hour (3-day) interval is representative for local storm events during the sampling period, or if you are monitoring snowmelt consistent with Part 3.2 [Quarterly Visual Assessments] of the 2021 MSGP).

In order to properly characterize rain events at your facility, it is a good idea to begin by documenting each event as part of your facility's routine maintenance activities. You can purchase a simple rain gauge and keep a notebook handy in order to document the dates on which rain occurred and the amount of rain that fell. You should also consider documenting whether or not an actual discharge from your facility occurred for each rain event. Tracking rainfall amounts and discharge information will help you to better predict which storm events will be measurable and result in a discharge.

In order to be prepared to take advantage of storms that will result in a "measurable storm event":

- Be familiar with local precipitation trends, storm patterns, and seasonal variations.
- Check weather forecasts so you can prepare to sample upcoming precipitation events.
- In addition to your local television news and the Weather Channel, you can get weather information online from http://www.wrh.noaa.gov (National Weather Service) and http://www.weather.com.

Note: You should try to collect both benchmark samples and visual monitoring samples concurrently so you can compare visual observations with the laboratory results and reduce your field activities burden.

- *What To Do If You Are Unable To Sample* – EPA acknowledges there may be times you are unable to complete required monitoring. The following are guidelines on how you should deal with such times.
- *Areas with Intermittent Stormwater Discharge* **–** If your facility experiences limited rainfall for extended periods of the year (i.e., in arid or semi-arid climates), or freezing conditions that often prevent stormwater discharge from occurring, then the quarterly monitoring events may be distributed during seasons when discharging does occur. If you are unable to collect four samples in one year because of insufficient discharge, document this fact in your SWPPP and continue quarterly monitoring until you have collected four samples.
- *Snowmelt Sampling* – If you are located where appreciable snow is common, one of your samples must include the capture of snowmelt discharge. If, however, you experience prolonged subfreezing temperatures, you may only be able to acquire a sample once over two quarters. You will then have to complete the monitoring requirements as above.
- *Adverse Weather Conditions* **–** When adverse weather prevents sampling per your monitoring schedule, you must sample during the next qualifying storm event. Adverse conditions are those that are dangerous or create inaccessibility for personnel, caused by such things as flooding, high winds, electrical storms or situations that otherwise make sampling impractical (e.g., drought or extended frozen conditions).

2.F Select the Monitoring Team

Ideally, the pollution prevention team consists of at least one individual from each shift so that a team member is always present during normal operating hours.

Identify the members of your facility's pollution prevention team (which you identified in your SWPPP) who will collect samples and conduct visual assessments of discharges. To be considered as a member of the monitoring team, applicable staff must be familiar with the SWPPP, especially the site plan, the layout of the facility, potential pollutant sources, and the monitoring and reporting program. They also need to possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at your facility, and to be able to evaluate the effectiveness of control measures.

Typically, monitoring staff are based near the site to enable them to be available on short notice to sample storm events.

It is also important that monitoring staff understand and follow all quality assurance/quality control (QA/QC) techniques and procedures to ensure that the data is good. You should discuss

these techniques with your laboratory prior to taking samples and properly train all sampling staff.

2.G Select a Laboratory to Analyze the Samples

Your stormwater samples will need to be analyzed for the parameters you identified in section 2.C by a qualified laboratory. Laboratories must use the approved methodologies found at 40 CFR Part 136 and return a report with chemical concentrations including data quality assurance information.

Things to discuss with the laboratory

- What type and size of bottle will be provided for each test?
- How full do I fill the bottle?
- Are there any safety concerns with materials provided by the laboratory?
- What is the best way to preserve the samples?
- What kind of labels will be supplied and how should I fill them out?
- Will the lab deliver the supplies or do I need to pick them up?
- What are the maximum holding times for each water quality parameter to be sampled?
- Will the laboratory provide pH paper? Samples need to be tested for pH within 15 minutes of collection to be valid, typically in the field.
- Will the laboratory pick up the samples from my facility or do I need to deliver them?
- Can you walk me through filling out the chain-of-custody forms?
- Is the quantitation limit for each parameter less than the benchmark threshold or effluent limitation concentration?*
- *The quantitation limit is the minimum concentration of a parameter that the lab can accurately report using a particular method.

EPA recommends that you select a laboratory that is a participant in the EPA's Discharge Monitoring Report - Quality Assurance (DMR-QA) Program, and, if possible, be approved by the National Environmental Laboratory Accreditation Program (NELAP). NOTE: for ELG compliance monitoring, participation in DMR-QA is a minimum requirement.

- A comprehensive list of NELAP-approved laboratories can be found at: https://lams.nelac-institute.org.
- To ensure your chosen laboratory is eligible and reliable, you may want to request documentation showing they are certified to analyze environmental samples, and evidence they participate in DMR-QA or other performance evaluation testing results.

You should ask the laboratory about any additional services and products they offer, such as:

- pre-labeled bottles and pre-printed chain-of-custody forms;
- training on sample collection, documentation and data interpretation;
- sampling and courier services; and
- complete sampling kits which include bottles, packing materials, bottle labels, coolers and chain- of-custody forms; many laboratories provide free sampling kits.

2.H Document Inspection, Assessment, and Monitoring Procedures in Your SWPPP

Ensure your inspection, assessment, and monitoring procedures are correctly documented in your SWPPP (see 2021 MSGP Parts 6.2.5.2 and 6.2.5.3). The required information includes:

- Procedures for performing routine facility inspections and quarterly visual inspections.
- Procedures for conducting the six types of analytical stormwater discharge monitoring (indicator monitoring, benchmark monitoring, effluent limitations guidelines monitoring, state- or tribal-specific monitoring, impaired waters monitoring, and other monitoring as required by EPA), where applicable to your facility.
- Information to support exception for inactive and unstaffed facilities for indicator, benchmark, or impaired waters monitoring, if applicable.
- Information to support exception for quarterly visual assessment requirements or indicator, benchmark, or impaired waters monitoring requirements for SIDPs, if applicable.

Figure 12 is an example of a completed MSGP Industrial Stormwater/Snowmelt Monitoring Summary Form. You should fill out this form (Appendix A) with the sampling locations and monitoring requirements that apply to your facility and include a copy in your SWPPP.

Benchmark Levels and ELGs					
Industry Sector	Pollutant	Benchmark Level	ELG		
			Daily Max	Monthly Average	Instant Min/Max
D	TSS	100	23	15	
D	Oil and Grease		15	10	
D	pH				6 - 9
E2	Iron	1			
E2	TSS	100	50		
E2	pH				6 - 9

Sample Summary								
Outfall Identifier	Industry Sector (SIC)	Basis	Frequency	Timing	Total Suspended Solids (SM 2540D)	pH	Oil and Grease (EPA Method 1664A)	Iron (EPA Method 200.9)
e.g. 001-A	Sector D (SIC 2951)	Benchmark	1/Quarter	1st wk of month	✓	✓	✓	
e.g. 001-A	Sector D (SIC 2951)	ELG	1/year	January	✓			
e.g. 001-B	Subsector E2 (SIC 32F1)	Benchmark	1/Quarter	1st wk of month	✓			✓
e.g. 001-B	Subsector E2 (SIC 32F1)	ELG	1/Year	January	✓	✓		

Figure 12. Example MSGP Industrial Stormwater/Snowmelt Monitoring Summary Form with monitoring requirements, sampling locations and industry sectors.

Section 3: Conduct Monitoring

This section describes sampling preparation, choosing the right storm event to monitor, how to collect stormwater samples, how to conduct visual assessments, quality control considerations, and how to report the results.

The information contained in this section is not specific to monitoring for the 2021 MSGP or any particular general industrial stormwater permit.

3.A What to Have in Place Prior to Collecting Stormwater Samples

Preparation is essential, especially if you are in a climate where measurable storm events are infrequent.

- ***In-Office Preparations*** – Your in-office preparations should include the following:
  - Contacting the lab well ahead of time so that you have the sample bottles before a measurable storm event.
  - Paying attention to weather forecasts so that you are tracking patterns that are likely to result in a measurable storm event.
  - Knowing who your monitoring personnel are and how to contact them when a measurable storm event is expected.
  - Having sampling gear assembled and checked for readiness.
  - Preparing sample bottle labels using waterproof ink with the following information (if not already done by the lab):
    - Facility name and address
    - Sample location identifier (e.g., Outfall 001)
    - Name or initials of sampling personnel
    - Parameter and associated analytical method (e.g., TSS, Method # 0160.2; consult with your contract laboratory for analytical method numbers)
    - Sample type (generally will be “grab” samples)
    - Sample preservation notes
    - Date and time after completing sampling event
  - Having chain-of-custody forms ready for use.

The chain of custody form is a document that travels with the sample from collection through analysis. Each individual that handles the sample will place their name, date, and time on the chain-of-custody form. The form is used to maintain the integrity of the sample by providing documentation of the control, transfer, and analysis of samples (see Section 3.4 below for a more detailed discussion of chain-of-custody).

- **Sampling Supplies** – Collect the following supplies and keep them ready for quick use:
  - Clean, sterilized sample bottles, sized appropriately for the parameter to be analyzed (many labs provide the appropriate bottles or will tell you what size to get). Glass must be used for oil and grease samples; plastic containers can be used for other parameters. Use Teflon or aluminum-lined caps.

    For rinsing sample bottles, use only distilled water
  - If bottles are new but not pre-cleaned, they must be pre-conditioned before use by filling with water for several days (the duration can be reduced by using a dilute solution of hydrochloric acid).
  - Additional glass or clear plastic bottles suitable for visual assessments.
  - Visual monitoring forms (see example in Appendix B).
  - Clipboard and site-specific monitoring checklist.
  - If needed, a pole (sold at field supply stores) on which to attach sample bottles and attachment clips or strapping tape to secure the bottle to the pole.
  - Safety equipment, including first aid kit.
  - Hand sanitizer solution.
  - Carrying case for sampling equipment or backpack for carrying equipment to remote locations.
  - Powder-free disposable nitrile or latex gloves (sold by medical and laboratory suppliers or may be provided by your contract laboratory). Do not use powdered gloves as they may contaminate your samples.
  - Indelible pens/markers that can write on wet surfaces.
  - Foul-weather gear including footwear appropriate for the conditions at your sampling locations (e.g., non-slip boots).
  - Sturdy cooler and ice or ice packs for stowing and preserving your samples en route to the lab (the lab may provide an appropriate container).
  - Field notebook or field forms for your sampling records (waterproof notebooks are available at office supply stores).
  - pH paper and appropriate chemical preservatives for adding to sample bottles (obtain from your laboratory).



Figure 13. Preparing sampling supplies.

- **Optional or As-Needed Supplies:**
  - Sodium bicarbonate (for safety reasons if using acid preservative additives)
  - A graduated stick to measure water depth for determining safe/wade-able sampling access locations (if a sampling pole will be used, you can modify it with depth markings)
  - Mosquito repellent
  - Flashlight in case of sudden loss of light or darkness under storm conditions
  - Flagging tape for marking access to remote or overgrown locations
  - Camera, used for:
    - Recording evidence of potential pollutants or sampling conditions.
    - Especially useful if different people will do the sampling throughout the permit term.
    - Pictures of sample appearance along with the visual inspection records can help "normalize" visual assessments.
    - Pictures of the sampling location can help you find the same spot for subsequent sampling events.

Develop a stormwater sampling checklist to ensure consistency and continuity across sampling events. Since stormwater sampling is not a regular part of a facility's workload, a checklist of things to have prepared before sampling, sampling activities, and sampling locations will help you remember from quarter to quarter. You can make the checklist by noting the things you did for the first sampling event to remember for future sampling events. Keep the checklist updated as you gain experience with sampling.

3.B Collect Stormwater Samples



Figure 14. A stormwater grab sample is collected directly into the sample container.

Contact the lab prior to collecting stormwater samples so they know to expect the samples and have adequate staff available to conduct the analyses within the applicable holding times (the lab may offer courier service). Inform them of the pollutant parameters for which your samples will be analyzed.

Follow the protocol below to obtain an accurate grab or manual sample. A grab sample is a single sample "grabbed" by filling up a container, either by hand or attached to a pole. Obtaining accurate data is vital to your ability to assess how your SCMs are performing.

- Wear disposable powder-free gloves for sampling; never touch the inside of the lid or bottle.
- For oil and grease: fill the glass sample bottle directly from the discharge; never collect in a container first and then transfer to the sample bottle because oily residue will collect along the inside of the first collection bottle and make the sample inaccurate.
- If you have problems accessing the stormwater discharge point (e.g., access is too far or dangerous), use a pole or other appropriate sampling apparatus.
- Sample only stormwater discharging from your facility (i.e., do not sample from puddles, ponds, or retention basins).

Remember, oil and grease must be collected directly into the glass sample bottle.

- Sample from a turbulent section in the central part of the flow; avoid touching the bottom or sides of the stormwater conveyance.
- Fill the sample bottle nearly to the top (meniscus almost at the rim) by holding the opening into the flow of water; do not rinse or overfill the bottles.



Figure 15. Sample bottles labeled with location, date, time, sample collector, analysis, and preservative type.

While stormwater samples are typically grab samples, in some situations the use of an automatic sampler may be appropriate. Automatic samplers are mechanical devices that monitor site conditions and collect a sample when needed. The automatic sampler can be set up well in advance of a storm, or set up as a permanent installation, and the technician can retrieve the sample after the storm when conditions are favorable. Advantages of automatic samplers include low labor costs, convenience, and safety – personnel are not out in the storm trying to collect one or more samples. The major disadvantage is cost; automatic samplers are expensive. Secondarily, the automatic sampler cannot collect visual observations, and they cannot be used for collection of certain measurements.

After the samples have been collected:

- Place the samples in a sturdy cooler partially filled with ice. As a general rule, samples should be kept at approximately 39°F (4°C) until the cooler is delivered to the lab.
- Put a completed chain-of-custody form enclosed in a resealable plastic bag inside the cooler. If you have several coolers complete a separate chain of custody form for each cooler.
- Deliver the samples to the lab (e.g., drive, arrange same-day pick-up by the lab, or use an express/overnight service) as soon as possible, bearing in mind the holding times for each parameter sampled.

pH has a 15-minute holding time; therefore, the sample must be analyzed within 15 minutes of collection.



Figure 16. Stormwater samples packed for delivery to the lab, note the chain of custody forms attached to the lid.

3.C Record Information for Each Monitoring Event

For each individual sample collected, you should note the following information:

- The sample/discharge point identifier.
- The duration between the storm event you sampled and the end of the previous storm event that resulted in a discharge of stormwater from your site (i.e., a "measurable storm event").
- The date and duration of the storm event sampled.
- Rainfall measurement or estimate (in inches).
- Estimate of the total volume of the discharge sampled from the discharge point.
- Sample type

You should record this information on a Stormwater Collection Form (see Appendix C for an example).

3.D Quality Assurance Considerations

The following actions must be followed explicitly. Quality assurance (QA) helps maintain the accuracy and integrity/legal defensibility of your monitoring results by documenting the stewardship of your samples, by minimizing biases in sampling and lab procedures, and by helping to assess the accuracy and precision of the lab's analyses.

Holding Times and Sample Preservation

Samples that cannot be delivered to the lab on the same day may need to be preserved, often by cooling to ≤6 °C (i.e., in an ice bath) and/or with added chemical preservatives (laboratory-supplied bottles may already include preservatives). If your samples need to be analyzed for more than one parameter, you may need to bottle more than one sample at a discharge point using different preservatives. In addition, you should be aware of the maximum holding time allowed for a particular parameter before which the sample must be analyzed. Following is a table with typical preservation and holding requirements for benchmark parameters and additional potential pollutants of concern (the latter will not have a numeric value in parentheses). Work with your laboratory service providers to develop a list of containers to optimize "sharing" of containers across different parameters. Not all laboratories provide the same container types for the different parameters. Laboratories frequently provide pre-completed custody records and seals and will provide pre-labeled sample bottles for ease of use in the field as part of their routine "value-added" services. Pre-completed custody records and labels require only time, date, and samplers' initials in order to complete this critical documentation. Your laboratory may also have additional sampling, sample handling, or shipping instructions helpful to your sample collection personnel. NOTE: Whenever possible, minimize the amount of lead time sample containers/kits are outside of the laboratory. Extended storage of pre-preserved containers for some analytes may present opportunity for contamination of field blank samples, even under ideal storage conditions. Additional information of the use of field blanks in sampling is discussed in the Field Blanks section below.

Table 5. Sample Preservation and Hold Times

Parameter (Benchmark Threshold)	Preservation		Maximum Holding Time	Sample Container
	Cool to ≤6 °C?	Additional		
Aluminum, Total Recoverable (1,100 µg/L)	N	HNO_3 (nitric acid) to pH <2	6 months	500 mL HDPE
Ammonia (2.14 mg/L)	Y	H_2SO_4 (sulfuric acid) to pH <2	28 days	500 mL HDPE
Antimony, Total Recoverable (640 µg/L)	N	HNO_3 to pH <2	6 months	500 mL HDPE
Arsenic, Total Recoverable (150 µg/L freshwater, 69 µg/L)	N	HNO_3 to pH <2	6 months	500 mL HDPE
Beryllium, Total Recoverable (130 µg/L)	N	HNO_3 to pH <2, or at least 24 hours prior to analysis	6 months	500 mL HDPE
Biological Oxygen Demand, BOD_5 (30 mg/L)	Y	None	48 hours	1L HDPE or glass
Cadmium, Total Recoverable (1.8 µg/L freshwater*, 33 µg/L saltwater)	N	HNO_3 to pH <2, or at least 24 hours prior to analysis	6 months	500 mL HDPE
Chemical Oxygen Demand, COD (120 mg/L)	Y	H_2SO_4 to pH <2	28 days	100 mL HDPE or glass

Parameter (Benchmark Threshold)	Preservation		Maximum Holding Time	Sample Container
	Cool to ≤6 °C?	Additional		
Copper, Total Recoverable (5.19 µg/L freshwater, 4.8 µg/L saltwater)	N	HNO_3 to pH <2, or at least 24 hours prior to analysis	6 months	500 mL HDPE
Cyanide, Total (22 µg/L freshwater, 1 µg/L saltwater)	Y	NaOH (sodium hydroxide) to pH >10, reducing agent if oxidizer present	14 days	1 L HDPE
Fluoride	N	None	28 days	100 mL HDPE
Hardness (as $CaCO_3$)	N	HNO_3 or H_2SO_4 to pH <2 (method dependent)	6 months	100 mL HDPE
Lead, Total Recoverable (82 µg/L freshwater*, 210 µg/L saltwater)	N	HNO_3 to pH <2, or at least 24 hours prior to analysis	6 months	500 mL HDPE
Mercury, Total Recoverable (1.4 µg/L freshwater, 1.8 µg/L saltwater)	N	HNO_3 to pH <2	28 days	500 mL HDPE
Nickel, Total Recoverable (470 µg/L freshwater*, 74 µg/L saltwater)	N	HNO_3 to pH <2, or at least 24 hours prior to analysis	6 months	500 mL HDPE
Nitrate + Nitrite Nitrogen (0.68 mg/L)	Y	H_2SO_4 to pH <2	28 days	200 mL HDPE
pH (6.0 – 9.0 s.u.)	N	None	15 min (Field test)	50 mL
Phenol	Y	H_2SO_4 to pH <2	28 days	500 mL HDPE
Phosphorous, Total (2.0 mg/L)	Y	H_2SO_4 to pH <2	28 days	500 mL HDPE
Polycyclic Aromatic Hydrocarbons (PAHs)	Y	Store in dark, 0.008% $Na_2S_5O_3$	7 days until extraction, 40 days after extraction	1L Amber glass
Radium, Total Recoverable		HNO_3 to pH <2	6 months	1L HDPE
Radium, dissolved		Field-filtered HNO_3 to pH <2; if not field filtered - none	Field filtered, preserved 6 months; if not field filtered, filter on receipt, preserve to pH <2 6 months	1L HDPE
Selenium, Total Recoverable (lentic waters 1.5 µg/L, lotic waters 3.1 µg/L; 290 µg/L saltwater)	N	HNO_3 to pH <2, or at least 24 hours prior to analysis	6 months	500 mL HDPE
Silver, Total Recoverable (3.2 µg/L freshwater*, 1.9 µg/L saltwater)	N	HNO_3 to pH <2, or at least 24 hours prior to analysis	6 months	500 mL HDPE
Total Suspended Solids, TSS (100 mg/L)	Y	None	7 days	200 mL HDPE
Turbidity (50 NTU)	Y	None	48 hours	100 mL HDPE
Uranium		HNO_3 to pH <2	6 months	500mL HDPE
Zinc, Total Recoverable (120 µg/L freshwater*, 90 µg/L saltwater)	N	HNO_3 to pH <2, or at least 24 hours prior to analysis	6 months	500 mL HDPE

Parameter (Benchmark Threshold)	Preservation		Maximum Holding Time	Sample Container
	Cool to ≤6 °C?	Additional		
Landfill Parameters				
Alpha Terpineol	Y	NA	7 days to extraction 40 days to analysis	1L Amber glass
Aniline	Y	NA	7 days to extraction 40 days to analysis	1L Amber glass
Benzoic Acid	Y	NA	7 days to extraction 40 days to analysis	1L Amber glass
Naphthalene	Y	NA	7 days to extraction	1L Amber glass
p-Cresol	Y	NA	7 days to extraction 40 days to analysis	1L Amber glass
Pyridine	Y	NA	7 days to extraction 40 days to analysis	1L Amber glass

*These pollutants are dependent on freshwater hardness. The benchmark value listed is based on a hardness of 100 mg/L. The 2021 MSGP requires industrial facility to analyze receiving freshwater samples for hardness, and use the hardness tables provided in the 2021 MSGP to determine the applicable benchmark value for that facility

Field Blanks

Field blank samples are filled with either distilled or de-ionized water, and are prepared, in the field, after cleaning the sampling equipment but before collection of water quality samples. Field blanks are prepared by pouring distilled de-ionized water into each scoop, dipper, etc. used for sample collection and then emptying the scoop, dipper, etc. into the sample bottles as if they were actual field samples. The field blanks are processed and analyzed in an identical manner as the stormwater samples. If the lab detects any contamination in the blanks, your sampling results could be considered tainted (either from contamination or errors in sampling or analysis). Collection and analysis of field blanks is not required by the 2021 MSGP; however, field blanks are used for quality control to assess whether contamination was introduced during sampling and may prove useful in interpretation of results.

Chain of Custody Forms and Procedures

Samples must be traceable from the point of collection until the sampling results are reported. To do this, document who is in possession of the samples using the chain of custody procedures below. One person should be responsible for the care and custody of the samples, and for generating the chain of custody record until the samples are properly transferred or relinquished to the laboratory. Chain of custody tasks include:

- Ensure that the sample labels are properly filled in.
- Complete the chain of custody form with the date, time, parameter, and sample locations for each sample, and sign the form.
- During the transfer of custody of the samples, both the persons relinquishing and receiving the cooler (including lab personnel) must record the date and time on the chain of custody form and sign it.
- Record the shipping method, courier name(s), and other pertinent information as remarks on the chain of custody form.

- The original chain of custody form remains with the samples and a copy must be provided to the facility for inclusion in project records.

Chain of custody records are critical to ensure that no tampering occurs between sample collection and analysis. Your analytical service provider may provide training or written instructions to assist in your completion of accurate custody records. This is another key area where many laboratories invite the opportunity to work with their clients as part of their value-added services.

3.E Conducting Visual Assessments of Stormwater Discharges

Visually inspecting stormwater samples from a measurable discharge at your discharge points is an inexpensive way of assessing the performance of your SCMs. The sample should be collected and analyzed in a clean, colorless glass or plastic container. It is recommended that you take photographs of the discharges at the time of observation in case more than one person is doing the assessments and because photos can be helpful in determining the effectiveness of your SCMs and any need for changes to your SCMs.

All facilities covered by the 2021 MSGP must perform quarterly visual assessments of stormwater discharges, irrespective of benchmark monitoring.

Visually inspect or observe for the following water quality characteristics, which may be evidence of stormwater pollution:

- ***Color*** – If the discharge has an unusual color, such as reddish, brown, or yellow hue, this may indicate pollutants or suspended sediment.
- ***Odor*** – If the discharge has a noticeable odor, for instance if it smells like gasoline fumes, rotten eggs, raw sewage, or solvents odor, or has a sour smell, this could be indicative of pollutants in the discharge.
- ***Clarity (diminished)*** – If the discharge is not clear, but is instead cloudy or opaque, this could indicate elevated levels of pollutants in the discharge.
- ***Floating solids*** – If you observe materials floating at or near the top of the container, take note of what the materials appear to be.
- ***Settled solids*** – You should wait about a half hour after collection, then note the type and size of materials that are settled at the bottom of the container.
- ***Suspended solids*** – Particles suspended in the water will affect its clarity, and color and could be attributable to pollutant sources at your facility.
- ***Oil sheen*** – You should check the surface of the water for a rainbow color or sheen; this would indicate the presence of oil or other hydrocarbons in the discharge.
- ***Foam*** – You should gently shake the container and note whether there is any foam.
- Other obvious indicators of stormwater pollution.

To record your visual monitoring results, you can use the optional “Quarterly Visual Monitoring Form” in Appendix B (or a comparable one of your own).

Section 4: Evaluate Monitoring Results

The primary purpose of any industrial stormwater monitoring program, consisting of analytic chemical monitoring and visual assessments, is to provide feedback on the performance of your selection and implementation of SCMs. Visual evidence of pollution in a stormwater sample, a spike in the concentration of a benchmark pollutant, or the exceedance of a numeric effluent limitation provides an indicator that modifications or additions to the site's SCMs need to be considered to improve the effectiveness of your stormwater program.

The following will aid you in interpreting your monitoring results and revising your SCMs, if necessary.

4.A Evaluating Visual Assessment Results

For anything but colorless and odorless stormwater in your discharge, you should investigate what area of your site or what specific pollutant sources are contributing to the contamination of your site's runoff. To search for the source of pollutants, you should move upstream from the discharge point. You should scrutinize your exposed industrial materials and activities (material handling equipment, industrial machinery, raw materials, finished product, wastes, or products that are stored, used, or created onsite, etc.). Examine where material handling activities occur, such as: storage, loading and unloading, and material transporting. Be aware, the source could be from an ongoing activity or the result of a spill or other infrequent occurrence. In looking at your samples, consider the following:



Figure 17. Example of oil sheen.

- When there is a distinct color or odor, are the abnormalities associated with any raw materials, chemicals, or other materials used at the site?
- Muddiness or sediment may have been picked up from areas where there is disturbed earth or other unpaved areas lacking adequate SCMs.
- Foam or oil sheen may be the result of a leak or spill of materials.
- Cloudiness indicates suspended solids such as dust, ash, powdered chemicals, and ground up materials. Determine whether you use any of these materials and whether they are exposed to stormwater.

Clean up all sources of potential contamination, make changes to your SCMs, and update your SWPPP, as necessary.

4.B Evaluating Benchmark Monitoring Results

The analysis of your benchmark monitoring results can yield valuable information about the characteristics of your stormwater discharge and how well your SCMs are working. Once you have received your lab results for your benchmark samples, compare these concentrations to the benchmark thresholds that apply to your facility. The 2021 MSGP requires that you conduct four benchmark samples in your first year and four samples in your fourth year and compare the average value to the applicable benchmarks. If the average concentration of your samples exceeds the benchmark threshold, then you are required under the permit to initiate Additional Implementation Monitoring (AIM) responses which include review of the SWPPP and SCMs to determine if modifications are necessary, and implementation of additional measures that would reasonably be expected to bring the exceedances below the benchmark threshold (See Parts 5.2 and 5.3), However, if fewer than four quarterly samples are collected, but a single sample or the sum of any sample results makes an exceedance of the benchmark mathematically certain (i.e., the sum of the quarterly samples results to date is already more than four times the benchmark threshold) you are required to conduct this evaluation immediately.

Table 6 will help you decide a course of action depending on the results of your benchmark samples.

Table 6. Evaluation of Benchmark Monitoring Results

Does the average of your four quarterly benchmark samples for any pollutant exceed the applicable benchmark concentration? OR If you have not yet completed your four quarterly benchmark samples, does the total value of your samples already make an exceedance of the benchmark mathematically certain (e.g., the sum of the concentration of your samples exceeds four times (4X) the benchmark concentration)?	
YES	**NO**
You must evaluate whether modifications to the SCMs used at your site are necessary. You will need to consider whether there is a problem in the selection, design, installation, and/or operation of applicable control measures. Follow the AIM procedures in Parts 5.2 and 5.3. An exceedance of a benchmark does not necessarily mean that your control measures are insufficient. Continue reading below for additional items to consider as you proceed.	Sample results below benchmark limits provide an indication that your control measures are working as intended to minimize the discharge of pollutants. Although your samples indicate properly functioning control measures, you should continue to note changes to your site that may affect the quality of stormwater discharge, and to link such changes to your future monitoring results. You are still required to meet all requirements in the permit affecting the implementation and maintenance of your control measures, despite the good results of your benchmark monitoring.

If benchmarks were exceeded:

- Did you sample correctly?
    - Did you start with clean sample collection jars and were the samples preserved and submitted to the lab within the allotted time frame?

  - Did you properly sample the discharge flowing from the site or did you collect the sample from a low spot or stagnant pool?
- Was anything atypical going on at the site prior to or during the storm? Atypical activities could include:
  - A leak or spill that was not adequately cleaned up.
  - Construction, painting, and paving activities.
  - Having a large amount of material (raw materials, wastes, or products) recently delivered or being prepared for shipment.
- Did you observe anything during visual inspections that may have indicated that stormwater discharge would have been exposed to pollutants? If so, are SCMs in place to address the pollutant sources?



Figure 18. Example of visual observation indicating stormwater discharge exposed to pollutants.

The more the benchmark was exceeded, the greater your facility's problems may be, necessitating a more robust response. For example, if your results for TSS were over the benchmark threshold by a relatively small amount (e.g., TSS values of 110 to 150 mg/L, compared to the 100 mg/L benchmark level assigned to TSS), then simply performing additional housekeeping measures (e.g., frequent sweeping) may reduce the values of TSS below the benchmark to 100 mg/L by the next storm. However, an exceedance of TSS above 150 mg/L may warrant new or supplementary control measures (assuming your control measures are performing as designed) that more effectively reduce the potential for sediment in discharges (e.g., installing storm inlet filters, seeding/stabilizing disturbed areas, implementing dust and debris controlling procedures). TSS values exceeding benchmark thresholds by orders of magnitude indicate a serious problem, and may require structural control measures (e.g., paving, installing berms around piles of loose material, placing operations under cover, placing grassy swales or basins in the discharge flow path to trap sediment).

Until quarterly benchmark monitoring results indicate that an AIM triggering event has not occurred, you must follow the corresponding AIM-level responses and deadlines described in Parts 5.2.3, 5.2.4, and 5.2.5 unless you qualify for an exception under Part 5.2.6

Part 5.2.6 of the 2021 MSGP includes five exceptions that could allow an operator to be relieved of compliance with AIM requirements and continued benchmark monitoring at any AIM level:

1. Exceedance of a benchmark threshold is solely attributable to natural background pollutant levels. (Part 5.2.6.1)
2. Exceedance of a benchmark threshold is due to run-on from a neighboring source. (Part 5.2.6.2)

3. Exceedance of a benchmark threshold was due to an abnormal event (Part 5.2.6.3)
4. Exceedance of aluminum or copper benchmark threshold can be demonstrated not to result in an exceedance of a facility-specific value using national recommended water quality criteria in lieu of the applicable MSGP benchmark threshold (Part 5.2.6.4)
5. Exceedance of a benchmark threshold can be demonstrated not to result in any exceedance of water quality standards (Part 5.2.6.5)

AIM Exemption Example:

Where benchmark values cannot be reasonably achieved because of local natural background concentrations EPA allows for benchmark exceedances.

For example, high natural background levels of iron in soils or groundwater could cause exceedances of a benchmark threshold. This provision exempts facilities from further AIM response when natural background levels are solely responsible for the exceedance of a benchmark threshold.

To make the determination that the exceedance was caused by natural background pollutant concentrations, background concentrations must be greater than the corresponding benchmark threshold, and there is *no* net facility contribution of the pollutant (i.e., average concentration detected in the discharge from all monitored discharge points over four separate events minus the average natural concentration of the parameter for four separate events does not exceed zero).

For example, if the natural background concentration of TSS from an undisturbed watershed is 200 mg/L, an exemption from AIM response is available if the average of your four benchmark samples is equal to or lower than 200 mg/L. There are additional requisites for claiming a natural background level exemption, including documentation. Details of these are contained in the 2021 MSGP in Part 5.2.6.1 and the Fact Sheet.

4.C Effluent Limitation Guideline Monitoring Results

What happens if your facility is subject to numeric effluent limits (for ELG compliance monitoring) and your stormwater sample exceeds the effluent limits for one or more parameters? Within 24 hours of becoming aware of the violation you must document the discovery of the violation, including:

- A description of the condition or event triggering the need for corrective action review;
- The date the condition/triggering event was identified; and
- A description of immediate actions taken to minimize or prevent the discharge of pollutants.

Within 14 days of becoming aware of the violation, you must document the following information:

- The corrective action(s) taken or to be taken;
- The date(s) corrective action was initiated; and
- The date(s) corrective action was completed or is expected to be completed.

You must submit this documentation with your annual report and retain a copy onsite with your SWPPP.

The 2021 MSGP requires that you indicate any exceedance of a numeric effluent limitation on a Change NOI form in NeT-MSGP, and conduct follow-up monitoring within 30 calendar days of

implementing corrective action(s) (or during the next measurable storm event, should none occur within 30 days)(Part 5 of the 2021 MSGP). Monitoring must be performed for any pollutant(s) that exceeded the effluent limit. If the results from the follow-up monitoring exceed the effluent limit(s), you are required to submit an Exceedance Report to EPA no later than 30 after receipt of your laboratory results. The Exceedance Report must include:

- NPDES ID;
- Facility name, physical address, and location;
- Name of receiving water;
- Monitoring data from this and the preceding monitoring event(s);
- An explanation of the situation, including what you have done and intend to do (should your corrective actions not yet be complete) to correct the violation; and
- An appropriate contact name and phone number.

In addition to preparing the Exceedance Report, you must continue to monitor, at least quarterly, until your stormwater discharge is in compliance with the effluent limits or until EPA waives the requirement for additional monitoring.

4.D Specific Pollutants and Control Measure Options

All facilities need to gear their control measures toward their specific pollutants of concern, as determined by the materials and activities onsite. Below is a brief discussion of some of the most common pollutants and control measure options.

- **Total Suspended Solids (TSS)**. Small sediment particles are easily suspended and carried by surface water flows. These particles may be blown onto the site from unpaved areas within or adjacent to your facility as well as being tracked in on the tires of vehicles. Excess particles may be self-generated, particularly in the concrete, asphalt, scrap recycling, automobile salvage, and mining sectors. See the discussion above for control measure options for controlling TSS.



Figure 19. Example of vehicle leak.

- **Oil and Grease.** Often, oil and grease may be observed as a film, sheen, or discoloration on the top of a discharge or receiving water. But such a surface anomaly may not be obvious, in which case detection by a lab would be the only way. This could be a pollutant of concern for any facility, especially if there are exposed vehicles or equipment. Therefore, it is vital that due diligence regarding "reportable quantity" (RQ) spills or leaks be observed. Basically, an RQ for oil is any quantity of oil that causes a film, sheen, or discoloration on a receiving water surface (and for which there are separate reporting requirements
- to regulatory agencies). If detected, you must find the source and mitigate it. Start with the vehicle/equipment maintenance and storage areas or where shipping/receiving and the like are done. Above ground storage tanks and waste storage are other likely sources.

Available control measures range from regularly monitoring these areas and applying an absorbent material (choose a bio-based absorbent, not a clay-based material) as soon as an oil leak or spill is observed. Consider coverage of and secondary containment for storage areas where oil or grease are stored, transferred or disposed of. An oil water separator downstream of the area(s) most likely to contain oil or grease could provide enough treatment to reduce oil and grease to acceptable levels in the discharge.

- **pH**. pH values below benchmark range indicate that acidic substances are exposed to stormwater. In this case you need to determine whether any of your industrial processes use acids and if so, where. Does your facility do plating, or are lead-acid batteries used or stored on-site? If acids are being used to clean parts, for example, where are the parts stored after being treated with the acid? Where are waste acids stored and how are they disposed? Which operations could expose acids to stormwater? Coal piles are also a source of acidified discharge.

  High pH values indicate that a base or alkaline material (such as lye) is exposed to stormwater. Cement and some cleansers can produce high pH values.



Figure 20. Example of pollutant control measures.

  Control measures applicable to controlling pH include housekeeping (sweeping and cleaning areas where materials that affect pH could be exposed to stormwater); overhead coverage and disposal of waste materials in covered receptacles. Low or high pH discharge can be collected and neutralized by adding an appropriate agent to neutralize pH values to the 6.0 – 9.0 range.

Alternatively, flow can be directed to come in contact with a neutralizing substance (e.g., acidic coal pile discharge directed to flow through a limestone channel).

- **Chemical Oxygen Demand (COD)**. COD is the amount of dissolved oxygen in water consumed by the chemical breakdown of organic and inorganic matter (i.e., COD is not a specific component in the discharge). Therefore, a high COD value indicates elevated quantities of pollutants in stormwater discharge, especially carbon. Examples of facilities that handle materials which could cause high COD levels include the wood and paper product industries. Control measures applicable to controlling COD levels are the basic stormwater ones: good housekeeping and covering materials with the potential to allow carbon or other organic materials to be carried by stormwater.
- **Metals.** Metals originate from many sources and consequently a number of industries must monitor for metals, including facilities such as wood preservative and agricultural chemical makers, mines, and foundries. Depending on a facility's activities, metals can be found in a dissolved form and/or adsorbed to particles or sediment. It is because both the dissolved and particulate forms can occur at the same time is why stormwater discharges are analyzed for "total recoverable metals." After identifying those operations that could expose

stormwater to metals sources, implement control measures capable of reducing metals concentrations, including good housekeeping (sweeping and disposing of metal wastes in covered containers), covering/shielding operations, and directing run-on away from any critical outdoor areas. Ion exchange techniques can also be employed to remove dissolved metals.

- **Polycyclic Aromatic Hydrocarbons (PAH).** PAHs are associated with industrial activities that manufacture, use or store creosote or creosote treated wood in areas that are exposed to precipitation or from industrial activities that operate on-top of paved surfaces that have been sealed or re-sealed with coal-tar sealcoat. PAHs can bind with dust and sediment particles that can be picked up by stormwater and transported to control measures or directly discharged to receiving waters. After the possible sources of PAHs that can be exposed to stormwater are identified, implement control measures to reduce PAHs in the stormwater discharge, including good housekeeping (i.e., sweeping and safely disposing of waste), stormwater control measures (e.g., stormwater ponds, non-clogging catch-basin) and directing runoff and run-on away from possible sources of contamination.

Section 5: Reporting and Recordkeeping

It is important that accurate record-keeping of monitoring activities become a standard operating procedure at your facility. You need to be able to show that monitoring and sampling events not only meet all permit requirements but are defensible and abide by all quality assurance/quality control (QA/QC) procedures. It is always preferable to document too much as opposed to too little when dealing with any sort of permit compliance. Create easy to use logbooks for keeping track of rain events. Be sure that your site map is up to date and easy to understand. Develop simple instruction sheets for recording sampling, visual assessments, or other monitoring activities. The instructions should be kept in logical locations (e.g., in sample kits, in the SWPPP notebook) and updated as needed.

When possible, use standardized forms such as those provided in the appendices of this monitoring guide to record your monitoring activities. This will provide consistency in information reported. Example forms are provided in this guide in Appendix A (2021 MSGP Industrial Stormwater Monitoring Form), Appendix B (2021 MSGP Visual Monitoring Form), and Appendix C (2021 MSGP Industrial Stormwater Collection Form).

If possible, regularly transfer sampling records and sample results into databases or spreadsheets. This will provide back-up records for hard-copy logs or forms as well as providing an easy way to analyze your sampling data.

5.A Reporting Monitoring Data

Each state or territory industrial stormwater permit has different requirements for how monitoring data should be reported. Facilities subject to EPA's 2021 MSGP must submit all stormwater discharge monitoring data collected no later than 30 days after receiving complete laboratory results for all monitored discharge points. For any monitored discharge points that did not have a discharge within the reporting period, facilities must report that no discharges occurred for that discharge point no later than 30 days after the end of the reporting period. You must submit even if your facility is reporting a change in status from "active and staffed" to "inactive and unstaffed."

Facilities covered under the 2021 MSGP must submit all stormwater discharge monitoring data through EPA's electronic Discharge Monitoring Report (DMR) system, Net-DMR (unless the applicable EPA Regional Office grants a waiver from electronic reporting, in which case facilities may submit a paper DMR form). Monitoring requirements (i.e., parameters required to be monitored and sample frequency) will be prepopulated on the DMR form based on the information facilities report on their NOI forms through NeT-MSGP, EPA's NPDES eReporting Tool for the MSGP. Accordingly, facilities must certify changes to their monitoring frequency to EPA by submitting a Change NOI in NeT-MSGP, which will trigger changes to the monitoring requirements in Net-DMR.

Facilities must submit NOIs, Change NOIs, Notices of Termination (NOTs), No Exposure Certifications (NECs), Annual Reports and other reporting information electronically via NeT-

MSGP, unless the applicable EPA Regional Office grants a waiver from electronic reporting. Additional information on electronic reporting can be found at: https://www.epa.gov/compliance/npdes-ereporting.

This guide will provide information on what documentation is needed for submitting DMRs and Annual Reports.

You will need the following information to submit DMRs via Net-DMR:

- NPDES ID
- The facility SWPPP
- Monitoring records
- Laboratory reports

NPDES ID – The NPDES ID is a unique identifier assigned to your facility by EPA. EPA tracks report submittals using the NPDES ID rather than facility name or address.

Facility SWPPP – The facility SWPPP includes several pieces of information needed for the DMR, including:

- The number of stormwater discharge points and the discharge point IDs.
- Which, if any, of the discharge points discharge substantially identical effluents and are considered SIDPs.
- Alternative monitoring periods if the facility is located in an area of irregular stormwater discharge.

Monitoring Records – Detailed monitoring records will make completing the DMR easier. As previously discussed, monitoring records must include:

- The date(s) of all monitoring events during the DMR reporting period.
- Any stormwater discharge points that did not have a discharge during the DMR reporting period.
- Whether the discharge resulted from rainfall or snowmelt.
- The duration (in hours) of the rainfall event(s).
- The amount (in inches) of rainfall from the monitored rainfall event(s).
- The time (in days) since the previous measurable storm event, which may or may not be the previous monitored measurable storm event.

Laboratory Reports – The laboratory will provide a detailed report with the results of your stormwater analyses and detailed QA/QC data to verify that the results are accurate. For each parameter the laboratory will typically report one of three results to be reported on the DMR.

- The measured concentration to be compared against the benchmark threshold or effluent limitation guideline.
- BQL or below quantitation limit means that the parameter is present at some amount greater than zero but less than the quantitation limit but the method used is not precise

enough to give an exact concentration. Report No Discharge Indicator (NODI) code Q (Not Quantifiable) on the DMR.

- ND or not detected means that the parameter was not detected in the sample. Report NODI code B (Below Detection Limit/No Detection) on the DMR.

Other laboratory reports you may need include receiving water hardness results if any of your required parameters are hardness dependent, and data on natural background pollutant levels if you are claiming that an exceedance of a benchmark threshold is due to natural background conditions.

In addition to the information above you will need the following information to submit your Annual Report via NeT-MSGP:

- NPDES ID (see above)
- Routine facility inspection documentation
- Visual assessment documentation
- Corrective action and AIM documentation (including descriptions of any incidences of non-compliance)

Routine Facility Inspections – The 2021 MSGP requires you to summarize findings from routine facility inspections in the Annual Report. Required documentation includes, at a minimum, the date and time of inspection(s), who conducted the inspection(s), the weather at the time of the inspection(s), observations made on the implementation of SCMs, any additional SCMs necessary for permit compliance, and whether any incidences of noncompliance occurred.

Visual Assessments – The 2021 MSGP requires you to summarize findings from visual assessments in the Annual Report. Required documentation includes, at a minimum, the sample location(s), date(s) and times(s) of sample collection and assessment, who collected the sample(s) and who assessed the sample(s), whether the discharge was from rainfall or snowmelt, observations, likely sources of stormwater contamination (if applicable), and reason(s) why sampling did not occur within the first 30 minutes of the discharge (if applicable).

Corrective Actions and AIM Documentation – The 2021 MSGP requires you to implement corrective actions if any of the following conditions occur during an inspection, monitoring or other means or EPA or the operator of the MS4 through which you discharge informs you that any of the following conditions have occurred:

- An unauthorized release or discharge (e.g., spill, leak, or discharge of non-stormwater not authorized by this or another NPDES permit to a water of the United States) occurs at your facility
- A discharge violates a numeric effluent limit listed in Table 2-1 and/or in your Part 8 sector-specific requirements [of the 2021 MSGP].
- Your SCMs are not stringent enough for your stormwater discharge to be controlled as necessary such that the receiving water of the United States will meet applicable water quality standards or to meet the non-numeric effluent limits in this permit.

- A required control measure was never installed, was installed incorrectly, or not in accordance with Parts 2 and/or 8 [of the 2021 MSGP] or is not being properly operated or maintained.
- Whenever a visual assessment shows evidence of stormwater pollution (e.g., color, odor, floating solids, settled solids, suspended solids, foam).

The 2021 MSGP also requires you to undertake AIM responses if an annual average exceeds an applicable benchmark threshold based on the following events:

- The four-quarterly annual average for a parameter exceeds the benchmark threshold, or
- Fewer than four quarterly samples are collected, but a single sample or the sum of any sample results within the sampling year exceeds the benchmark threshold by more than four times for a parameter. This result indicates an exceedance is mathematically certain (i.e., the sum of quarterly sample results to date is already more than four times the benchmark threshold).

You must document discovery of any of the conditions or triggering events listed above within 24 hours of becoming aware of such condition or triggering event, including a description of the condition or event triggering the need for corrective action review and/or AIM response; the date the condition or triggering event was identified, and a description of immediate actions taken to minimize or prevent the discharge of pollutants. Within 14-days of becoming aware of a condition or triggering event listed above, you must document the corrective actions and/or AIM responses that were taken or will be taken, including dates when you initiated and completed (or expect to complete) each corrective action and/or AIM response. You must summarize findings related to corrective actions and AIM responses in the Annual Report submitted via NeT-MSGP.

Section 6: Train Personnel

You must train your stormwater pollution prevention team in the proper procedures for sample collection, visual assessments, tracking and reporting. Trainings should be held regularly to update staff on any permit or SWPPP changes. New employees that become members of the stormwater pollution prevention team should be trained in general stormwater awareness as well as the following monitoring-specific topics:

- How to anticipate a measurable storm event.
- Where to monitor.
- How to collect and document the collection of stormwater samples including the assembling of “field blank” samples.
- How to perform and document visual assessments.
- How to handle and send the samples to the laboratory.
- How to interpret the results.
- How to keep accurate and complete records and report appropriate information to the permitting authority.

Section 7: References

APHA (American Public Health Association). 1998. *Standard Methods for the Examination of Water and Wastewater, 20th Edition*. American Public Health Association, 20th Edition.

Ecology. 2002. How To Do Stormwater Sampling: A Guide for Industrial Facilities. Publication #02-10-071. State of Washington Department of Ecology, Olympia, Washington.

"EPA Administered Permit Programs: The National Pollutant Discharge Elimination System." *Code of Federal Regulations* Title 40, Pt. 122.

"Guidelines Establishing Test Procedures for the Analysis of Pollutants." Code of Federal Regulations Title 40, Pt. 136.

USEPA (U.S. Environmental Protection Agency). 1992. *NPDES Storm Water Sampling Guidance Document*. EPA 833-8-92-001. U.S. Environmental Protection Agency, Office of Water, Washington D.C.

USEPA (U.S. Environmental Protection Agency). 2021. *NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP)*. U.S. Environmental Protection Agency, Washington D.C.

Appendix A: 2021 MSGP Industrial Stormwater Monitoring Form

MSGP Industrial Stormwater/Snowmelt Monitoring Summary Form

Name of Facility:						**Pollutants to sample (Method)**							
Address:													
NPDES ID:													
Benchmark Levels and ELGs													
			ELG										
Industry Sector	**Pollutants**	**Benchmark Level**	**Daily Max**	**Monthly Average**	**Instant Min/Max**								
Sample Summary													
Outfall Identifier		**Industry Sector (SIC)**	**Basis**	**Frequency**	**Timing**								

MSGP Sample Collection Form Page_____ of _____

Appendix B: 2021 MSGP Visual Monitoring Form

MSGP Quarterly Visual Assessment Form

(Complete a separate form for each outfall you assess)

MSGP Visual Assessment Form

(Complete a separate form for each discharge point you assess)

Name of Facility: Enter Name of Facility

NPDES ID. Insert NPDES ID

Sample Location: Enter Discharge Point ID

"Substantially Identical Discharge Point" (SIDP)? ☐ Yes (identify SIDPs): ☐ No

Person(s)/Title(s) Collecting Sample: Enter Name(s)/Title(s)

Signature(s) of Person(s) Collecting Sample:

Person(s)/Title(s) Examining Sample: Enter Name(s)/Title(s)

Signature(s) of Person(s) Examining Sample:

Date & Time Discharge Began: Enter Date and Time

Date & Time Sample Collected: Enter Date and Time. If sample not taken within first 30 minutes, explain why.

Date & Time Sample Examined: Enter Date and Time

Substitute Sample? ☐ No ☐ Yes* (identify quarter/year when sample was originally scheduled to be collected): _____

Is this a substitute sample for quarterly visual assessments distributed during seasons when precipitation more regularly occurs? ☐ No ☐ Yes* (identify the quarter/year when the sample was originally scheduled to be collected): _____

Nature of Discharge: ☐ Rainfall ☐ Snowmelt

If Rainfall: Rainfall Amount: Number of inches

Previous Storm Ended > 72 hours (three days) Before Start of This Storm? ☐ Yes ☐ No**

(describe): _____

Pollutants Observed

Color ☐ None ☐ Other (describe): _____

Odor ☐ None ☐ Musty ☐ Sewage ☐ Sulfur ☐ Sour ☐ Petroleum/Gas ☐ Solvents ☐ Other (describe): _____

Clarity ☐ Clear ☐ Slightly Cloudy ☐ Cloudy ☐ Opaque ☐ Other

Floating Solids ☐ No ☐ Yes (describe): _____

Settled Solids*** ☐ No ☐ Yes (describe): _____

Suspended Solids ☐ No ☐ Yes (describe): _____

Foam (gently shake sample) ☐ No ☐ Yes (describe): _____

Oil Sheen ☐ None ☐ Flecks ☐ Globs ☐ Sheen ☐ Slick
☐ Other (describe): _____

Other Obvious Indicators of Stormwater Pollution ☐ No ☐ Yes (describe): _____

* Your facility must be located in an area where limited rainfall occurs during many parts of the year (e.g., arid or semi-arid climate) or in an area where freezing conditions exist that prevent discharges from occurring for extended periods. Identify the quarter/year when the sample was originally scheduled to be collected.

** The 72-hour (three day) interval can be waived when the previous storm did not yield a measurable discharge or if you are able to document (attach applicable documentation) that less than a 72-hour (three day) interval is representative of local storm events during the sampling period.

*** Observe for settled solids after allowing the sample to sit for approximately one-half hour.

Sampling not performed due to adverse conditions: ☐ No ☐ Yes (explain): _____

Sampling not performed due to no measurable storm event occurring that resulted in a discharge during the monitoring quarter:
☐ No ☐ Yes (explain): _____

Identify probable sources of any observed stormwater contamination. Also, include any additional comments, descriptions of pictures taken, and any corrective actions necessary below (attach additional sheets as necessary). Insert details

Certification Statement (Refer to MSGP Appendix B, Part B.11 for Signatory Requirements)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name: _____ B. Title: _____

C. Signature: _____ D. Date Signed: _____

* The 72-hour interval can be waived when the previous storm did not yield a measurable discharge or if you are able to document (attach applicable documentation) that less than a 72-hour interval is representative of local storm events during the sampling period.
** Observe for settled solids after allowing the sample to sit for approximately one-half hour.

Sampling not performed due to adverse conditions:

☐ No ☐ Yes (explain): _____

_____

Sampling not performed due to no measurable storm event occurring that resulted in a discharge during the monitoring quarter:
☐ No ☐ Yes (explain): _____

_____

Detail any concerns, additional comments, descriptions of pictures taken, and any corrective actions taken below (attach additional sheets as necessary).

Certification by Facility Responsible Official (Refer to MSGP Appendix B, Part B.11 for Signatory Requirements)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name_____ B. Title _____

C. Signature_____ D. Date Signed_____

Appendix C: 2021 MSGP Industrial Stormwater Collection Form

MSGP Industrial Stormwater/Snowmelt Discharge Collection Form

					Type of Analyses Required								Sample Collection Information	
Name of Facility: Address: Person(s)/Title(s) collecting sample: NPDES ID: Outfall Numbers/Sample Locations:			Preservative (Y/N)	Number of Containers									Date & Time Sample Collection Began: Date & Time Sample Collection Ended (if different):	
Discharge Information Nature of Discharge (circle one): Rainfall or Snowmelt Rainfall Amount (inches): Date of Discharge Sampling: Date & Time Storm Began: Date & Time Storm Ended: Date & Time of Previous Measurable Storm Event:													Shaded area for laboratory use only	
Date	Time	Sample Identification/Outfall											Sample Type	Laboratory Log Number

Sampled by: (*signature*)	Date/Time:	Relinquished by: (*signature*)	Date/Time:	Received by: (*signature*)	Date/Time:
Received by: (*signature*)	Date/Time:	Received by: (*signature*)	Date/Time:	Received by: (*signature*)	Date/Time:

The 72-hour interval can be waived when the previous storm did not yield a measurable discharge or if you are able to document (attach applicable documentation) that less than a 72-hour interval is representative of local storm events during the sampling period.

Detail any concerns, additional comments, descriptions of pictures taken, and any corrective actions below (attach additional sheets as necessary).

Certification by Facility Responsible Official (Refer to MSGP Appendix B, Part B.11 for Signatory Requirements)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name_____ B. Title _____

C. Signature_____ D. Date Signed_____

MSGP Sample Collection Form Page___of ___

APPENDIX N.b
Chapter 12.6 of the 2004 IDDE Guidance Manual from Center for Watershed Protection

Evaluating Interpretive Techniques Using Outfall Indicator Monitoring Data

Outfall sampling data for confirmed sources or flow types can be used to test the accuracy and reliability of all four interpretive techniques. The sampling record is used to determine the number of false positives or false negatives associated with a specific interpretive technique. A simple tabulation of false test readings can identify the types and levels of indicator parameters that are most useful.

Table 48 provides an example of how the Flow Chart Method was tested with outfall monitoring data from Birmingham, AL (Pitt *et al.*, 1993). In this case, the Flow Chart Method was applied without adaptation to local conditions, and the number of correctly (and incorrectly) identified discharges was tracked. Tests on 10 Birmingham outfalls were mostly favorable, with the flow chart method correctly identifying contaminated discharges in all cases (i.e., washwater or sewage waste water). At one outfall, the flow chart incorrectly identified sewage as washwater, based on an ammonia (NH_3)/ potassium (K) ratio of 0.9 that was very close to the breakpoint in the Flow Chart Method (ratio of one). Based on such tests, program managers may want to slightly adjust the breakpoints in the Flow Chart Method to minimize the occurrence of errors.

12.6 Special Monitoring Techniques for Intermittent or Transitory Discharges

The hardest discharges to detect and test are intermittent or transitory discharges to the storm drain system that often have an indirect mode of entry. With some ingenuity, luck, and specialized sampling techniques, however, it may be possible to catch these discharges. This section describes some specific monitoring techniques to track down intermittent discharges. Transitory discharges cannot be reliably detected using conventional outfall monitoring techniques, and are normally found as a result of hotline complaints or spill events. Nevertheless, when transitory discharges are encountered, they should be sampled if possible.

Techniques for Monitoring Intermittent Discharges

An outfall may be suspected of having intermittent discharges based on physical indicators (e.g., staining), poor in-stream dry weather water quality, or the density of generating sites in the contributing subwatershed. The only sure way to detect an intermittent discharge is to camp out at the outfall for a long period of time, which is obviously not very cost-effective or feasible. As an alternative, five special monitoring techniques can be used to help track these elusive problems:

- Odd hours monitoring
- Optical brightener monitoring traps
- Caulk dams
- Pool sampling
- Toxicity monitoring

Table 48: Evaluation of the Flow Chart Method Using Data from Birmingham, Alabama
(Adapted from Pitt* et al*., 1993)

Outfall ID	Outfall Concentrations (mg/L)					Predicted Flow Type	Confirmed Flow Type	Result
	Detergents-Surfactants (>0.25 is sanitary or wash water)	NH3	K	NH3/K (>1.0 is sanitary)	Fluoride (>0.25 is tap, if no detergents)			
14	0	0	0.69	0.0	0.04	Natural Water	Spring Water	Correct
20	0	0.03	1.98	0.0	0.61	Tap Water	Rinse Water (Tap) and Spring Water	Correct
21	20	0.11	5.08	0.0	2.80	Washwater	Washwater (Automotive)	Correct
26	0	0.01	0.72	0.0	0.07	Natural Water	Spring Water	Correct
28	0.25[1]	2.89	5.96	0.5	0.74	Washwater	Washwater (Restaurant)	Correct
31	0.95	0.21	3.01	0.1	1.00	Washwater	Laundry (Motel)	Correct
40z	0.25[1]	0.87	0.94	0.9	0.12	Washwater	Shallow Groundwater and Septage	Identifies Contaminated but Incorrect Flow Type
42	0	0	0.81	0.0	0.07	Natural Water	Spring Water	Correct
48	3.0	5.62	4.40	1.3	0.53	Sanitary Wastewater	Spring Water and Sewage	Correct
60a	0	0.31	2.99	0.1	0.61	Tap Water	Landscaping Irrigation Water	Correct

[1] These values were increased from reported values of 0.23 mg/L (outfall 28) and 0.2 mg/L (outfall 40z). The analytical technique used in Birmingham was more precise (but more hazardous) than the method used to develop the flow chart in Figure 47. It is assumed that these values would have been interpreted as 0.25 mg/L using the less precise method.

Odd Hours Monitoring

Many intermittent discharges actually occur on a regular schedule, but unfortunately not the same one used by field crews during the week. For example, some generating sites discharge over the weekend or during the evening hours. If an outfall is deemed suspicious, program managers may want to consider scheduling "odd hours" sampling at different times of the day or week. Some key times to visit suspicious outfalls include:

- Both morning and afternoon
- Weekday evenings
- Weekend mornings and evenings

Optical Brightener Monitoring Traps

Optical brightener monitoring (OBM) traps are another tool that crews can use to gain insight into the "history" of an outfall without being physically present. OBM traps can be fabricated and installed using a variety of techniques and materials. All configurations involve an absorbent, unbleached cotton pad or fabric swatch and a holding or anchoring device such as

a wire mesh trap (Figure 48) or a section of small diameter (e.g., 2-inch) PVC pipe. Traps are anchored to the inside of outfalls at the invert using wire or monofilament that is secured to the pipe itself or rocks used as temporary weights.

Field crews retrieve the OBM traps after they have been deployed for several days of dry weather, and place them under a fluorescent light that will indicate if they have been exposed to detergents. OBM traps have been used with some success in Massachusetts (Sargent *et al.*, 1998) and northern Virginia (Waye, 2000). Although each community used slightly different methods, the basic sampling concept is the same. For more detailed guidance on how to use OBM traps and interpret the results, consult the guidance manual found at: http://www.naturecompass.org/8tb/sampling/index.html and http://www.novaregion.org/obm.htm.

Although OBM traps appear useful in detecting some intermittent discharges, research during this project has found that OBM traps only pick up the most contaminated discharges, and the detergent level needed to produce a "hit" was roughly similar to pure washwater from a washing machine (see Appendix F for results).

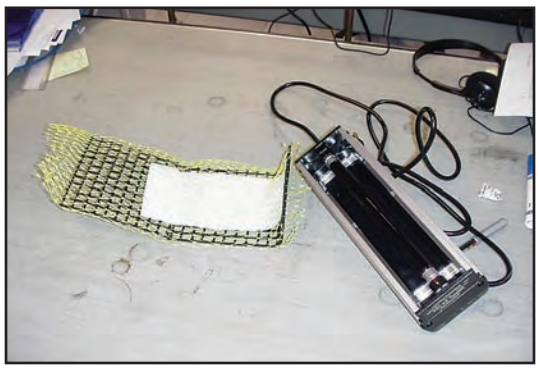


Figure 48: OBM Equipment includes a black light and an OBM Trap that can be placed at an outfall
Source: R. Pitt

Consequently, OBM traps may be best suited as a simple indicator of presence or absence of intermittent flow or to detect the most concentrated flows. OBM traps need to be retrieved before runoff occurs from the outfalls, which will contaminate the trap or wash it away.

Caulk Dams

This technique uses caulk, plumber's putty, or similar substance to make a dam about two inches high within the bottom of the storm drain pipe to capture any dry weather flow that occurs between field observations. Any water that has pooled behind the dam is then sampled using a hand-pump sampler, and analyzed in the lab for appropriate indicator parameters.

Pool Sampling

In this technique, field crews collect indicator samples directly from the "plunge pool" below an outfall, if one is present. An upstream sample is also collected to characterize background stream or ditch water quality that is not influenced by the outfall. The pool water and stream sample are then analyzed for indicator parameters, and compared against each other. Pool sampling results can be constrained by stream dilution, deposition, storm water flows, and chemical reactions that occur within the pool.

Toxicity Monitoring

Another way to detect intermittent discharges is to monitor for toxicity in the pool below the outfall on a daily basis. Burton and Pitt (2002) outline several options to measure toxicity, some of which can be fairly expensive and complex. The Fort Worth Department of Environmental Management has developed a simple low-cost outfall toxicity testing technique known as the Stream Sentinel program. Stream sentinels

place a bottle filled with minnows in the pool below suspected outfalls and measure the survival rate of the minnows as an indicator of the toxicity of the outfall [12] (see Figure 49).

One advantage of the sentinel program is that volunteer monitors can easily participate, by raising and caring for the minnows, placing bottles at outfalls, and visiting them everyday to record mortality. The long-term nature of sentinel monitoring can help pick up toxicity trends at a given outfall. For example, Fort Worth observed a trend of mass mortality on the second Tuesday of each month at some outfalls, which helped to pinpoint the industry responsible for the discharges, and improved sample scheduling (City of Fort Worth, 2003). More information about the Stream Sentinel program can be found at: www.fortworthgov.org/DEM/stream_sentinel.pdf.





Figure 49: Float and wire system to suspend a bottle in a stream sentinel station deployed in Fort Worth, TX (a); Minnows in the perforated bottle below the water surface (b).

Due to the cost and difficulty of interpreting findings, toxicity testing is generally not recommended for communities unless they have prior experience and expertise with the method.

Techniques for Monitoring Transitory Discharges

Transitory discharges, such as spills and illegal dumping, are primarily sampled to assign legal responsibility for enforcement actions or to reinforce ongoing pollution prevention education efforts. In most cases, crews attempt to trace transitory discharges back up the pipe or drainage area using visual techniques (see Chapter 13). However, field crews should always collect a sample to document the event. Table 49 summarizes some follow-up monitoring strategies to document transitory discharges.

12.7 Monitoring of Stream Quality During Dry Weather

In-stream water quality monitoring can help detect sewage and other discharges in a community or larger watershed. Stream monitoring can identify the subwatersheds with the greatest illicit or sewage discharge potential that is then used to target outfall indicator monitoring. At the smaller reach scale, stream monitoring may sometimes detect major individual discharges to the stream.

[12] It may be necessary to obtain approval from the appropriate state of federal regulatory agency before conducting toxicity monitoring using vertebrates.

Table 49: Follow-Up Monitoring for Transitory Discharges	
Condition	**Response**
Oils or solvents	Special hydrocarbon analysis to characterize the source of the oil
Unknown but toxic material	Full suite of metals, pesticides, other toxic materials
Probable sewage	Monitor for parameters associated with the Flow Chart Technique (detergents, ammonia, potassium, fluoride) for residential drainage areas

Stream Monitoring to Identify Problem Reaches or Subwatersheds

Stream monitoring data can be used to locate areas in subwatersheds where illicit discharges may be present, and where human or aquatic health risks are higher. To provide this information, stream monitoring should be conducted regularly during dry weather conditions to track water quality (at least monthly) and to document changes in water quality over a period of time. Stream monitoring data are particularly effective when combined with ORI data. For example, a subwatershed with many ORI physical indicators of illicit discharges (e.g., a high number of flowing outfalls) that also has poor stream water quality would be an obvious target for intensive outfall monitoring.

Stream monitoring parameters should reflect local water quality goals and objectives, and frequently include bacteria and ammonia. Bacteria are useful since sewage discharges can contribute to violations of water contact standards set for recreation during dry weather conditions. Table 50 summarizes water quality standards for *E. coli* that EPA recommends for water contact recreation. It is important to note that individual states may use different action levels or bacteria indicators (e.g., Enterococci or fecal coliform) to regulate water contact recreation. For a review of the impacts bacteria exert on surface waters, consult CWP (2000).

An important caveat when interpreting stream monitoring data is that a violation of bacteria standards during dry weather flow does not always mean that an illicit discharge or sewage overflow is present. While raw sewage has bacteria concentrations that greatly exceed bacteria standards (approximately 12,000 MPN/100 mL) other bacteria sources, such as urban wildlife, can also cause a stream to violate standards. Consequently, stream monitoring data need to be interpreted in the context of other information, such as upstream land use, past complaints, age of infrastructure, and ORI surveys.

Ideally, stream monitoring stations should be strategically located with a minimum of one station per subwatershed, and additional stations at stream confluences and downstream of reaches with a high outfall density. Stations should also be located at beaches, shellfish harvesting and other areas where discharges represent a specific threat to public health. See Burton and Pitt (2002) for guidance on stream monitoring.

Stream Monitoring to Identify Specific Discharges

Stream monitoring data can help field crews locate individual discharges within a specific stream reach. Immediate results are needed for this kind of monitoring, so indicator parameters should be analyzed using simple field test kits or portable analytical

instruments (e.g., spectrophotometer). Bacteria is not a good indicator parameter to use for this purpose because lab results cannot be received for at least one day (analytical method requires a "hold time" of 24 hours). Table 51 summarizes nutrient indicator parameters along with their "potential problem level" benchmarks. It is important to note that other factors, such as animal operations, can elevate stream nutrient concentrations, so data should always be interpreted in the context of surrounding land use. Stream monitoring benchmarks should be continuously refined as communities develop a better understanding of what dry weather baseline concentrations to expect.

If stream monitoring indicates that a potential problem level benchmark has been exceeded, field crews continue stream sampling to locate the discharge through a process of elimination. Crews walk upstream taking regular samples above and below stream confluences until the benchmark concentration declines. The crews then take samples at strategic points to narrow down the location of the discharge, using the in-pipe monitoring strategy described in Chapter 13.

Table 50: Typical "Full Body Contact Recreation" Standards for *E. coli*
(Source: EPA, 1986)[1]

Use	Criterion
Designated beach area	235 MPN /100 mL
Moderately-used full body contact recreation area	298 MPN /100 mL
Lightly-used full body contact recreation	406 MPN /100 mL
Infrequently-used full body contact recreation	576 MPN /100 mL

[1] These concentrations represent standards for a single sampling event. In all waters, a geometric mean concentration of 126 MPN/100 mL cannot be exceeded for five samples taken within one month.

Table 51: Example In-Stream Nutrient Indicators of Discharges
(Zielinski, 2003)

Parameter	Potential Problem Level*	Possible Cause of Water Quality Problem
Total Nitrogen (TN)	3.5 mg/l	High nutrients in ground water from agriculture, lawn practices, or sewage contamination from illicit connection, sanitary line break or failing septic system.
Total Phosphorus (TP)	0.4 mg/l	Contamination from lawn practices, agriculture, sewage or washwater.
Ammonia (NH_3)	0.3 mg/l	Sewage or washwater contamination from illicit connection, sanitary line break or failing septic system.

**Nutrient parameters are based on USGS NAWQA data with 85% of flow weighted samples being less than these values in urban watersheds (Note: data from Nevada were not used, due to climatic differences and for some parameters they were an order of magnitude higher). Communities can modify these benchmarks to reflect local data and experience.*

12.8 The Costs of Indicator Monitoring

This section provides general guidance on scoping and budgeting an indicator monitoring program. The required budget will ultimately be dictated by the monitoring decisions and local conditions within a community. The budgeting data presented in this section are based on the level of indicator sampling effort in two hypothetical communities, using different numbers of samples, indicator parameters, and analysis methods.

Budgets for Indicator Monitoring in a Hypothetical Community

Communities can develop annual budgets for indicator monitoring if the degree of sampling effort can be scoped. This is normally computed based on the expected number of samples to analyze and is a function of stream miles surveyed and outfall density. For example, if a community collects samples from 10 stream miles with eight outfalls per mile, it will have 80 samples to analyze. This number can be used to generate start-up and annual monitoring cost estimates that represent the expected level of sampling effort. Table 52 summarizes how indicator monitoring budgets were developed for two hypothetical communities, each with 80 outfalls to sample. Budgets are shown using both in-house and contract lab set-ups, and are split between initial start-up costs and annual costs.

Community A: Primarily Residential Land Use, Flow Chart Method

In this scenario, six indicator parameters were analyzed, several of which were used to support the Flow Chart Method. The community took no additional samples to create a chemical library, and instead relied on default values to identify illicit discharges. The community analyzed the samples in-house at a rate of one sample (includes analysis of all six parameters) per staff hour.

Community B: Mixed Land Use - Multiple Potential Sources, Complex Analysis

In the second scenario, the community analyzed 11 indicator parameters, including a bacteria indicator, and took samples of eight distinct flow types to create a chemical library, for a total of 88 samples. The community analyzed the samples in-house at a rate of one sample per 1.5 staff hours.

Some general rules of thumb that were used for this budget planning example include the following:

- $500 in initial sampling equipment (e.g., sample bottles, latex gloves, dipper, cooler, etc).
- Outfall samples are collected in batches of 10. Each batch of samples can be collected and transported to the lab in two staff days (two-person crew required to collect samples for safety purposes).
- Staff rate is $25/hr.
- Overall effort to collect samples for the chemical library and statistically analyze the data is approximately one staff day per source type.
- The staff time needed to prepare for field work and interpret lab results is roughly two times that required for conducting the field work (i.e., eight days of collecting samples requires 16 days of pre- and post-preparation).

Costs for Intermittent Discharge Analyses

Equipment costs for most specialized intermittent discharge techniques tend to be low (<$500), and are dwarfed by staff effort. As a rule of thumb, assume about four hours of staff time to deploy, retrieve and analyze samples collected from a single outfall using these techniques.

Table 52: Indicator Monitoring Costs: Two Scenarios

	Community A: In-House	Community A: Contract Lab	Community B: In-House	Community B: Contract Lab
Initial Costs				
Initial Sampling Supplies and Lab Equipment [1]	$1,700	$500	$7,500	$500
Staff Cost: Library Development [2]	$0	$0	$4,600[3]	$2,000
Analysis Costs: Library Development (Reagents or Contract Lab Cost)	$0	$0	$1,400	$13,000[4]
Total Initial Costs	**$1,700**	**$500**	**$13,500**	**$15,500**
Annual Costs in Subsequent Years				
Staff Field Cost (Sample Collection) [2, 5, 6]	$3,200	$3,200	$3,200	$3,200
Staff Costs: Chemical Analysis [2]	$2,000	$200[7]	$3,000	$200
Staff Time to Enter/ Interpret Data [2, 6]	$3,200	$3,200	$4,800	$4,800
Analysis Costs: Annual Outfall Sampling (Reagents or Contract Lab Cost)	$600	$8,400[4]	$1,400	$13,000[4]
Total Annual Cost	**$9,000**	**$15,000**	**$12,400**	**$21,200**

Notes:
[1] $500 in initial sampling equipment.
[2] Samples can be shipped to a contract lab using one staff hour.
[3] Overall effort to collect samples for the library and statistically analyze the data is approximately one staff day per source type.
[4] For contract lab analysis, assume a cost that is an average between the two extremes of the range in Table 43.
[5] Outfall samples are collected in batches of 10. Each batch of samples can be collected and transported to the lab in two staff days (two-person crew required to collect samples for safety purposes).
[6] Assume that the staff time needed to interpret lab results and prepare for field work is roughly 16 staff days. An additional eight days are required for the flow type pre- and post-preparation for Community 2.
[7] Staff rate is $25/hr.

APPENDIX O
Illicit Discharge Track Down and Elimination Program

VILLAGE OF HEAD OF THE HARBOR ILLICIT DISCHARGE TRACK DOWN AND ELIMINATION PROGRAM

This section of the Village SWMP Plan was prepared in accordance with Part VI.C of the MS4 General Permit, which requires municipalities to develop and implement Illicit Discharge Track Down and Elimination Program to identify and eliminate illicit discharges. This section is to ensure compliance with the MS4 General Permit and the Village's stormwater local laws, Chapter 85, "Erosion and Drainage", Chapter 165, Article XX, "Stormwater Management", and Chapter 166, "Illicit Discharges to Storm Sewers". The purpose of this program is to identify, eliminate, and prevent the discharge of contaminated stormwater runoff into the MS4 or directly into surface waters and to protect human health and the environment.

ILLICIT DISCHARGE TRACK DOWN PROCEDURES

The MS4 General Permit requires the Village to perform illicit discharge track down procedures as described in Chapter 13 of 2004 IDDE Guidance Manual from Center for Watershed Protection, which is attached as an addition to this Appendix. The Village of Head of the Harbor currently conducts track down procedures by visual observations, indicator sampling, subgrade video testing, dye testing, and/or smoke testing for storm drain network investigations, drainage area investigations, on-site investigations, and septic system investigations. The Village begins track down procedures first with a visual inspection and if further sampling is required, adhere to the following time frames to initiate illicit discharge track down procedures:

1. Within twenty-four (24) hours of discovery, the Village must initiate track down procedures for flowing MS4 monitoring locations with obvious illicit discharges.
2. Within two (2) hours of discovery, the Village must initiate track down procedures for obvious illicit discharges of sanitary wastewater that would affect bathing areas during bathing season, shell fishing areas or public water intakes and report orally or electronically to the Regional Water Engineer and Suffolk County Department of Health.
3. Within five (5) days of discovery, the Village must initiate track down procedures for suspect illicit discharges.

ILLICIT DISCHARGE ELIMINATION PROCEDURES

The MS4 General Permit requires the Village to perform illicit discharge elimination procedures as described in Chapter 14 of 2004 IDDE Guidance Manual from Center for Watershed Protection, which is attached as an addition to this Appendix. The Village of Head of the Harbor currently conducts illicit discharge elimination procedures through various methods depending on the type of problem and its location but can often be performed using standard plumbing supplies. The methods for fixing more significant problems within the Village are based on Table 65, also found in Chapter 14 of 2004 IDDE Guidance Manual from Center for Watershed Protection and included as part of this Appendix.

VILLAGE OF HEAD OF THE HARBOR
ILLICIT DISCHARGE TRACK DOWN AND ELIMINATION PROGRAM

Provisions for escalating enforcement and tracking can be found in the Village's Enforcement Response Plan along with the provisions to confirm the corrective actions have been taken. The Village currently adheres to the following time frames to initiate illicit discharge elimination procedures:

1. Within twenty-four (24) hours of identification of an illicit discharge that has a reasonable likelihood of adversely affecting human health or the environment, the Village must eliminate the illicit discharge.
2. Within five (5) days of identification of an illicit discharge that does not have a reasonable likelihood of adversely affecting human health or the environment, the Village must eliminate the illicit discharge.
3. Where elimination of an illicit discharge within the specified timeframes is not possible, the Village must notify the Regional Water Engineer.

TRAINING PROVISIONS FOR ILLICIT DISCHARGE TRACK DOWN AND ELIMINATION PROCEDURES

The MS4 General Permit requires any individuals conducting illicit discharge track down and elimination procedures to be trained on the procedures prior to conducting any inspections or maintenance. To satisfy this request, the Village used the Environmental Protection Agency's free National Pollutant Discharge Elimination System (NPDES) Stormwater Webcasts on Illicit Discharge Detection and Elimination. This training is to be completed by staff once every five (5) years and/or as new staff are added. The Highway Director also provides training to staff on key facts that apply specifically to their jobs throughout the day utilizing Chapters 13 and 14 of the 2004 IDDE Guidance Manual from Center for Watershed Protection which are attached as an addition to this Appendix. The following table shows the list of trained employees that conduct illicit discharge track down procedures:

TITLE	NAME	PHONE	EMAIL	DATE
Building Inspector	Robert O'Shea	T (631)-584-5602 F (631)-862-1417	hohbuilding@yahoo.com	
Village Engineer	Daniel Falasco	T (631)-584-5550 F (631)-862-1417	Dan.falasco@outlook.com	
Highway Director	Frank Prinzevalli	T (631)-584-3701 F (631)-862-1417	frankprinzehoth@gmail.com	

APPENDIX O.a
Chapters 13 & 14 of 2004 IDDE Guidance Manual from Center for Watershed Protection

Chapter 13: Tracking Discharges To A Source

Once an illicit discharge is found, a combination of methods is used to isolate its specific source. This chapter describes the four investigation options that are introduced below.

Storm Drain Network Investigation

Field crews strategically inspect manholes within the storm drain network system to measure chemical or physical indicators that can isolate discharges to a specific segment of the network. Once the pipe segment has been identified, on-site investigations are used to find the specific discharge or improper connection.

Drainage Area Investigation

This method relies on an analysis of land use or other characteristics of the drainage area that is producing the illicit discharge. The investigation can be as simple as a "windshield" survey of the drainage area or a more complex mapping analysis of the storm drain network and potential generating sites. Drainage area investigations work best when prior indicator monitoring reveals strong clues as to the likely generating site producing the discharge.

On-site Investigation

On-site methods are used to trace the source of an illicit discharge in a pipe segment, and may involve dye, video or smoke testing within isolated segments of the storm drain network.

Septic System Investigation

Low-density residential watersheds may require special investigation methods if they are not served by sanitary sewers and/or storm water is conveyed in ditches or swales. The major illicit discharges found in low-density development are failing septic systems and illegal dumping. Homeowner surveys, surface inspections and infrared photography have all been effectively used to find failing septic systems in low-density watersheds.

13.1 Storm Drain Network Investigations

This method involves progressive sampling at manholes in the storm drain network to narrow the discharge to an isolated pipe segment between two manholes. Field crews need to make two key decisions when conducting a storm drain network investigation—where to start sampling in the network and what indicators will be used to determine whether a manhole is considered clean or dirty.

Where to Sample in the Storm Drain Network

The field crew should decide how to attack the pipe network that contributes to a problem outfall. Three options can be used:

- Crews can work progressively up the trunk from the outfall and test manholes along the way.
- Crews can split the trunk into equal segments and test manholes at strategic junctions in the storm drain system.
- Crews can work progressively down from the upper parts of the storm drain network toward the problem outfall.

The decision to move up, split, or move down the trunk depends on the nature and land use of the contributing drainage area. Some guidance for making this decision is provided in Table 53. Each option requires different levels of advance preparation. Moving up the trunk can begin immediately when an illicit discharge is detected at the outfall, and only requires a map of the storm drain system. Splitting the trunk and moving down the system require a little more preparation to analyze the storm drain map to find the critical branches to strategically sample manholes. Accurate storm drain maps are needed for all three options. If good mapping is not available, dye tracing can help identify manholes, pipes and junctions, and establish a new map of the storm drain network.

Option 1: Move up the Trunk

Moving up the trunk of the storm drain network is effective for illicit discharge problems in relatively small drainage areas. Field crews start with the manhole closest to the outfall, and progressively move up the network, inspecting manholes until indicators reveal that the discharge is no longer present (Figure 50). The goal is to isolate the discharge between two storm drain manholes.

Table 53: Methods to Attack the Storm Drain Network

Method	Nature of Investigation	Drainage System	Advance Prep Required
Follow the discharge up	Narrow source of an individual discharge	Small diameter outfall (< 36”) Simple drainage network	No
Split into segments	Narrow source of a discharge identified at outfall	Large diameter outfall (> 36”), Complex drainage Logistical or traffic issues may make sampling difficult.	Yes
Move down the storm drain	Multiple types of pollution, many suspected problems—possibly due to old plumbing practices or number of NPDES permits	Very large drainage area (> one square mile).	Yes

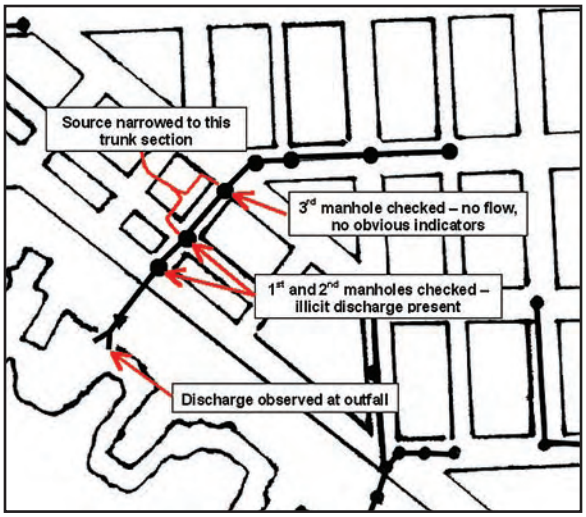


Figure 50: Example investigation following the source up the storm drain system

Option 2: Split the storm drain network

When splitting the storm drain network, field crews select strategic manholes at junctions in the storm drain network to isolate discharges. This option is particularly suited in larger and more complex drainage areas since it can limit the total number of manholes to inspect, and it can avoid locations where access and traffic are problematic.

The method for splitting the trunk is as follows:

1. Review a map of the storm drain network leading to the suspect outfall.
2. Identify major contributing branches to the trunk. The trunk is defined as the largest diameter pipe in the storm drain network that leads directly to the outfall. The "branches" are networks of smaller pipes that contribute to the trunk.
3. Identify manholes to inspect at the farthest downstream node of each contributing branch and one immediately upstream (Figure 51).
4. Working up the network, investigate manholes on each contributing branch and trunk, until the source is narrowed to a specific section of the trunk or contributing branch.
5. Once the discharge is narrowed to a specific section of trunk, select the appropriate on-site investigation method to trace the exact source.
6. If narrowed to a contributing branch, move up or split the branch until a specific pipe segment is isolated, and commence the appropriate on-site investigation to determine the source.

Option 3: Move down the storm drain network

In this option, crews start by inspecting manholes at the "headwaters" of the storm drain network, and progressively move down pipe. This approach works best in very large drainage areas that have many potential continuous and/or intermittent discharges. The Boston Water and Sewer Commission has employed the headwater option to investigate intermittent discharges in complex drainage areas up to three square miles (Jewell, 2001). Field crews certify that each upstream branch of the storm drain network has no contributing discharges before moving down pipe to a "junction manhole" (Figure 52). If discharges are found, the crew performs dye testing to pinpoint the discharge. The crew then confirms that the discharge is removed before moving farther down the pipe network. Figure 53 presents a detailed flow chart that describes this option for analyzing the storm drain network.

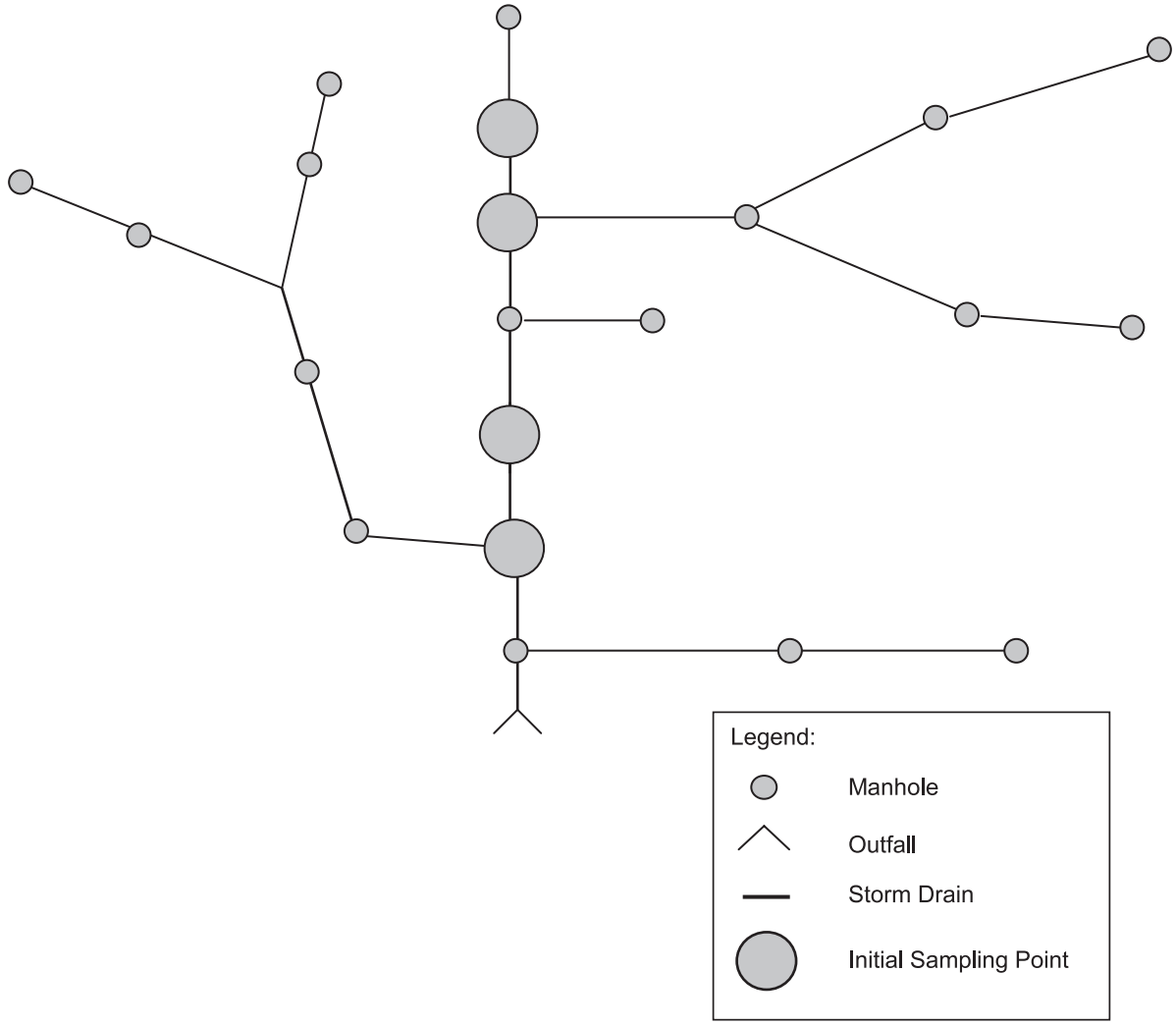


Figure 51: Key initial sampling points along the trunk of the storm drain

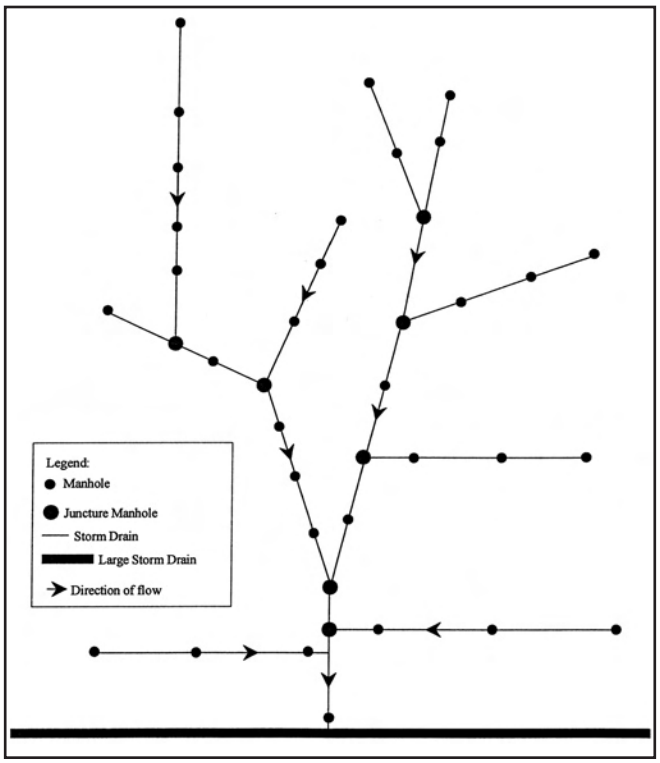


Figure 52: Storm Drain Schematic Identifying "Juncture Manholes" (Source: Jewell, 2001)

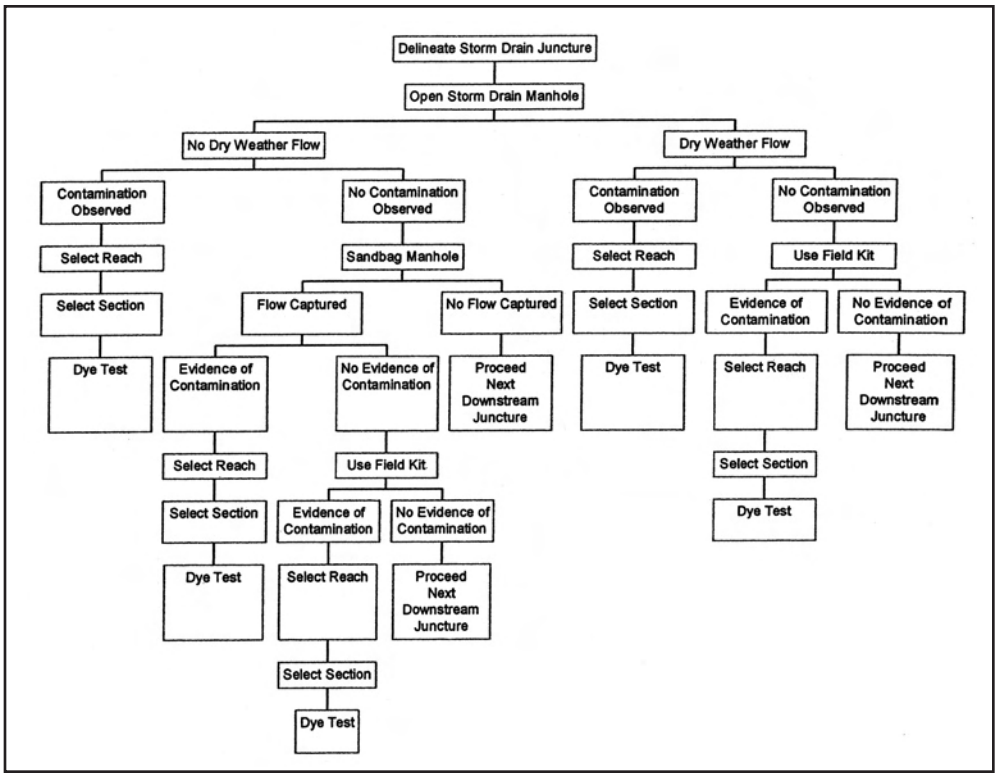


Figure 53: A Process for Following Discharges Down the Pipe (Source: Jewell, 2001)

Dye Testing to Create a Storm Drain Map

As noted earlier, storm drain network investigations are extremely difficult to perform if accurate storm drain maps are not available. In these situations, field crews may need to resort to dye testing to determine the flowpath within the storm drain network. Fluorescent dye is introduced into the storm drain network and suspected manholes are then inspected to trace the path of flow through the network (U.S. EPA, 1990). Two or three member crews are needed for dye testing. One person drops the dye into the trunk while the other(s) looks for evidence of the dye down pipe.

To conduct the investigation, a point of interest or down pipe "stopping point" is identified. Dye is then introduced into manholes upstream of the stopping point to determine if they are connected. The process continues in a systematic manner until an upstream manhole can no longer be determined, whereby a branch or trunk of the system can be defined, updated or corrected. More information on dye testing methods is provided in Section 13.3.

Manhole Inspection: Visual Observations and Indicator Sampling

Two primary methods are used to characterize discharges observed during manhole inspections—visual observations and indicator sampling. In both methods, field crews must first open the manhole to determine whether an illicit discharge is present. Manhole inspections require a crew of two and should be conducted during dry weather conditions.

Basic field equipment and safety procedures required for manhole inspections are outlined in Table 54. In particular, field crews need to be careful about how they will safely divert traffic (Figure 54). Other safety considerations include proper lifting of manhole covers to reduce the potential for back injuries, and testing whether any toxic or flammable fumes exist within the manhole before the cover is removed. Wayne County, MI has developed some useful operational procedures for inspecting manholes, which are summarized in Table 55.

Table 54: Basic Field Equipment Checklist

- Camera and film or digital camera
- Clipboards
- Field sheets
- Field vehicle
- First aid kit
- Flashlight or spotlight
- Gas monitor and probe
- Manhole hook/crow bar
- Mirror
- Storm drain, stream, and street maps
- Reflective safety vests
- Rubber / latex gloves
- Sledgehammer
- Spray paint
- Tape measures
- Traffic cones
- Two-way radios
- Waterproof marker/ pen
- Hand held global positioning satellite (GPS) system receiver (best resolution available within budget, at least 6' accuracy)



Figure 54: Traffic cones divert traffic from manhole inspection area

Table 55: Field Procedure for Removal of Manhole Covers
(Adapted from: Pomeroy et al., 1996)

Field Procedures:

1. Locate the manhole cover to be removed.
2. Divert road and foot traffic away from the manhole using traffic cones.
3. Use the tip of a crowbar to lift the manhole cover up high enough to insert the gas monitor probe. Take care to avoid creating a spark that could ignite explosive gases that may have accumulated under the lid. Follow procedures outlined for the gas monitor to test for accumulated gases.
4. If the gas monitor alarm sounds, close the manhole immediately. Do not attempt to open the manhole until some time is allowed for gases to dissipate.
5. If the gas monitor indicates the area is clear of hazards, remove the monitor probe and position the manhole hook under the flange. Remove the crowbar. Pull the lid off with the hook.
6. When testing is completed and the manhole is no longer needed, use the manhole hook to pull the cover back in place. Make sure the lid is settled in the flange securely.
7. Check the area to ensure that all equipment is removed from the area prior to leaving.

Safety Considerations:

1. Do not lift the manhole cover with your back muscles.
2. Wear steel-toed boots or safety shoes to protect feet from possible crushing injuries that could occur while handling manhole covers.
3. Do not move manhole covers with hands or fingers.
4. Wear safety vests or reflective clothing so that the field crew will be visible to traffic.
5. Manholes may only be entered by properly trained and equipped personnel and when all OSHA and local rules a.

Visual Observations During Manhole Inspection

Visual observations are used to observe conditions in the manhole and look for any signs of sewage or dry weather flow. Visual observations work best for obvious illicit discharges that are not masked by groundwater or other "clean" discharges, as shown in Figure 55. Typically, crews progressively inspect manholes in the storm drain network to look for contaminated flows. Key visual observations that are made during manhole inspections include:

- Presence of flow
- Colors
- Odors
- Floatable materials
- Deposits or stains (intermittent flows)



Figure 55: Manhole observation (left) indicates a sewage discharge. Source is identified at an adjacent sewer manhole that overflowed into the storm drain system (right).

Indicator Sampling

If dry weather flow is observed in the manhole, the field crew can collect a sample by attaching a bucket or bottle to a tape measure/rope and lowering it into the manhole (Figure 56). The sample is then immediately analyzed in the field using probes or other tests to get fast results as to whether the flow is clean or dirty. The most common indicator parameter is ammonia, although other potential indicators are described in Chapter 12.

Manhole indicator data is analyzed by looking for "hits," which are individual samples that exceed a benchmark concentration. In addition, trends in indicator concentrations are also examined throughout the storm drain network.



Figure 56: Techniques to sample from the storm drain

Figure 57 profiles a storm drain network investigation that used ammonia as the indicator parameter and a benchmark concentration of 1.0 mg/L. At both the outfall and the first manhole up the trunk, field crews recorded finding "hits" for ammonia of 2.2 mg/L and 2.3 mg/L, respectively. Subsequent manhole inspections further up the network revealed one manhole with no flow, and a second with a hit for ammonia (2.4 mg/L). The crew then tracked the discharge upstream of the second manhole, and found a third manhole with a low ammonia reading (0.05 mg/L) and a fourth with a much higher reading (4.3 mg/L). The crew then redirected its effort to sample above the fourth manhole with the 4.3 mg/L concentration, only to find another low reading. Based on this pattern, the crew concluded the discharge source was located between these two manholes, as nothing else could explain this sudden increase in concentration over this length of pipe.

The results of storm drain network investigations should be systematically documented to guide future discharge investigations, and describe any infrastructure maintenance problems encountered. An example of a sample manhole inspection field log is displayed in Figure 58.

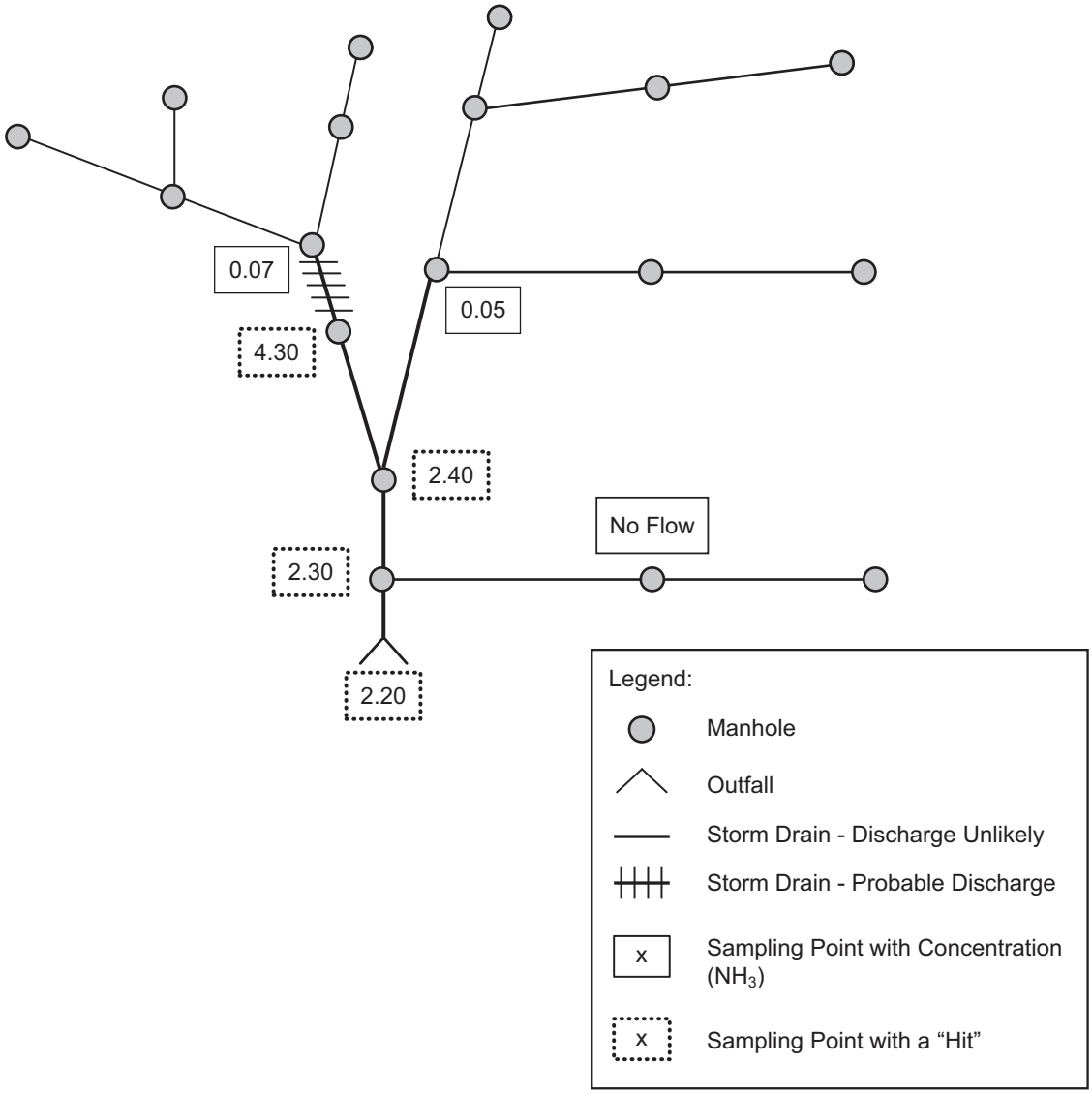
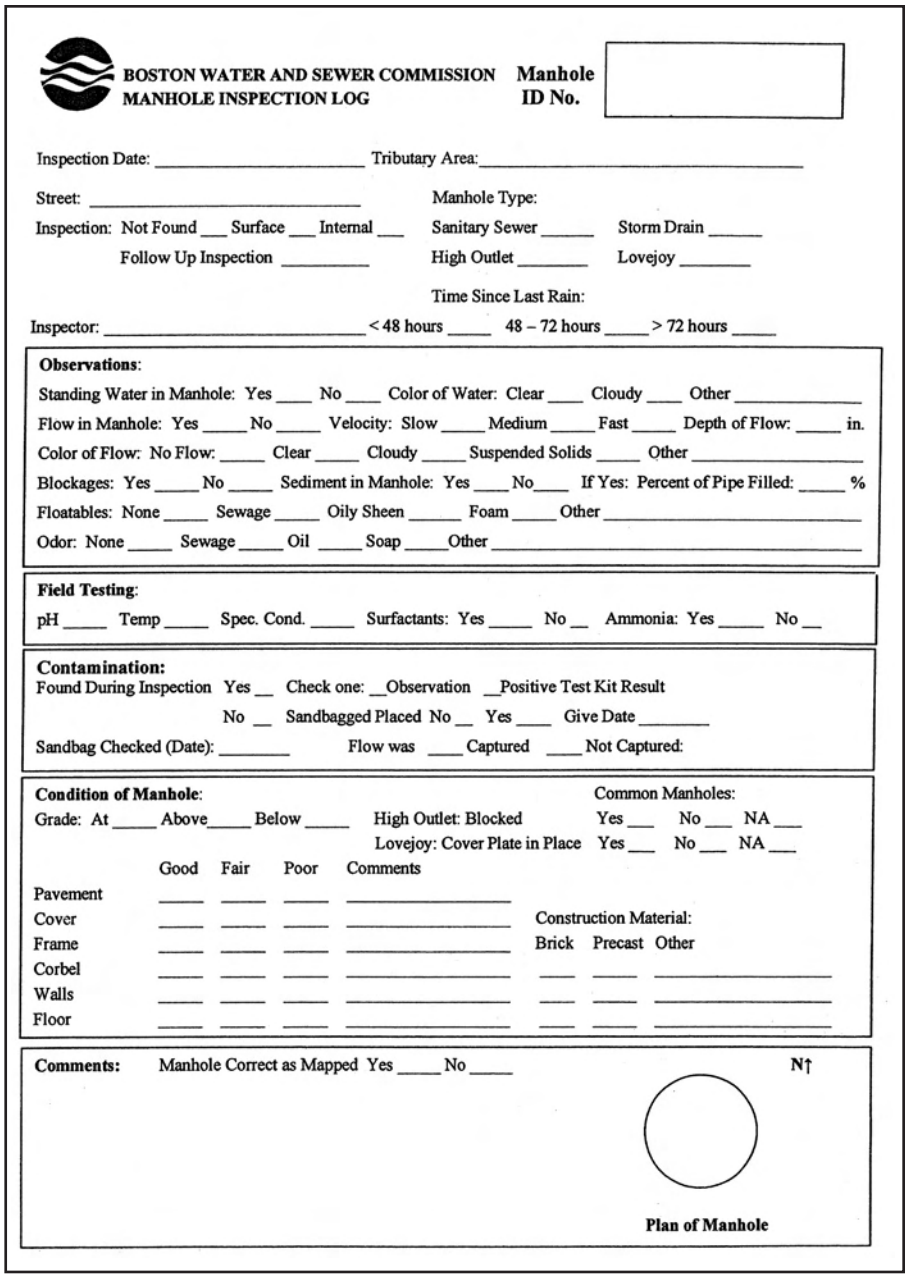


Figure 57: Use of ammonia as a trace parameter to identify illicit discharges



BOSTON WATER AND SEWER COMMISSION
MANHOLE INSPECTION LOG

Manhole ID No. _____

Inspection Date: _____ Tributary Area: _____

Street: _____ Manhole Type:

Inspection: Not Found ___ Surface ___ Internal ___ Sanitary Sewer _____ Storm Drain _____

Follow Up Inspection _____ High Outlet _____ Lovejoy _____

Time Since Last Rain:

Inspector: _____ < 48 hours _____ 48 – 72 hours _____ > 72 hours _____

Observations:

Standing Water in Manhole: Yes ____ No ____ Color of Water: Clear ____ Cloudy ____ Other _____

Flow in Manhole: Yes _____ No _____ Velocity: Slow _____ Medium _____ Fast _____ Depth of Flow: _____ in.

Color of Flow: No Flow: _____ Clear _____ Cloudy _____ Suspended Solids _____ Other _____

Blockages: Yes _____ No _____ Sediment in Manhole: Yes ____ No____ If Yes: Percent of Pipe Filled: _____ %

Floatables: None _____ Sewage _____ Oily Sheen _____ Foam _____ Other _____

Odor: None _____ Sewage _____ Oil _____ Soap _____ Other _____

Field Testing:

pH _____ Temp _____ Spec. Cond. _____ Surfactants: Yes _____ No __ Ammonia: Yes _____ No __

Contamination:

Found During Inspection Yes __ Check one: __Observation __Positive Test Kit Result

No __ Sandbagged Placed No __ Yes ____ Give Date _____

Sandbag Checked (Date): _____ Flow was ____ Captured ____ Not Captured:

Condition of Manhole:

Grade: At _____ Above _____ Below _____ High Outlet: Blocked Yes ___ No ___ NA ___

Lovejoy: Cover Plate in Place Yes ___ No ___ NA ___

Common Manholes:

	Good	Fair	Poor	Comments
Pavement	____	____	____	_____
Cover	____	____	____	_____
Frame	____	____	____	_____
Corbel	____	____	____	_____
Walls	____	____	____	_____
Floor	____	____	____	_____

Construction Material:

	Brick	Precast	Other
Corbel	____	____	_____
Walls	____	____	_____
Floor	____	____	_____

Comments: Manhole Correct as Mapped Yes _____ No _____

N↑

Plan of Manhole

Figure 58: Boston Water and Sewer Commission Manhole Inspection Log (Source: Jewell, 2001)

Methods to isolate intermittent discharges in the storm drain network

Intermittent discharges are often challenging to trace in the storm drain network, although four techniques have been used with some success.

Sandbags

This technique involves placement of sandbags or similar barriers within strategic manholes in the storm drain network to form a temporary dam that collects any intermittent flows that may occur. Any flow collected behind the sandbag is then assessed using visual observations or by indicator sampling. Sandbags are lowered on a rope through the manhole to form a dam along the bottom of the storm drain, taking care not to fully block the pipe (in case it rains before the sandbag is retrieved). Sandbags are typically installed at junctions in the network to eliminate contributing branches from further consideration (Figure 59). If no flow collects behind the sandbag, the upstream pipe network can be ruled out as a source of the intermittent discharge.

Sandbags are typically left in place for no more than 48 hours, and should only be installed when dry weather is forecast. Sandbags should not be left in place during a heavy rainstorm. They may cause a blockage in the storm drain, or, they may be washed downstream and lost. The biggest downside to sandbagging is that it requires at least two trips to each manhole.

Optical Brightener Monitoring (OBM) Traps

Optical brightener monitoring (OBM) traps, profiled in Chapter 12, can also be used to detect intermittent flows at manhole junctions. When these absorbent pads are anchored in the pipe to capture dry weather flows, they can be used to determine the presence of flow and/or detergents. These OBM traps are frequently installed by lowering them into an open-grate drop inlet or storm drain inlet, as shown in Figure 60. The pads are then retrieved after 48 hours and are observed under a fluorescent light (this method is most reliable for undiluted washwaters).

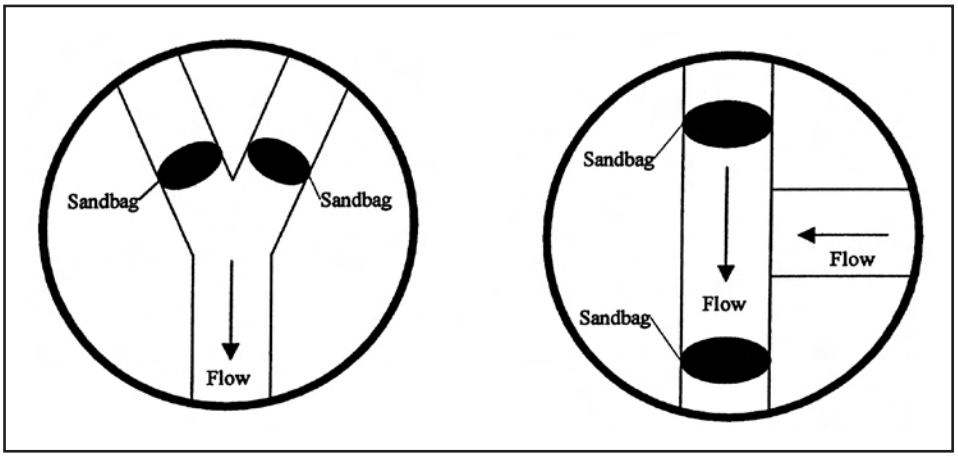


Figure 59: Example sandbag placement (Source: Jewell, 2001)



Figure 60: Optical Brightener Placement in the Storm Drain
(Source: Sargent and Castonguay, 1998)

Automatic Samplers

A few communities have installed automated samplers at strategic points within the storm drain network system that are triggered by small dry weather flows and collect water quality samples of intermittent discharges. Automated sampling can be extremely expensive, and is primarily used in very complex drainage areas that have severe intermittent discharge problems. Automated samplers can pinpoint the specific date and hours when discharges occur, and characterize its chemical composition, which can help crews fingerprint the generating source.

Observation of Deposits or Stains

Intermittent discharges often leave deposits or stains within the storm drain pipe or manhole after they have passed. Thus, crews should note whether any deposits or stains are present in the manhole, even if no dry weather flow is observed. In some cases, the origin of the discharge can be surmised by collecting indicator samples in the water ponded within the manhole sump. Stains and deposits, however, are not always a conclusive way to trace intermittent discharges in the storm drain network.

13.2 Drainage Area Investigations

The source of some illicit discharges can be determined through a survey or analysis of the drainage area of the problem outfall. The simplest approach is a rapid windshield survey of the drainage area to find the potential discharger or generating sites. A more sophisticated approach relies on an analysis of available GIS data and permit databases to identify industrial or other generating sites. In both cases, drainage area investigations are only effective if the discharge observed at an outfall has distinct or unique characteristics that allow crews to quickly ascertain the probable operation or business that is generating it. Often, discharges with a unique color, smell, or off-the-chart indicator sample reading may point to a specific industrial or commercial source. Drainage area investigations are not helpful in tracing sewage discharges, since they are often not always related to specific land uses or generating sites.

Rapid Windshield Survey

A rapid drive-by survey works well in small drainage areas, particularly if field crews are already familiar with its business operations. Field crews try to match the characteristics of the discharge to the most likely type of generating site, and then inspect all of the sites of the same type within the drainage area until the culprit is found. For example, if fuel is observed at an outfall, crews might quickly check every business operation in the catchment that stores or dispenses fuel. Another example is illustrated in Figure 61 where extremely dense algal growth was observed in a small stream during the winter. Field crews were aware of a fertilizer storage site in the drainage area, and a quick inspection identified it as the culprit.



Figure 61: Symptom (left): Discoloration of stream; Diagnosis: Extra hydroseed leftover from an upstream application (middle) was dumped into a storm drain by municipal officials (right).

A third example of the windshield survey approach is shown in Figure 62, where a very thick, sudsy and fragrant discharge was noted at a small outfall. The discharge appeared to consist of wash water, and the only commercial laundromat found upstream was confirmed to be the source. On-site testing may still be needed to identify the specific plumbing or connection generating the discharge.

Detailed Drainage Area Investigations

In larger or more complex drainage areas, GIS data can be analyzed to pinpoint the source of a discharge. If only general land use data exist, maps can at least highlight suspected industrial areas. If more detailed SIC code data are available digitally, the GIS can be used to pull up specific hotspot operations or generating sites that could be potential dischargers. Some of the key discharge indicators that are associated with hotspots and specific industries are reviewed in Appendix K.

13.3 On-site Investigations

On-site investigations are used to pinpoint the exact source or connection producing a discharge within the storm drain network. The three basic approaches are dye, video and smoke testing. While each approach can determine the actual source of a discharge, each needs to be applied under the right conditions and test limitations (see Table 56). It should be noted that on-site investigations are not particularly effective in finding *indirect* discharges to the storm drain network.



Figure 62: The sudsy, fragrant discharge (left) indicates that the laundromat is the more likely culprit than the florist (right).

Table 56: Techniques to Locate the Discharge		
Technique	**Best Applications**	**Limitations**
Dye Testing	• Discharge limited to a very small drainage area (<10 properties is ideal) • Discharge probably caused by a connection from an individual property • Commercial or industrial land use	• May be difficult to gain access to some properties
Video Testing	• Continuous discharges • Discharge limited to a single pipe segment • Communities who own equipment for other investigations	• Relatively expensive equipment • Cannot capture non-flowing discharges • Often cannot capture discharges from pipes submerged in the storm drain
Smoke Testing	• Cross-connection with the sanitary sewer • Identifying other underground sources (e.g., leaking storage techniques) caused by damage to the storm drain	• Poor notification to public can cause alarm • Cannot detect all illicit discharges

TIP

The Wayne County Department of the Environment provides excellent training materials on on-site investigations, as well as other illicit discharge techniques. More information about this training can be accessed from their website: http://www.wcdoe.org/Watershed/Programs___Srvcs_/IDEP/idep.htm.



Figure 63: Dye Testing Plumbing (NEIWPCC, 2003)

Dye Testing

Dye testing is an excellent indicator of illicit connections and is conducted by introducing non-toxic dye into toilets, sinks, shop drains and other plumbing fixtures (see Figure 63). The discovery of dye in the storm drain, rather than the sanitary sewer, conclusively determines that the illicit connection exists.

Before commencing dye tests, crews should review storm drain and sewer maps to identify lateral sewer connections and how they can be accessed. In addition, property owners must be notified to obtain entry permission. For industrial or commercial properties, crews should carry a letter to document their legal authority to gain access to the property. If time permits, the letter can be sent in advance of the dye testing. For residential properties, communication can be more challenging. Unlike commercial properties, crews are not guaranteed access to homes, and should call ahead to ensure that the owner will be home on the day of testing.

Communication with other local agencies is also important since any dye released to the storm drain could be mistaken for a spill or pollution episode. To avoid a costly and embarrassing response to a false alarm,

crews should contact key spill response agencies using a "quick fax" that describes when and where dye testing is occurring (Tuomari and Thomson, 2002). In addition, crews should carry a list of phone numbers to call spill response agencies in the event dye is released to a stream.

At least two staff are needed to conduct dye tests – one to flush dye down the plumbing fixtures and one to look for dye in the downstream manhole(s). In some cases, three staff may be preferred, with two staff entering the private residence or building for both safety and liability purposes.

The basic equipment to conduct dye tests is listed in Table 57 and is not highly specialized. Often, the key choice is the type of dye to use for testing. Several options are profiled in Table 58. In most cases, liquid dye is used, although solid dye tablets can also be placed in a mesh bag and lowered into the manhole on a rope (Figure 64). If a

Table 57: Key Field Equipment for Dye Testing
(Source: Wayne County, MI, 2000)

Maps, Documents
- Sewer and storm drain maps (sufficient detail to locate manholes)
- Site plan and building diagram
- Letter describing the investigation
- Identification (e.g., badge or ID card)
- Educational materials (to supplement pollution prevention efforts)
- List of agencies to contact if the dye discharges to a stream.
- Name of contact at the facility

Equipment to Find and Lift the Manhole Safely (small manhole often in a lawn)
- Probe
- Metal detector
- Crow bar
- Safety equipment (hard hats, eye protection, gloves, safety vests, steel-toed boots, traffic control equipment, protective clothing, gas monitor)

Equipment for Actual Dye Testing and Communications
- 2-way radio
- Dye (liquid or "test strips")
- High powered lamps or flashlights
- Water hoses
- Camera



Figure 64: Dye in a mesh bag is placed into an upstream manhole (left); Dye observed at a downstream manhole traces the path of the storm drain (right)

longer pipe network is being tested, and dye is not expected to appear for several hours, charcoal packets can be used to detect the dye (GCHD, 2002). Charcoal packets can be secured and left in place for a week or two, and then analyzed for the presence of dye. Instructions for using charcoal packets in dye testing can be accessed at the following website: http://bayinfo.tamug.tamu.edu/gbeppubs/ms4.pdf.

The basic drill for dye tests consists of three simple steps. First, flush or wash dye down the drain, fixture or manhole. Second, pop open downgradient sanitary sewer manholes and check to see if any dye appears. If none is detected in the sewer manhole after an hour or so, check downgradient storm drain manholes or outfalls for the presence of dye. Although dye testing is fairly straightforward, some tips to make testing go more smoothly are offered in Table 59.

Table 58: Dye Testing Options

Product	Applications
Dye Tablets	• Compressed powder, useful for releasing dye over time • Less messy than powder form • Easy to handle, no mess, quick dissolve • Flow mapping and tracing in storm and sewer drains • Plumbing system tracing • Septic system analysis • Leak detection
Liquid Concentrate	• Very concentrated, disperses quickly • Works well in all volumes of flow • Recommended when metering of input is required • Flow mapping and tracing in storm and sewer drains • Plumbing system tracing • Septic system analysis • Leak detection
Dye Strips	• Similar to liquid but less messy
Powder	• Can be very messy and must dissolve in liquid to reach full potential • Recommended for very small applications or for very large applications where liquid is undesirable • Leak detection
Dye Wax Cakes	• Recommended for moderate-sized bodies of water • Flow mapping and tracing in storm and sewer drains
Dye Wax Donuts	• Recommended for large sized bodies of water (lakes, rivers, ponds) • Flow mapping and tracing in storm and sewer drains • Leak detection

Table 59: Tips for Successful Dye Testing
(Adapted from Tuomari and Thompson, 2002)

Dye Selection
- Green and liquid dyes are the easiest to see.
- Dye test strips can be a good alternative for residential or some commercial applications. (Liquid can leave a permanent stain).
- Check the sanitary sewer before using dyes to get a "base color." In some cases, (e.g., a print shop with a permitted discharge to the sanitary sewer), the sewage may have an existing color that would mask a dye.
- Choose two dye colors, and alternate between them when testing multiple fixtures.

Selecting Fixtures to Test
- Check the plumbing plan for the site to isolate fixtures that are separately connected.
- For industrial facilities, check most floor drains (these are often misdirected).
- For plumbing fixtures, test a representative fixture (e.g., a bathroom sink).
- Test some locations separately (e.g., washing machines and floor drains), which may be misdirected.
- If conducting dye investigations on multiple floors, start from the basement and work your way up.
- At all fixtures, make sure to flush with plenty of water to ensure that the dye moves through the system.

Selecting a Sewer Manhole for Observations
- Pick the closest manhole possible to make observations (typically a sewer lateral).
- If this is not possible, choose the nearest downstream manhole.

Communications Between Crew Members
- The individual conducting the dye testing calls in to the field person to report the color dye used, and when it is dropped into the system.
- The field person then calls back when dye is observed in the manhole.
- If dye is not observed (e.g., after two separate flushes have occurred), dye testing is halted until the dye appears.

Locating Missing Dye
- The investigation is not complete until the dye is found. Some reasons for dye not appearing include:
- The building is actually hooked up to a septic system.
- The sewer line is clogged.
- There is a leak in the sewer line or lateral pipe.

Video Testing

Video testing works by guiding a mobile video camera through the storm drain pipe to locate the actual connection producing an illicit discharge. Video testing shows flows and leaks within the pipe that may indicate an illicit discharge, and can show cracks and other pipe damage that enable sewage or contaminated water to flow into the storm drain pipe.

Video testing is useful when access to properties is constrained, such as residential neighborhoods. Video testing can also be expensive, unless the community already owns and uses the equipment for sewer inspections. This technique will not detect all types of discharges, particularly when the illicit connection is not flowing at the time of the video survey.

Different types of video camera equipment are used, depending on the diameter and condition of the storm sewer being tested.

Field crews should review storm drain maps, and preferably visit the site before selecting the video equipment for the test. A field visit helps determine the camera size needed to fit into the pipe, and if the storm drain has standing water.

In addition to standard safety equipment required for all manhole inspections, video testing requires a Closed-Circuit Television (CCTV) and supporting items. Many commercially available camera systems are specifically adapted to televise storm sewers, ranging from large truck or van-mounted systems to much smaller portable cameras. Cameras can be self-propelled or towed. Some specifications to look for include:

- The camera should be capable of radial view for inspection of the top, bottom, and sides of the pipe and for looking up lateral connections.
- The camera should be color.
- Lighting should be supplied by a lamp on the camera that can light the entire periphery of the pipe.

When inspecting the storm sewer, the CCTV is oriented to keep the lens as close as possible to the center of the pipe. The camera can be self-propelled through the pipe using a tractor or crawler unit or it may be towed through on a skid unit (see Figures 65 and 66). If the storm drain has ponded water, the camera should be attached to a raft, which floats through the storm sewer from one manhole to the next. To see details of the sewer, the camera and lights should be able to swivel both horizontally and vertically. A video record of the inspection should be made for future reference and repairs (see Figure 67).



Figure 65: Camera being towed

Smoke Testing

Smoke testing is another "bottom up" approach to isolate illicit discharges. It works by introducing smoke into the storm drain system and observing where the smoke surfaces. The use of smoke testing to detect illicit discharges is a relatively new application, although many communities have used it to check for infiltration and inflow into their sanitary sewer network. Smoke testing can find improper



Figure 66: Tractor-mounted camera



Figure 67: Review of an inspection video

connections, or damage to the storm drain system (Figure 68). This technique works best when the discharge is confined to the upper reaches of the storm drain network, where pipe diameters are to small for video testing and gaining access to multiple properties renders dye testing infeasible.

Notifying the public about the date and purpose of smoke testing before starting is critical. The smoke used is non-toxic, but can cause respiratory irritation, which can be a problem for some residents. Residents should be notified at least two weeks prior to testing, and should be provided the following information (Hurco Technologies, Inc., 2003):

- Date testing will occur
- Reason for smoke testing
- Precautions they can take to prevent smoke from entering their homes or businesses
- What they need to do if smoke enters their home or business, and any health concerns associated with the smoke
- A number residents can call to relay any particular health concerns (e.g., chronic respiratory problems)

Program managers should also notify local media to get the word out if extensive smoke testing is planned (e.g., television, newspaper, and radio). On the actual day of testing, local fire, police departments and 911 call centers should be notified to handle any calls from the public (Hurco Technologies, Inc., 2003).

The basic equipment needed for smoke testing includes manhole safety equipment, a smoke source, smoke blower, and sewer plugs. Two smoke sources can be used for smoke testing. The first is a smoke "bomb," or "candle" that burns at a controlled rate and releases very white smoke visible at relatively low concentrations (Figure 69). Smoke bombs are suspended beneath a blower in a manhole. Candles are available in 30 second to three minute sizes. Once opened, smoke bombs should be kept in a dry location and should be used within one year.

The second smoke source is liquid smoke, which is a petroleum-based product that is injected into the hot exhaust of a blower where it is heated and vaporized (Figure 70). The length of smoke production can vary depending on the length of the pipe being

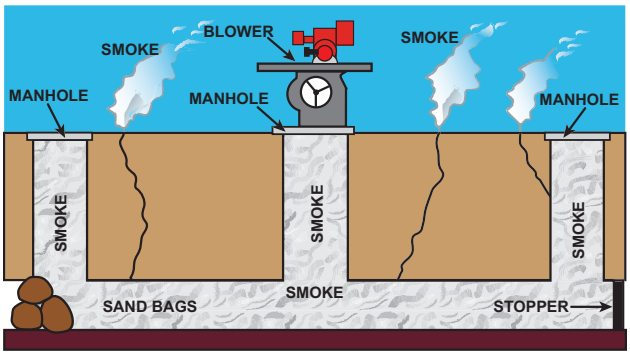


Figure 68: Smoke Testing System Schematic



Figure 69: Smoke Candles



Figure 70: Smoke blower

tested. In general, liquid smoke is not as consistently visible and does not travel as far as smoke from bombs (USA Blue Book).

Smoke blowers provide a high volume of air that forces smoke through the storm drain pipe. Two types of blowers are commonly used: "squirrel cage" blowers and direct-drive propeller blowers. Squirrel cage blowers are large and may weigh more than 100 pounds, but allow the operator to generate more controlled smoke output. Direct-drive propeller blowers are considerably lighter and more compact, which allows for easier transport and positioning.

Three basic steps are involved in smoke testing. First, the storm drain is sealed off by plugging storm drain inlets. Next, the smoke is released and forced by the blower through the storm drain system. Lastly, the crew looks for any escape of smoke above-ground to find potential leaks.

One of three methods can be used to seal off the storm drain. Sandbags can be lowered into place with a rope from the street surface. Alternatively, beach balls that have a diameter slightly larger than the drain can be inserted into the pipe. The beach ball is then placed in a mesh bag with a rope attached to it so it can be secured and retrieved. If the beach ball gets stuck in the pipe, it can simply be punctured, deflated and removed. Finally, expandable plugs are available, and may be inserted from the ground surface.

Blowers should be set up next to the open manhole after the smoke is started. Only one manhole is tested at a time. If smoke candles are used, crews simply light the candle, place it in a bucket, and lower it in the manhole. The crew then watches to see where smoke escapes from the pipe. The two most common situations that indicate an illicit discharge are when smoke is seen rising from internal plumbing fixtures (typically reported by residents) or from sewer vents. Sewer vents extend upward from the sewer lateral to release gas buildup, and are not supposed to be connected to the storm drain system.

13.4 Septic System Investigations

The techniques for tracing illicit discharges are different in rural or low-density residential watersheds. Often, these watersheds lack sanitary sewer service and storm water is conveyed through ditches or swales, rather than enclosed pipes. Consequently, many illicit discharges enter the stream as indirect discharges, through surface breakouts of septic fields or through straight pipe discharges from bypassed septic systems.

The two broad techniques used to find individual septic systems—on-site investigations and infrared imagery—are described in this section.

On-Site Septic Investigations

Three kinds of on-site investigations can be performed at individual properties to determine if the septic system is failing, including homeowner survey, surface condition analysis and a detailed system inspection. The first two investigations are rapid and relatively simple assessments typically conducted in targeted watershed areas. Detailed system inspections are a much more thorough investigation of the functioning of the septic system that is conducted by a certified professional. Detailed system inspections may occur at time of sale of a property, or be triggered by poor scores on the rapid homeowner survey or surface condition analysis.

Homeowner Survey

The homeowner survey consists of a brief interview with the property owner to determine the potential for current or future failure of the septic system, and is often done in conjunction with a surface condition analysis.

Table 60 highlights some common questions to ask in the survey, which inquire about resident behaviors, system performance and maintenance activity.

Surface Condition Analysis

The surface condition analysis is a rapid site assessment where field crews look for obvious indicators that point to current or potential production of illicit discharges by the septic system (Figure 71). Some of the key surface conditions to analyze have been described by Andrews *et al.*, (1997) and are described below:

- Foul odors in the yard
- Wet, spongy ground; lush plant growth; or burnt grass near the drain field
- Algal blooms or excessive weed growth in adjacent ditches, ponds and streams
- Shrubs or trees with root damage within 10 feet of the system
- Cars, boats, or other heavy objects located over the field that could crush lateral pipes
- Storm water flowing over the drain field
- Cave-ins or exposed system components
- Visible liquid on the surface of the drain field (e.g., surface breakouts)
- Obvious system bypasses (e.g., straight pipe discharges)

Table 60: Septic System Homeowner Survey Questions
(Adapted from Andrews et al., 1997 and Holmes Inspection Services)

- How many people live in the house?[1]
- What is the septic tank capacity?[2]
- Do drains in the house empty slowly or not at all?
- When was the last time the system was inspected or maintained?
- Does sewage back up into the house through drain lines?
- Are there any wet, smelly spots in the yard?
- Is the septic tank effluent piped so it drains to a road ditch, a storm sewer, a stream, or is it connected to a farm drain tile?

[1] Water usage ranges from 50 to 100 gallons per day per person. This information can be used to estimate the wastewater load from the house (Andrews et. al, 1997).
[2] The septic tank should be large enough to hold two days' worth of wastewater (Andrews et. al, 1997).

a.  b. 

Figure 71: (a) Straight pipe discharge to nearby stream. (b) Algal bloom in a nearby pond.
(Sources: a- Snohomish County, WA, b- King County, WA)

Detailed System Inspection

The detailed system inspection is a much more thorough inspection of the performance and function of the septic system, and must be completed by a certified professional. The inspector certifies the structural integrity of all components of the system, and checks the depth of solids in the septic tank to determine if the system needs to be pumped out. The inspector also sketches the system, and estimates distance to groundwater, surface water, and drinking water sources. An example septic system inspection form from Massachusetts can be found at http://www.state.ma.us/dep/brp/wwm/soilsys.htm.

Although not always incorporated into the inspection, dye testing can sometimes point to leaks from broken pipes, or direct discharges through straight pipes that might be missed during routine inspection. Dye can be introduced into plumbing fixtures in the home, and flushed with sufficient running water. The inspector then watches the septic field, nearby ditches, watercourses and manholes for any signs of the dye. The dye may take several hours to appear, so crews may want to place charcoal packets in adjacent waters to capture dye until they can return later to retrieve them.

Infrared Imagery

Infrared imagery is a special type of photography with gray or color scales that represent differences in temperature and emissivity of objects in the image (www.stocktoninfrared.com), and can be used to locate sewage discharges. Several different infrared imagery techniques can be used to identify illicit discharges. The following discussion highlights two of these: aerial infrared thermography[13] and color infrared aerial photography.

Infrared Thermography

Infrared thermography is increasingly being used to detect illicit discharges and failing septic systems. The technique uses the temperature difference of sewage as a marker to locate these illicit discharges. Figure 72 illustrates the thermal difference

[13] Infrared thermography is also being used by communities such as Mecklenburg County and the City of Charlotte in NC to detect illicit discharges at outfalls.

between an outfall discharge (with a higher temperature) and a stream.

The equipment needed to conduct aerial infrared thermography includes an aircraft (plane or helicopter); a high-resolution, large format, infrared camera with appropriate mount; a GPS unit; and digital recording equipment. If a plane is used, a higher resolution camera is required since it must operate at higher altitudes. Pilots should be experienced since flights take place at night, slowly, and at a low altitude. The camera may be handheld, but a mounted camera will provide significantly clearer results for a larger area. The GPS can be combined with a mobile mapping program and a video encoder-decoder that encodes and displays the coordinates, date, and time (Stockton, 2000). The infrared data are analyzed after the flight by trained analysts to locate suspected discharges, and field crews then inspect the ground-truthed sites to confirm the presence of a failing septic system.

Late fall, winter, and early spring are typically the best times of year to conduct these investigations in most regions of the country. This allows for a bigger difference between receiving water and discharge temperatures, and interference from vegetation is minimized (Stockton, 2004b). In addition, flights should take place at night to minimize reflected and direct daylight solar radiation that may adversely affect the imagery (Stockton, 2004b).



Figure 72: Aerial thermography showing sewage leak

Color Infrared Aerial Photography

Color infrared aerial photography looks for changes in plant growth, differences in soil moisture content, and the presence of standing water on the ground to primarily identify failing septic systems (Figure 73).

The Tennessee Valley Authority (TVA) uses color infrared aerial photography to detect failing septic systems in reservoir watersheds. Local health departments conduct follow-up ground-truthing surveys to determine if a system is actually failing (Sagona, 1986). Similar to thermography, it is recommended that flights take place at night, during leaf-off conditions, or when the water table is at a seasonal high (which is when most failures typically occur (U.S. EPA, 1999).

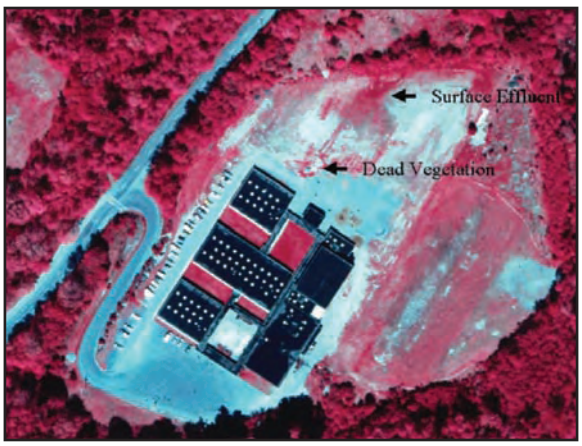


Figure 73: Dead vegetation and surface effluent are evidence of a septic system surface failure.
(Source: U.S. EPA, 1999)

13.5 The Cost to Trace Illicit Discharge Sources

Tracing illicit discharges to their source can be an elusive and complex process, and precise staffing and budget data are difficult to estimate. Experience of Phase I NPDES communities that have done these investigations in the past can shed some light on cost estimates. Some details on unit costs for common illicit discharge investigations are provided below.

Costs for Dye, Video, and Smoke Testing

The cost of smoke, dye, and video testing can be substantial and staff intensive, and often depend on investigation specific factors, such as the complexity of the drainage network, density and age of buildings, and complexity of land use. Wayne County, MI, has estimated the cost of dye testing at $900 per facility. Video testing costs range from $1.50 to $2.00 per foot, although this increases by $1.00 per foot if pipe cleaning is needed prior to testing.

Table 61 summarizes the costs of start-up equipment for basic manhole entry and inspection, which is needed regardless of which type of test is performed. Tables 62 through 64 provide specific equipment costs for dye, video and smoke testing, respectively.

Table 61: Common Field Equipment Needed for Dye, Video, and Smoke Testing

Item	Cost
1 Digital Camera	$200
Clipboards, Pens, Batteries	$25
1 Field vehicle	$15,000 - $35,000
1 First aid kit	$30
1 Spotlight	$40
1 Gas monitor and probe	$900 - $2,100
1 Hand-held GPS Unit	$150
2 Two-way radios	$250 - $750
1 Manhole hook	$80 - $130
1 Mirror	$70 - $130
2 Reflective safety vests	$40
Rubber/latex gloves (box of 100)	$25
1 Can of Spray Paint	$5
4 Traffic Cones	$50

Table 62: Equipment Costs for Dye Testing		
Product	**Water Volume**	**Cost**
Dye Strips	1 strip/500 gallons	$75 – $94 per 100 strips
Dye Tablets	0 – 50,000 gallons	$40 per 200 tablets
Liquid Concentrate (Rhodamine WT)	0 – 50,000 gallons	$80 – $90 per gallon $15 – $20 per pint
Powder	50,000 + gallons	$77 per lb
Dye Wax Cakes	20,000 – 50,000 gallons	$12 per one 1.25 ounce cake
Dye Wax Donuts	50,000 + gallons	$104 – $132 per 42 oz. donut
Price Sources: *Aquatic Eco-Systems http://www.aquaticeco.com/* *Cole Parmer http:/www.coleparmer.com* *USA Blue Book http:/www.usabluebook.com*		

Table 63: Equipment Costs for Video Testing	
Equipment	**Cost**
GEN-EYE 2™ B&W Sewer Camera with VCR & 200' Push Cable	$5,800
100' Push Rod and Reel Camera for 2" – 10" Pipes	$5,300
200' Push Rod and Reel Camera for 8" – 24" Pipes	$5,800
Custom Saturn III Inspection System 500' cable for 6-16" Lines	$32,000 ($33,000 with 1000 foot cable)
OUTPOST • Box with build-out • Generator • Washdown system	 $6,000 $2,000 $1,000
Video Inspection Trailer • 7'x10' trailer & build-out • Hardware and software package • Incidentals	 $18,500 $15,000 $5,000
Sprinter Chassis Inspection Vehicle • Van (with build-out for inspecting 6" – 24" pipes) • Crawler (needed to inspect pipes >24") • Software upgrade (optional but helpful for extensive pipe systems)	 $130,000 $18,000 $8,000
Sources: USA Blue Book and Envirotech	

Table 64: Equipment Costs for Smoke Testing	
Equipment	**Cost**
Smoke Blower	$1,000 to $2,000 each
Liquid Smoke	$38 to $45 per gallon
Smoke Candles, 30 second (4,000 cubic feet)	$27.50 per dozen
Smoke Candles, 60 Second (8,000 cubic feet)	$30.50 per dozen
Smoke Candles, 3 Minute (40,000 cubic feet)	$60.00 per dozen
Sources: Hurco Tech, 2003 and Cherne Industries, 2003	

Costs for Septic System Investigations

Most septic system investigations are relatively low cost, but factors such as private property access, notification, and the total number of sites investigated can increase costs. Unit costs for the three major septic system investigations are described below.

Homeowner Survey and Surface Condition Analysis

Both the homeowner survey and the surface condition analysis are relatively low cost investigation techniques. Assuming that a staff person can investigate one home per hour, the average cost per inspection is approximately $25. A substantial cost savings can be realized by using interns or volunteers to conduct these simple investigations.

Detailed System Inspection

Septic system inspections are more expensive, but a typical unit cost is about $250, and may also include an additional cost of pumping the system, at roughly $150, if pumping is required to complete the inspection (Wayne County, 2003). This cost is typically charged to the homeowner as part of a home inspection.

Aerial Infrared Thermography

The equipment needed to conduct aerial infrared thermography is expensive; cameras alone may range from $250,000 to $500,000 (Stockton, 2004a). However, private contractors provide this service. In general, the cost to contract an aerial infrared thermography investigation depends on the length of the flight (flights typically follow streams or rivers); how difficult it will be to fly the route; the number of heat anomalies expected to be encountered; the expected post-flight processing time (typically, four to five hours of analysis for every hour flown); and the distance of the site from the plane's "home" (Stockton, 2004a). The cost range is typically $150 to $400 per mile of stream or river flown, which includes the flight and post-flight analyses (Stockton, 2004a).

As an alternative, local police departments may already own an infrared imaging system that may be used. For instance, the Arkansas Department of Health used a state police helicopter with a Forward Looking Infrared (FLIR) imaging system, GPS, video equipment, and maps (Eddy, 2000). The disadvantage to this is that the equipment may not be available at optimal times to conduct the investigation. In addition, infrared imaging equipment used by police departments may not be sensitive enough to detect the narrow range of temperature difference (only a few degrees) often expected for sewage flows (Stockton, 2004a).

Chapter 14: Techniques to Fix Discharges

Quick and efficient correction of illicit discharges begins with having well defined legal authority and responsibilities coupled with strong enforcement and follow-up measures. Chapter 4 discussed important considerations with respect to legal authority and responsibility and Appendix B contains a model illicit discharge ordinance that provides language on violations, enforcement and penalties.

Most illicit discharge corrective actions involve some form of infrastructure modification or repair. These structural repairs are used to eliminate a wide variety of **direct discharges** such as sewage cross-connections, straight pipes, industrial cross-connections, and commercial cross-connections. Fixes range from simple plumbing projects to excavation and replacement of sewer lines. In some cases, structural repairs are necessary when **indirect** discharges, such as sewage from a sewer break or pump station failure enter the MS4 through an inlet, or flows directly into receiving waters. Most **transitory** discharges are corrected simply with spill containment and clean-up procedures. Section 8.3 previously discussed an overview of the correction process. The following section discusses more specific correction considerations.

14.1 Implementation Considerations

Once the source of an illicit discharge has been identified, steps should be taken to fix or eliminate the discharge. The following four questions should be answered for each individual illicit discharge to determine how to proceed:

- Who is responsible?
- What methods will be used to fix it?
- How long will it take?
- How will removal be confirmed?

The answer to each of these questions depends on the source of the discharge. Illicit discharges generally originate from one of the following sources:

- *An internal plumbing connection* (e.g., the discharge from a washing machine is directed to the building's storm lateral; the floor drain in a garage is connected to the building's storm lateral)
- *A service lateral cross-connection* (e.g., the sanitary lateral from a building is connected to the MS4)
- *An infrastructure failure within the sanitary sewer or MS4* (e.g., a collapsed sanitary line is discharging into the MS4)
- *An indirect transitory discharge resulting from leaks, spills, or overflows.*

Financial responsibility for source removal will typically fall on property owners, MS4 operators, or some combination of the two.

Who's responsible for fixing the problem?

Ultimate responsibility for removing the source of a discharge is generally that of either the property owner or the municipality/utility (e.g., primary owner/operator of the MS4).

Internal Plumbing Connection

The responsibility for correcting an internal plumbing connection is generally the responsibility of the building owner. Communities may wish to develop a list of certified contractors that property owners can hire for corrections.

Service Lateral

As with internal plumbing connections, the responsibility for correcting a problem within a service lateral is typically that of the property owner being served by the lateral. However, the cost of correcting a service lateral problem can be significantly higher than that of fixing an internal plumbing problem, so communities may want to consider alternative remedial approaches than those for internal plumbing corrections. For example, communities can have on-call contractors fix lateral connections allowing the problem to be fixed as soon as it is discovered. The community can then: 1) pay for correction costs through the capital budget, or state or federal funding options, or 2) share the cost with the owner, or 3) pass on the full cost to the property owner.

Infrastructure Failure Within the Sanitary Sewer or MS4

Illicit discharges related to some sort of infrastructure failure within the sanitary sewer or MS4 should be corrected by the jurisdiction, utility, or agency responsible for maintenance of the sewers and drains.

Transitory Discharge

Repair of transitory discharge sources will usually be the responsibility of the property owner where the discharge originates. Ordinances should clearly stipulate the time frame in which these discharges should be repaired.

What methods will be used to fix the problem?

The methods used to eliminate discharges will vary depending on the type of problem and the location of the problem. Internal plumbing corrections can often be performed using standard plumbing supplies for relatively little cost. For correction locations that occur outside of the building, such as service laterals or infrastructure in the right of way, costs tend to be significantly more due to specialized equipment needs. Certified contractors are recommended for these types of repairs. Table 65 provides a summary of a range of methods for fixing these more significant problems along with estimated costs. The last six techniques described in Table 68 are used for sanitary sewer line repair and rehabilitation. These activities are typically used when there is evidence of significant seepage from the sanitary system to the storm drain system.

How long should it take?

The timeframe for eliminating a connection or discharge should depend on the type of connection or discharge and how difficult elimination will be. A discharge that poses a significant threat to human or environmental health should be discontinued and eliminated immediately. Clear guidance should be provided in the local ordinance on the timeframe for removing discharges and connections. Typically, discharges should be stopped within seven days of notification by the municipality, and illicit connections should be repaired within 30 days of notification.

How is the removal or correction confirmed?

Removal and correction of a discharge or connection should be confirmed both at the

source, to ensure that the correction has been made, and downstream, to ensure that it is the only local discharge present.

For discharges resulting from internal plumbing and lateral connections, dye testing can confirm the correction. Also, sandbagging should be done in the first accessible storm drain manhole downstream of the correction to verify that this was the only discharge present.

The correction of discharges resulting from some sort of infrastructure failure in the sanitary sewer or MS4 can be verified by dye testing or televising the line in conjunction with sandbagging and sampling at an accessible downstream manhole.

Table 65: Methods to Eliminate Discharges

Technique	Application	Description	Estimated Cost
1. Service Lateral Disconnection, Reconnection	Lateral is connected to the wrong line	Lateral is disconnected and reconnected to appropriate line	$2,500[1]
2. Cleaning	Line is blocked or capacity diminished	Flushing (sending a high pressure water jet through the line); pigging (dragging a large rubber plug through the lines); or rodding	$1/linear foot[2]
3. Excavation and Replacement	Line is collapsed, severely blocked, significantly misaligned, or undersized	Existing pipe is removed, new pipe placed in same alignment; Existing pipe abandoned in place, replaced by new pipe in parallel alignment	For 14” line, $50-$100/linear foot (higher number is associated with repaving or deeper excavations, if necessary)[2]
4. Manhole Repair	Decrease ponding; prevent flow of surface water into manhole; prevent groundwater infiltration	Raise frame and lid above grade; install lid inserts; grout, mortar or apply shortcrete inside the walls; install new precast manhole.	Vary widely, from $250 to raise a frame and cover to ~ $2,000 to replace manhole[2]
5. Corrosion Control Coating	Improve resistance to corrosion	Spray- or brush-on coating applied to interior of pipe.	< $10/linear foot[2]
6. Grouting	Seal leaking joints and small cracks	Seals leaking joints and small cracks.	For a 12” line, ~ $36-$54/linear foot[2]
7. Pipe Bursting	Line is collapsed, severely blocked, or undersized	Existing pipe used as guide for inserting expansion head; expansion head increases area available for new pipe by pushing existing pipe out radially until it cracks; bursting device pulls new pipeline behind it	For 8” pipe, $40-$80/linear foot[4]
8. Slip Lining	Pipe has numerous cracks, leaking joints, but is continuous and not misaligned	Pulling of a new pipe through the old one.	For 12” pipe, $50-$75 /linear foot[2]
9. Fold and Formed Pipe	Pipe has numerous cracks, leaking joints	Similar to sliplining but is easier to install, uses existing manholes for insertion; a folded thermoplastic pipe is pulled into place and rounded to conform to internal diameter of existing pipe	For 8-12” pipe, $60-$78/linear foot[3]

Table 65: Methods to Eliminate Discharges			
Technique	**Application**	**Description**	**Estimated Cost**
10. Inversion Lining	Pipe has numerous cracks, leaking joints; can be used where there are misalignments	Similar to sliplining but is easier to install, uses existing manholes for insertion; a soft resin impregnated felt tube is inserted into the pipe, inverted by filling it with air or water at one end, and cured in place.	$75-$125/linear foot[2]
1 CWP (2002) *2 1991 costs from Brown (1995)* *3 U.S. EPA (1991)* *4 U.S. EPA (1999b)*			

APPENDIX P
Construction Stormwater Inspection Manual & NYSDEC SWPPP Forms



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Construction Stormwater Inspection Manual

Primarily for Government Inspectors Evaluating Compliance with Construction Stormwater Control Requirements

New York State
Department of Environmental Conservation

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Version 1.05 (8/27/07)

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1.0 INTRODUCTION AND PURPOSE

The New York State Department of Environmental Conservation Division of Water (DOW) considers there to be two types of inspections germane to construction stormwater; compliance inspections and self-inspections.

This manual is for use by DOW and other regulatory oversight construction stormwater inspectors in performing compliance inspections, as well as for site operators in performing self inspections. The manual should be used in conjunction with the *New York State Standards and Specifications for Erosion and Sediment Control,* August 2005.

1.1 Compliance Inspections

Regulatory compliance inspections are performed by regulatory oversight authorities such as DOW staff, or representatives of DOW and local municipal construction stormwater inspectors. These inspections are intended to determine compliance with the state or local requirements for control of construction stormwater through erosion and sediment control and post construction practices. Compliance inspections focus on determinations of compliance with legal and water quality standards. Typically, compliance inspections can be further sub-categorized to include comprehensive inspections, and follow-up or reconnaissance inspections.

Compliance inspectors will focus on determining whether:

- the project is causing water quality standard violations;
- the required Stormwater Pollution Prevention Plan (SWPPP) includes appropriate erosion and sediment controls and, to some extent, post construction controls;
- the owner/operator is complying with the SWPPP;
- where required, self-inspections are being properly performed; and
- where self-inspections are required, the owner/operator responds appropriately to the self-inspector's reports.

1.1.1 Comprehensive Inspection

Comprehensive inspections are designed to verify permittee compliance with all applicable regulatory requirements, effluent controls, and compliance schedules. This inspection involves records reviews, visual observations, and evaluations of management practices, effluents, and receiving waters.

Comprehensive inspections should be conducted according to a neutral or random inspection scheme, or in accordance with established priorities. A neutral monitoring scheme provides some objective basis for scheduling inspections and sampling visits by establishing a system (whether complex factor-based, alphabetic, or geographic) for setting prioritiesto ensure that a particular facility is not unfairly selected for inspection or sampling. The selection of which

facility to inspect must be made without bias to ensure that the regulatory oversight authority, if challenged for being arbitrary and capricious manner, can reasonably defend itself.

A neutral inspection scheme should set the criteria the inspector uses to choose which facilities to inspect, but the schedule for the actual inspection should remain confidential, and may be kept separate from the neutral plan.

A routine comprehensive compliance inspection is most effective when it is unannounced or conducted with very little advance warning.

1.1.2 Reconnaissance Inspection

A reconnaissance inspection is performed in lieu of, or following a comprehensive inspection to obtain a preliminary overview of an owner/operator's compliance program, to respond to a citizen complaint, or to assess a non-permitted site. The inspector performs a brief (generally about an hour) visual inspection of the site, discharges and receiving waters. A reconnaissance inspection uses the inspector's experience and judgement to summarize potential compliance problems, without conducting a full comprehensive inspection. The objective of a reconnaissance inspection is to expand inspection coverage without increasing inspection resource expenditures. The reconnaissance inspection is the shortest and least resource intensive of all inspections.

Reconnaissance inspections may be initiated in response to known or suspected violations, a public complaint, a violation of regulatory requirements, or as follow-up to verify that necessary actions were taken in response to a previous inspection.

1.2 Self-inspections

For some projects, the site owner/operator is required by their State Pollutant Discharge Elimination System (SPDES) Permit and/or local requirements to have a qualified professional[1] perform a "self-inspection" at the site. In self-inspections, the qualified professional determines whether the site is being managed in accordance with the SWPPP, and whether the SWPPP's recommended erosion and sediment controls are effective. If activities are not in accordance with the SWPPP, or if the SWPPP erosion and sediment controls are not effective, the qualified professional inspecting the site recommends corrections to the owner/operator.

[1] A "Qualified professional" is a person knowledgeable in the principles and practice of erosion and sediment controls, such as a licensed professional engineer, Certified Professional in Erosion and Sediment Control (CPESC), licensed landscape architect or soil scientist.

2.0 PRE-INSPECTION ACTIVITIES

2.1 Regulatory Oversight Authorities

This section is intended for inspectors with regulatory oversight authority such as agents of the DOW or a local municipality, or others acting on their behalf, such as county Soil and Water Conservation District staff. Examples of other regulatory oversight authorities include: the United States Environmental Protection Agency (EPA); New York City Department of Environmental Protection (DEP), Adirondack Park Agency (APA); the Lake George Park Commission (LGPC), and the Skaneateles Lake Watershed Authority (SLWA). Before arriving on-site to conduct the inspection, considerations concerning communication, documentation and equipment must be made.

Regulatory oversight authority is granted by state or local law to government agencies or, depending upon the particular law, an authorized representative of state or local government. SPDES rules 6 NYCRR 750-2.3 and Environmental Conservation Law 17-0303(6) and 17-0829(a) all allow for authorized representatives of the (NYSDEC) commissioner to perform all the duties of an inspector.

2.1.1 Communication

Coordination with Other Entities

Where appropriate, prior to selecting sites for inspection, compliance inspectors should communicate with other regulatory oversight authorities to avoid unnecessary duplication or to coordinate follow-up to inspections performed by other regulatory oversight authorities.

Announced vs. Unannounced Inspection

Inspections may be announced or unannounced. Each method has its own advantages and disadvantages. Unannounced inspections are preferred, however many job sites are not continuously manned, or not always staffed by someone who is familiar with the SWPPP, thus necessitating an announced inspection. As an alternative, when an announced inspection is necessary, inspectors should try to give as little advanced warning as possible (24 hours is suggested).

Itinerary

For obvious safety reasons, inspectors should be sure to inform someone in their office which site or sites they will be visiting prior to leaving the to perform inspections.

2.1.2 Documentation

Data Review

The inspector should review any available information such as:

- Notice of Intent
- Stormwater Pollution Prevention Plan
- Past inspection records
- Phasing plan

- Construction sequence
- Inspection and Maintenance schedules
- Site specific issues
- Consent Orders
- Access agreements

Inspection Form

The inspector should have copies of, and be familiar with, the inspection form used by their regulatory oversight authority (example in Attachment 1) before leaving the office. Static information such as name, location and permit number can be entered onto the inspection form prior to arriving at the inspection site.

Credentials

Inspectors should always carry proper identification to prove that they are employed by an entity with jurisdictional authority. Failure to display proper credentials may be legal grounds for denial of entry to a site.

2.1.3 Equipment

Personal Protective Equipment

DOW employees must conform to the DOW Health and Safety policy as it relates to personal protective equipment. Other regulatory oversight authorities should have their own safety policies or, if not, may wish to consult the OSHA health and safety tool at: www.osha.gov/dep/etools/ehasp/ to develop a health and safety plan.

The following is a list of some of the most common health and safety gear that may be needed:

- Hard hat (Class G, Type1 or better)
- Safety toe shoes
- Reflective vest
- Hearing protection (to achieve 85 dBA - 8 hr TWA)
- Safety glasses with side shields

If the construction is on an industrial site or a hazardous waste site, special training may be required prior to entering the site. The inspector should consult with OSHA or NYSDEC prior to entering such a site.

Monitoring Equipment

The following is a list of some equipment that may be helpful to document facts and verify compliance:

- Digital Camera
- Measuring tape or wheel
- Hand level or clinometer
- Turbidity meter (in limited circumstances)

2.2 Permittee's Self-inspection

This section is intended for qualified professionals who conduct site self-inspections on behalf of owner/operators. Self-inspectors are responsible for performing inspections in accordance with permit requirements and reporting to site owners and operators the results and any recommendations resulting from the inspection.

Prior to conducting inspections, qualified professionals should ensure familiarity with the Stormwater Pollution Prevention Plan and previous inspection reports.

3.0 ON-SITE INSPECTION PROCESS

3.1 Compliance Inspections

3.1.1 Professionalism

Don't Pretend to Possess Knowledge

Unless the inspector has experience with a particular management practice, do not pretend to possess knowledge. Inspectors cannot be expert in all areas; their job is to collect information, not to demonstrate superior wisdom. Site operators are often willing to talk to someone who is inquisitive and interested. Within reason, asking questions to obtain new information about a management practice, construction technique or piece of equipment is one of the inspector's main roles in an inspection.

Don't Recommend Solutions

The inspector should not recommend solutions or endorse products. The solution to a compliance problem may appear obvious based on the inspector's experience. However, the responsibility should be placed on the site owner to implement a workable solution to a compliance problem that meets NYSDEC standards. The inspector should refer the site operator to the New York Standards and Specifications for Erosion and Sediment Control (the Blue Book) or the New York State Stormwater Management Design Manual (the Design Manual).

Key advice must be offered carefully. One experienced stormwater inspector suggests saying: "I can't direct you or make recommendations, but what we've seen work in other situations is ..."

The way inspectors present themselves is important to the effectiveness of the inspection. An inspector cannot be overly familiar, but will be more effective if able to establish a minimum level of communication.

3.1.2 Safety

DOW employees must conform to Division health and safety policies when on a construction site. Other regulatory oversight authorities should have their own safety policies or, if not, may

wish to consult the OSHA health and safety tool at:

www.osha.gov/dep/etools/ehasp to develop a health and safety plan.

Some general protections for construction sites are:

- Beware of heavy equipment, avoid operator blind spots and make sure of operator eye contact around heavy equipment.
- Avoid walking on rock rip-rap if possible. Loose rock presents a slip hazard.
- Stay out of confined spaces like tanks, trenches and foundation holes.
- Avoid lightning danger. Monitor weather conditions, get out of water, avoid open areas and high points, do not huddle in groups or near trees.
- Protect yourself from sun and heat exposure. Use sun screen or shading clothing. Remain hydrated by drinking water, watching for signs of heat cramps, exhaustion (fatigue, nausea, dizziness, headache, cool or moist skin), or stroke (high body temperature; red, hot and dry skin)
- Protect yourself from cold weather. Wear multiple layers of thin clothing. Wear a warm hat. Drink warm fluids or eat hot foods, and keep dry.
- Avoid scaffolding in excess of 4 feet above grade.
- Beware of ticks, stinging insects, snakes and poison ivy or sumac.

3.1.3 Legal access

DOW has general powers, set forth under ECL 17-0303, subparagraph 6, to enter premises for inspections. In addition, ECL 3-0301.2 conveys general statutory authority granting the DOW the power to access private property to fulfill DOW obligations under the law.

ECL 15-0305 gives the DOW the authority to enter at all times in or upon any property, public or private, for the purpose of inspecting or investigating conditions affecting the construction of improvements to or developments of water resources for the public health, safety or welfare.

ECL 17-0829 allows an authorized DOW representative, upon presentation of their credentials, to enter upon any premises where any effluent source is located, or in which records are required to be maintained. The representative may at reasonable times have access to, and sample discharges/pollutants to the waters or to publicly owned treatment plants where the effluent source is located. This subparagraph provides DOW representatives performing their duties authority to enter a site to pursue administrative violations. Pursuing criminal violations may require a warrant or the owner's permission to enter the site.

For sites that are permitted, DOW has authority under the permit to enter the site.

If the owner/operator's representatives onsite deny access, the inspector *should not* physically force entry. Under these circumstances the attorney representing the inspector should be immediately notified and consideration should be given to soliciting the aid of a law officer to obtain entry.

DOW staff have the right to enter at any reasonable time. If no one is available, and the site is fenced or posted, DOW staff should make all reasonable efforts to identify, contact and notify the owner that the DOW is entering the site. If the inspector has made all reasonable efforts to contact site owners, but was unable to do so, the site can then be accessed. All efforts should be taken not to cause any damage to the facility.

Other regulatory oversight authorities should seek advice on their legal authorities to enter a job site. Municipalities that have adopted Article 6 of the New York State Sample Local Law for Stormwater Management and Erosion and Sediment Control (NYSDEC, 2004, updated 2006) will have legal authority to enter sites in accordance with that chapter and any other existing municipal authority .

Agents of DOW have authority similar DOW staff authority to enter sites. However, DOW staff enjoy significant personal liability protections as state employees. That liability protection may not be the same for authorized representatives of DOW. For authorized representatives of DOW (or other regulatory oversight authorities), it is prudent to obtain permission to enter the site. If such permission is denied, the authorized representatives should inform the appropriate DOW contact, usually the regional water manager.

3.1.4 Find the Legally Responsible Party (Construction Manager, Self-inspector)

The first action a compliance inspector should take upon entering a construction site is to find the construction trailer or the construction or project manager if they are available. The inspector should present appropriate identification to the site's responsible party and state the reason for the inspection; construction stormwater complaint response or neutral construction stormwater inspection. If the inspection is initiated as a response to a complaint, frequently the responsible party will ask who made the complaint. DOW keeps private individual complainants confidential. If the complainant is another regulatory oversight authority, DOW tends to make that known to the site's responsible party.

3.1.5 On-site records review (NOI, SWPPP, Self-inspection Reports, Permit)

Generally, the compliance inspector should next review the on-site records. Verify that a copy of the construction stormwater permit and NOI are on-site. Verify that the acreage, site conditions, and receiving water listed on the NOI are accurate. Compare the on-site documentation with documentation already submitted to, or obtained by the compliance inspector.

If the SWPPP has not been reviewed in the office, verify that it exists and contains the minimum required components (16 for a basic plan and 22 for a full plan). On-site review of the SWPPP should determine if: there is an appropriate phasing plan; the acreage disturbed in each phase, construction sequence for each phase; proposed implementation of erosion and sediment control measures; and, where required, post construction controls. For each of the erosion and sediment control practices, the SWPPP must show design details in accordance with the NYS Standards for Erosion and Sediment Controls. The SWPPP must also include provisions for maintenance of practices during construction. On-site review of post construction controls is generally limited to verification that the proposed stormwater management practices are shown on the site plan.

Where self-inspections are required, self-inspection reports are a significant tool for the compliance inspector to determine the performance history of the site. The self-inspection reports should be done with the required frequency . Self-inspection reports must include all the details required by the permit. Generally, it is desirable for permit information to be shown on a site plan. The compliance inspector should become familiar with the report and use that familiarity to judge whether the self-inspections are being performed correctly and that the site operator is correcting deficiencies noted in the report.

3.1.6 Walk the Site

During wet weather conditions, it may be advantageous to observe the receiving waters prior to walking the rest of the site. At some point during the inspection, the receiving water conditions must be observed and noted. It is critical to note if there is a substantial visible contrast to natural conditions, or evidence of deposition, streambank erosion, construction debris or waste materials (e.g. concrete washdown) in the receiving stream.

Each inspector should evaluate actual implementation and maintenance of practices on-site compared to how implementation and maintenance is detailed in the SWPPP. At a minimum, the compliance inspector should observe all areas of active construction. Observing equipment or materials storage, recently stabilized areas, or stockpile areas is also appropriate to evaluate the effectiveness of management practices.

3.1.7 Taking Photographs

Evidence of poor receiving water conditions and poor or ineffective practices should be documented with digital photographs. Those photographs should be logged date stamped and stored on media that cannot be edited (e.g. write only CDs). Photos should also be appended to the site inspector's report.

It is also beneficial to take photographs of good practices for educational and technology transfer reasons.

3.1.8 Exit Interview

Clearly communicate expectations and consequences. If it is clear from the inspection that the owner/operator must modify the SWPPP, or modify management practices within an assigned period (e.g. 24 hours, 48 hours, one week, two weeks), then that finding should be communicated at the time of the exit interview. The inspector should assign the period based on factors such as how long it would reasonably take to complete such modifications and the level of risk to water quality associated with failure to make such modifications.

The inspector should make clear that NYSDEC reserves rights to future enforcement actions. If the inspector's supervisor or enforcement coordinator determines additional enforcement actions are necessary, the inspector *should not* reassure the owner/operator that the current situation is acceptable.

3.2 Non-permitted Site Inspections

For sites not authorized in accordance with state or local laws, the process will be abbreviated. First verify the need for authorization and observe receiving waters to detect water quality standard violations. If there is a violation, notify the owner of the violation or other compliance actions in response to their illicit activity. For DOW staff, Attachment 2 or a similar notice can be used to notify the site owner/operator that stormwater authorization is required.

3.3 Self-inspections

The role of the self-inspector is to verify that the site is complying with stormwater requirements. In particular, the self-inspector verifies that the SWPPP is being properly implemented. The self-inspector also documents SWPPP implementation so regulatory agencies can review implementation activities.

It is <u>not</u> the role of the self-inspector to report directly to regulatory authorities.

Appendix H of *The New York Standards and Specifications for Erosion and Sediment Control* - August 2005 (the Blue Book) includes a Construction Duration Inspection checklist that can be used by the owner/operators qualified professional for self-inspections. The Blue Book is available on the NYSDEC website.

3.3.1 Purpose

The self inspector should ensure that the project's SWPPP is being properly implemented. This includes ensuring that the erosion and sediment control practices are properly installed and being maintained in accordance with the SWPPP/Blue Book.

The project must be properly phased to limit the disturbance to less than five acres, and the construction sequence for each phase must be followed. The SWPPP must also be modified to address evolving circumstances. Finally, and most importantly, receiving waters must be protected.

If a soil disturbance will be greater than five acres at any given time, the site operator must obtain written permission from the DOW regional office.

3.3.2 Pre-construction Conference

The parties responsible for various aspects of stormwater compliance should be identified at the pre-construction conference. Responsible parties may include, but are not limited to, owner's engineer, owner/operator/permittee, contractors, and subcontractors.

Typical responsibilities include: installation of erosion and sediment control (E & SC) practices; maintenance of E & SC practices, inspection of E&SC practices, installation of post construction stormwater management practices (SMPs), inspection of post construction SMPs, SWPPP revisions, and contractor direction.

All parties should clearly know what is expected of them. Responsible parties should complete the Pre-construction Site Assessment Checklist provided in Appendix H of the Blue Book.

3.3.3 Inspection Preparation

The inspector should review the project's SWPPP (including the phasing plan, construction sequence and site specific issues) and the last few inspection reports (if the inspector has them available).

3.3.4 Self-inspection Components

Inspect installation, performance and maintenance of all E&SC practices

The self inspector should inspect all areas that are under active construction or disturbance and areas that are vulnerable to erosion. The self-inspector should also inspect areas that will be disturbed prior to the next inspection for measures required prior to construction (e.g. silt barriers, stabilized construction entrance, diversions). Finally, self-inspectors should inspect post-construction controls during and after installation.

Identify site deficiencies and corrective measures

The self-inspector's reports must be maintained in a log book on site and the log book must be made available to the regulatory authorities. Although the legal responsibility for filing a Notice of Termination lies with the owner/operator, the self-inspector may also be called upon to perform a final site inspection, including post construction SMPs, prior to filing the Notice of Termination.

4.0 POST-INSPECTION ACTIVITIES

4.1 Regulatory Oversight Authorities

This section is intended for inspectors with regulatory oversight authority such as agents of the DOW or a local municipality, or others acting on their behalf (such as County Soil and Water Conservation District staff.) Upon completion of an inspection, inspection results should be documented for the record.

4.1.1 Written Notification

The inspector should inform the permittee or the on-site representative of their inspection results in writing by sending the permittee a complete, signed copy of the inspection report. The inspection report should be transmitted under a cover letter which elaborates on any deficiencies noted in the inspection report. It is not a good idea to commend exceptional efforts by the owner/operator in a letter, because such letters tend to undermine enforcement efforts when compliance status at a site degrades.

The inspector should consider providing a copy of the cover letter and inspection report to other parties with including:

- Permittee
- Contractor(s)
- Other regulatory oversight authorities
- Other parties present during the inspection (e.g. SWPPP preparer, permittee's self-inspector, etc.)

For DOW staff, an example of the inspection cover letter is included as Attachment 3.

4.1.2 Inspection Tracking

DOW staff must enter their inspection results into the electronic *Water Compliance System*.

Local municipalities and other regulatory oversight authorities are encouraged to develop an electronic tracking system in which to record their inspections.

4.2 Permittee's Self-inspections

This section is intended for qualified professionals who conduct site inspections for permittees in accordance with a SPDES permit or local requirements.

4.2.1 Written Records

Inspection Reports
The inspector shall prepare a written report summarizing inspection results. The inspection report is then provided to the permittee, or the permittee's duly authorized representative, and to the contractor responsible for implementing stormwater controls on-site in order to correct deficiencies noted in the inspection report. Finally, the inspection report must be added to the site log book that is required to be maintained on-site, and be available to regulatory oversight authorities for review.

4.2.2 Stormwater Pollution Prevention Plan Revisions

The inspector must inform the permittee of his/her duty to amend the Stormwater Pollution Prevention Plan (SWPPP) whenever an inspection proves the SWPPP to be ineffective in:

- Eliminating or significantly minimizing pollutants from on-site sources
- Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity
- Eliminating discharges that cause a substantial visible contrast to natural conditions

ATTACHMENT 1

Construction Stormwater Compliance Inspection Report

Project Name and Location: Municipality: County:	Date:	Page 1 of 2
	Permit # (if any): **NYR**	
	Entry Time:	Exit Time:
On-site Representative(s) and contact information:	Weather Conditions:	
Name and Address of SPDES Permittee/Title/Phone/Fax Numbers: Contacted: Yes ☐ No ☐		

INSPECTION CHECKLIST

SPDES Authority

	Yes	No	N/A		Law, rule or permit citation
1.	☐	☐	☐	Is a copy of the NOI posted at the construction site for public viewing?	
2.	☐	☐	☐	Is an up-to-date copy of the signed SWPPP retained at the construction site?	
3.	☐	☐	☐	Is a copy of the SPDES General Permit retained at the construction site?	

SWPPP Content

	Yes	No	N/A		Law, rule or permit citation
4.	☐	☐	☐	Does the SWPPP describe and identify the erosion & sediment control measures to be employed?	
5.	☐	☐	☐	Does the SWPPP provide a maintenance schedule for the erosion & sediment control measures?	
6.	☐	☐	☐	Does the SWPPP describe and identify the post-construction SW control measures to be employed?	
7.	☐	☐	☐	Does the SWPPP identify the contractor(s) and subcontractor(s) responsible for each measure?	
8.	☐	☐	☐	Does the SWPPP include all the necessary 'CONTRACTOR CERTIFICATION' statements?	
9.	☐	☐	☐	Is the SWPPP signed/certified by the permittee?	

Recordkeeping

	Yes	No	N/A		Law, rule or permit citation
10.	☐	☐	☐	Are inspections performed as required by the permit (every 7 days and after ½" rain event)?	
11.	☐	☐	☐	Are the site inspections performed by a qualified professional?	
12.	☐	☐	☐	Are all required reports properly signed/certified?	
13.	☐	☐	☐	Does the SWPPP include copies of the monthly/quarterly written summaries of compliance status?	

Visual Observations

	Yes	No	N/A		Law, rule or permit citation
14.	☐	☐	☐	Are all erosion and sediment control measures installed/constructed?	
15.	☐	☐	☐	Are all erosion and sediment control measures maintained properly?	
16.	☐	☐	☐	Have all disturbances of 5 acres or more been approved prior to the disturbance?	
17.	☐	☐	☐	Are stabilization measures initiated in inactive areas?	
18.	☐	☐	☐	Are permanent stormwater control measures implemented?	
19.	☐	☐	☐	Was there a discharge into the receiving water on the day of inspection?	
20.	☐	☐	☐	Are receiving waters free of there evidence of turbidity, sedimentation, or oil ? (If no , complete Page 2)	

Overall Inspection Rating: ❑ Satisfactory ❑ Marginal ❑ Unsatisfactory	
Name/Agency of Lead Inspector:	**Signature of Lead Inspector:**
Names/Agencies of Other Inspectors:	

Water Quality Observations

Describe the discharge(s) [source(s), impact on receiving water(s), etc.] _____

_____

_____

_____

_____

Describe the quality of the receiving water(s) both upstream and downstream of the discharge_____

_____

_____

_____

_____

Describe any other water quality standards or permit violations _____

_____

_____

Additional Comments:_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

☐ Photographs attached

ATTACHMENT 2

**** NOTICE ****

On March 10, 2003, provisions of the Federal Clean Water Act went into effect that apply to many construction operations.

If your construction operations result in the disturbance of one acre or greater and stormwater runoff from your site reaches surface waters (i.e., lake, stream, road side ditch, swale, storm sewer system, etc.), the stormwater runoff from your site must be covered by a State Pollutant Discharge Elimination System (SPDES) Permit issued by the New York State Department of Environmental Conservation (NYSDEC).

To facilitate your compliance with the law, NYSDEC has issued a General Permit which may be applicable to your project. To obtain coverage under this General Permit, you need to prepare a Stormwater Pollution Prevention Plan (SWPPP) and then file a Notice of Intent (NOI) to the NYSDEC headquarters in Albany. The NOI form is available on the DEC website. You may also obtain a copy of the NOI form at the nearest NYSDEC regional offices.

When you file your NOI you are certifying that you have developed a SWPPP and that it will be implemented prior to commencing construction. When you submit the NOI you need to indicate if your SWPPP is in conformance with published NYSDEC technical standards; if it is, your SPDES permit coverage will be effective in as few as five business days. If your SWPPP does not conform to the DEC technical standards, coverage will not be available for at least 60 business days.

Failure to have the required permit can result in legal actions which include Stop Work Orders and/or monetary penalties of up to $37,500/day

If your construction operations are already in progress and you are not covered by an appropriate NYSDEC permit contact the NYSDEC Regional Water Engineer as soon as possible. If your construction field operations have not yet commenced, review the NOI and the General Permit on the DEC's website or at the DEC regional office for your area. When you are comfortable that you understand and comply with the requirements, file your NOI.

The requirement to file an NOI does not replace any local requirements. Developers/Contractors are directed to contact the Local Code Enforcement Officer or Stormwater Management Officer for local requirements.

ATTACHMENT 3

<< Date >>

Mr. John Smith
123 Main Street
Ferracane, NY 12345

Re: Stormwater Inspection
SPDES Permit Identification No. NYR10Z000 (through SPDES No. GP-02-01)
Blowing Leaves Subdivision
Gasper (T), Eaton (Co.)

Dear Mr. Smith:

On the afternoon of << date >> I conducted an inspection of the construction activities associated with the Blowing Leaves Subdivision located on County Route 1 in the town of Gasper, Eaton County. The inspection was conducted in the presence of you and Mr. Samuel Siltfence of Acme Excavating Co., Inc. The purpose of the inspection was to verify compliance with the *State Pollutant Discharge Elimination System (SPDES) General Permit for Storm Water Discharges from Construction Activity* ("the general permit").

The overall rating for the project at the time of the inspection was ***unsatisfactory***. A copy of my inspection report is attached for your information. In addition to the report, I would like to elaborate on the following:

SPDES Authority

- In accordance with subdivision 750-2.1 (a) of Title 6 of the Official Compilation of Codes, Rules, and Regulations of the State of New York (6 NYCRR), a copy of your permit must be retained at the construction site. You did not have a copy of the general permit at the site. **Your failure to retain a copy of the general permit at the construction site is a violation of 6 NYCRR Part 750-2.1 (a).** Please retain a copy of the general permit at the site from this point forward.

SWPPP Content

- In accordance with Part III.E.2. of the general permit, contractors and subcontractors must certify that they understand the terms and conditions of the general permit and the SWPPP before undertaking any construction activity at the site. Your SWPPP does not include a certification statement from Acme Excavating Co., Inc. **The failure of your contractor to sign this certification before undertaking construction activity at the site is a violation of Part III.E.2. of the general permit.** Please obtain copies of all necessary certifications and provide copies of them to each party who holds a copy of your SWPPP.

- In accordance with Part V.H.2. of the general permit, SWPPP's must be certified by the permittee. Your SWPPP was not certified by you. **Your failure to certify your SWPPP is a**

violation of Part V.H.2. of the general permit. Please certify your SWPPP.

Recordkeeping

- In accordance with Parts III.D.3.a. and III.D.3.b. of the general permit, permittees must have a qualified professional conduct site inspections within 24 hours of the end of 0.5" or greater rain events and at least once per week. A review of your records revealed that your "self-inspections" are only being conducted about two or three times per month. **Your failure to have a qualified professional conduct inspections at the required frequency is a violation of Part III.D.3.b. of the general permit.** Please immediately direct your qualified professional to conduct your site inspections at the required frequency.

- Although the frequency of self-inspections does not meet rquirements, the quality of them is very good. Your qualified professional has accurately noted the same SWPPP deficiencies and necessary maintenance activities that I also observed, and prepared thorough sketches on the self-inspection site maps.

- In accordance with Part V.H.2. of the general permit, the permittee must certify all reports required by the permit. A review of your records showed that your self-inspection reports were not certified. **Your failure to certify your self-inspection reports is a violation of Part V.H.2. of the general permit.** Please sign and certify any and all existing and future self-inspection reports.

Visual Observations

- In accordance with Parts III.A.2. and III.A.3. of the general permit, all erosion and sediment controls (E&SC) measures must be installed (as detailed in the SWPPP) prior to the initiation of construction. During the inspection, I noted all of your E&SC measures have been correctly installed at the right times and locations.

- In accordance with Part V.L. of the general permit, all of the E&SC measures at your site must be maintained properly. While on site I observed that, among other things, the section of silt fence in place parallel to County Route 1 is in various stages of disrepair. **The failure of your contractor to adequately maintain the E&SC measures currently in place at your site is a violation of Part V.L of the general permit.** Please direct your contractor to repair this silt fence immediately and to diligently maintain all of the other required E&SC measures as they are brought to his attention by your qualified professional.

- This inspection was conducted during a rain event which resulted in a stormwater discharge to the municipal separate storm sewer system (MS4) being operated by the Eaton County Department of Public Works. Your discharge was visibly turbid whereas upstream water MS4 was clear. As a result, the discharge from the MS4 outfall into Karimipour Creek was causing

Mr. John Smith << Date >>
Re: SPDES Inspection
Blowing Leaves Subdivision
Gasper (T), Eaton (Co.)

slight turbidity. Please be advised that the narrative water quality standard for turbidity in Karimipour Creek is “no increase that will cause a substantial visible contrast to natural conditions.” I attribute the lack of maintenance of your E&SC measures to be the primary cause of the turbid discharge. Please be reminded that the general permit does not authorize you cause or contribute to a condition in contravention of any water quality standards.

If you have any questions or comments, please feel free to contact me at (999) 456-5432.

Sincerely,

Hector D. Inspector, CPESC
Environmental Program Specialist 2

HDI:ms
Attachment

cc w/att.: Chester Checkdam, (T) Gasper Code Enforcement Officer
Samuel Siltfence, Acme Excavating Co., Inc.

SWPPP Preparer Certification Form

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

Project/Site Name:

eNOI Submission ID:

Owner/Operator Name:

Certification Statement – SWPPP Preparer

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) has been prepared in accordance with the requirements of GP-0-25-001. I certify under penalty of law that the SWPPP and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SWPPP Preparer First Name | MI | SWPPP Preparer Last Name

Signature

Date

Revised: January 2025

MS4 SWPPP Acceptance Form

for construction activities seeking authorization under the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

I. Project Owner/Operator Information
1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:
II. Project Site Information
5. Project/Site Name:
6. Street Address:
7. City/State/Zip:
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information
8. SWPPP Reviewed by:
9. Title/Position:
10. Date Final SWPPP Reviewed and Accepted:
IV. Regulated MS4 Information
11. Name of MS4 Operator:
12. MS4 SPDES Permit Identification Number: NYR20A
13. Street Address:
14. City/State/Zip:
15. Telephone Number:

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in section II. of this form has been reviewed and meets the substantive requirements in the SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP). Note: The MS4 Operator, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 Operator does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name[1]:

Title/Position:

Signature:

Date:

VI. Additional Information

[1] Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.

THE CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Environmental Planning and Analysis
59-17 Junction Blvd., 9th Floor; Flushing, NY 11373

SWPPP Acceptance/Approval

Application Number:

I. Project Owner/Operator Information

1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:

II. Project Site Information

5. Project/Site Name:
6. Street Address:
7. City/State/Zip:

III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance/Approval

8. SWPPP Reviewed by:
9. Title/Position: /
10. Date Final SWPPP Reviewed and Accepted:
11. Acceptance/Approval Expiration Date:

IV. Regulated MS4 Information for projects that require coverage under the NY State Pollution Discharge Elimination System General Permit for Stormwater Discharges from Construction Activity

12. Name of MS4: *CITY OF NEW YORK*
13. MS4 SPDES Permit Identification Number: *NY-0287890*
14. Contact Person:
15. Street Address: *59-17 Junction Blvd. 9th Floor*
16. City/State/Zip: *Flushing, NY 11373*
17. Telephone Number:

Projects in the MS4 area must submit a copy of this SWPPP Acceptance with a Notice of Intent for coverage under the NY SPDES General Permit for Stormwater Discharges from Construction Activity to: NYS Department of Environmental Conservation, Division of Water; 625 Broadway, 4th Floor; Albany, New York 12233-3505.

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s).

Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

Date:

VI. Conditions of Acceptance/Approval and Additional Information

Projects in the MS4 area must submit a copy of this SWPPP Acceptance with a Notice of Intent for coverage under the NY SPDES General Permit for Stormwater Discharges from Construction Activity to: NYS Department of Environmental Conservation, Division of Water; 625 Broadway, 4th Floor; Albany, New York 12233-3505.

MS4 No Jurisdiction Form

for construction activities seeking authorization under the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

I. Project Owner/Operator Information

a. Owner/Operator Name:

b. Contact Person:

c. Street Address:

d. City/State/Zip:

II. Project Site Information

a. Project/Site Name:

b. Street Address:

c. City/State/Zip:

d. eNOI Submission ID:

III. Traditional Land Use Control MS4 Operator Information

a. Name of MS4 Operator:

b. MS4 SPDES Permit ID Number: NYR20A

c. Street Address:

d. City/State/Zip:

e. Telephone Number:

IV. Certification Statement

In accordance with CGP Part I.D.2.b.ii.3., I hereby certify that the Traditional Land Use Control MS4 Operator identified in section III. of this form does not have review authority over the construction project identified in section II. of this form, which is owned/operated by the entity identified in section I. of this form. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

a. Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.:

b. Title/Position:

c. Signature:

d. Date:

Owner/Operator Certification Form

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b. or Part I.F.2. and 3., the completed form must be attached to the eNOI or the Request to Continue Coverage, and submitted to NYSDEC electronically.

Project/Site Name: _____

eNOI Submission ID: _____

eNOI Submitted by: ☐ **Owner/Operator** ☐ **SWPPP Preparer** ☐ **Other**

Certification Statement - Owner/Operator

I hereby certify that I read, and will comply with, the GP-0-25-001 permit requirements. I understand that authorization to discharge under the permit for the project/site named above is dependent on receipt of a Letter of Authorization (LOA) or a Letter of Continued Coverage (LOCC) from the New York State Department of Environmental Conservation (NYSDEC) in accordance with CGP Part I.D.3.b. or Part I.F.4. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner/Operator First Name MI Owner/Operator Last Name

_____

Signature

_____

Date

Revised: January 2025

eNOT Owner or Operator Certification

for construction activities seeking termination from the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(The completed form must be attached to the eNOT, which must be submitted to NYSDEC electronically in accordance with CGP Part V.A.5.)

I. Project Owner/Operator Information

a. Owner/Operator Name:

b. Contact Person:

c. Street Address:

d. City/State/Zip:

II. Project Site Information

a. Project/Site Name:

b. Street Address:

c. City/State/Zip:

d. CGP SPDES Permit ID:

III. Certification Statement

I certify that I have met the requirements of CGP Part V.A.1., 2., 3., and 4. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

a. Printed name of the Owner or Operator:

b. Title/Position:

c. Signature:

d. Date:

eNOT Qualified Inspector Certification – SMPs

for construction activities seeking termination from the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(The completed form must be attached to the eNOT, which must be submitted to NYSDEC electronically in accordance with CGP Part V.A.5.)

I. Project Owner/Operator Information

a. Owner/Operator Name:

b. Contact Person:

c. Street Address:

d. City/State/Zip:

II. Project Site Information

a. Project/Site Name:

b. Street Address:

c. City/State/Zip:

d. CGP SPDES Permit ID:

III. Certification Statement

I hereby certify that all the requirements in CGP Part V.A.1.a.iv. or CGP Part V.A.1.b.iv. have been achieved. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

a. Printed name of the Qualified Inspector:

b. Title/Position:

c. Signature:

d. Date:

eNOT Qualified Inspector Certification – Final Stabilization

for construction activities seeking termination from the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(The completed form must be attached to the eNOT, which must be submitted to NYSDEC electronically in accordance with CGP Part V.A.5.)

I. Project Owner/Operator Information

a. Owner/Operator Name:

b. Contact Person:

c. Street Address:

d. City/State/Zip:

II. Project Site Information

a. Project/Site Name:

b. Street Address:

c. City/State/Zip:

d. CGP SPDES Permit ID:

III. Certification Statement

I hereby certify that all the requirements in CGP Part V.A.1.a.i., ii., and iii. or CGP Part V.A.1.b.i., ii., and iii. have been achieved. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

a. Printed name of the Qualified Inspector:

b. Title/Position:

c. Signature:

d. Date:

eNOT MS4 Acceptance

for construction activities seeking termination from the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(The completed form must be attached to the eNOT, which must be submitted to NYSDEC electronically in accordance with CGP Part V.A.5.)

I. Project Owner/Operator Information

a. Owner/Operator Name:

b. Contact Person:

c. Street Address:

d. City/State/Zip:

II. Project Site Information

a. Project/Site Name:

b. Street Address:

c. City/State/Zip:

d. CGP SPDES Permit ID:

III. Traditional Land Use Control MS4 Operator Information

a. Name of MS4 Operator:

b. MS4 SPDES Permit ID Number: NYR20A

c. Street Address:

d. City/State/Zip:

e. Telephone Number:

IV. Certification Statement

I have determined that it is acceptable for the owner or operator of the construction project identified above to submit the electronic Notice of Termination in accordance with CGP Part V. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

a. Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.:

b. Title/Position:

c. Signature:

d. Date:

Monitoring Locations Inspection and Sampling Field Sheet

Section 1: Background Data

Subwatershed:		Monitoring Location ID:	
Today's date:		Time (Military):	
Investigators:		Form completed by:	
Temperature (°F):	Rainfall (in.): Last 24 hours: Last 48 hours:		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	

Land Use in Drainage Area (Check all that apply):

- ☐ Industrial
- ☐ Ultra-Urban Residential
- ☐ Suburban Residential
- ☐ Commercial
- ☐ Open Space
- ☐ Institutional
- Other: _____
- Known Industries: _____

Notes (e.g., origin, if known):

Section 2: Monitoring Location Description

LOCATION	MATERIAL	SHAPE	DIMENSIONS (IN.)	SUBMERGED
☐ **Closed Pipe**	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☐ Circular ☐ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other: _____ ☐ Other: _____	Diameter/Dimensions: _____	In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully
☐ **Open drainage**	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other: ____	☐ Trapezoid ☐ Parabolic ☐ Other: ____	Depth: ____ Top Width: ___ Bottom Width: ____	
☐ **In-Stream**	**(applicable when collecting samples)**			
Flow Present?	☐ Yes ☐ No	***If No, Skip to Section 5***		
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial			

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING MONITORING LOCATIONS				
PARAMETER		**RESULT**	**UNIT**	**EQUIPMENT**
☐ Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
☐ Flow #2	Flow depth		In	Tape measure
	Flow width	____' ____"	Ft, In	Tape measure
	Measured length	____' ____"	Ft, In	Tape measure
	Time of travel		S	Stopwatch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mg/L	Test strip

Monitoring Locations Inspection and Sampling Field Sheet

Section 4: Physical Indicators for Flowing Monitoring Locations Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (*If No, Skip to Section 5)*

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 - Faint	☐ 2 – Easily detected	☐ 3 – Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 – Faint colors in sample bottle	☐ 2 – Clearly visible in sample bottle	☐ 3 – Clearly visible in flow
Turbidity	☐	See severity	☐ 1 – Slight cloudiness	☐ 2 - Cloudy	☐ 3 – Opaque
Floatables -Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 – Few/slight; origin not obvious	☐ 2 - Some; indications of origin (e.g., possible suds or oil sheen)	☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Monitoring Locations

Are physical indicators that are not related to flow present? ☐ Yes ☐ No (*If No, Skip to Section 6)*

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Monitoring Location Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Monitoring Location Characterization

☐ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

1.	Sample for the lab?	☐ Yes	☐ No		
2.	If yes, collected from:	☐ Flow	☐ Pool		
3.	Intermittent flow trap set?	☐ Yes	☐ No	If Yes, type: ☐ OBM	☐ Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF WATER

NEW YORK STATE Department of Environmental Conservation

New York State Department of Environmental Conservation

Construction Site Inspection Report for SPDES MS4 General Permit GP-0-24-001

Project Name:		Date:	
Project Location:		Weather:	
Permit # (if any): **NYR**	Contacted: ☐Yes ☐No	Entry Time:	Exit Time:
Name of SPDES Permittee:		Inspection Type:	☐NOT ☐ Complaint
Phone Number(s):			☐ Compliance ☐ Referral
On-site Representative(s) and Company(s):		MS4 Operator Name:	
		MS4 Permit ID: NYR20A	

SPDES Authority

	Yes	No	N/A		Citation
1.	☐	☐	☐	Does the project have permit coverage?	GP-0-20-001: I.A & II. B
2.	☐	☐	☐	Is a copy of the NOI and Acknowledgment Letter available on site and accessible for viewing?	GP-0-20-001: II.D.2
3.	☐	☐	☐	Is a copy of the MS4 SWPPP Acceptance Form available on site and accessible for viewing?	GP-0-20-001: II.D.2
4.	☐	☐	☐	Is an up-to-date copy of the signed SWPPP retained at the construction site?	GP-0-20-001: II.D.2. & III.A.4
5.	☐	☐	☐	Is a copy of the SPDES General Permit retained at the construction site?	GP-0-20-001: II.D.2
6.	☐	☐	☐	Does the NOI accurately report the number of acres to be disturbed?	GP-0-20-001: II.B.4

SWPPP Content

	Yes	No	N/A		Citation
7.	☐	☐	☐	Does the SWPPP describe and identify the erosion and sediment control measures to be employed?	GP-0-20-001: III.B.1.e
8.	☐	☐	☐	Does the SWPPP provide an inspection schedule and maintenance requirements for the E&SC measures?	GP-0-20-001: III.B.1.i
9.	☐	☐	☐	Does the SWPPP describe and identify the stormwater management practices to be employed?	GP-0-20-001: III.B.2
10.	☐	☐	☐	Does the SWPPP identify the contractor(s) and subcontractor(s) responsible for each measure?	GP-0-20-001: III.A.6
11.	☐	☐	☐	Does the SWPPP identify at least one trained individual from each contractor(s) and subcontractor(s) companies?	GP-0-20-001: III.A.6
12.	☐	☐	☐	Does the SWPPP include all the necessary Contractor Certification Statements and signatures?	GP-0-20-001: III.A.6
13.	☐	☐	☐	Is the SWPPP signed by the permittee?	GP-0-20-001: VII.H.2
14.	☐	☐	☐	Is the SWPPP prepared by a qualified professional (if post-construction stormwater management required)?	GP-0-20-001: III.A.3
15.	☐	☐	☐	Do the SMPs conform to the Enhanced Phosphorus Removal Standards (projects in TMDL watersheds)?	GP-0-20-001: III.B.3

Recordkeeping

	Yes	No	N/A		Citation
16.	☐	☐	☐	Are self-inspections performed as required by the permit (weekly, or twice weekly for >5 acres disturbed)?	GP-0-20-001:IV.C.2.a. & b
17.	☐	☐	☐	Are the self-inspections performed and signed by a qualified inspector and retained on site?	GP-0-20-001:II.C.2.,IV.C.6 & VII.H.3
18.	☐	☐	☐	Do the qualified inspector's reports include the minimum reporting requirements?	GP-0-20-001: IV.C.4
19.	☐	☐	☐	Do inspection reports identify corrective measures that have not been implemented or are recurring?	GP-0-20-001: IV.C.5

Visual Observations

	Yes	No	N/A		Citation
20.	☐	☐	☐	Are all erosion and sediment control measures installed properly?	GP-0-20-001: VII.L
21.	☐	☐	☐	Are all erosion and sediment control measures being maintained properly?	GP-0-20-001: IV.A.1
22.	☐	☐	☐	Was written authorization issued for any disturbance greater than 5 acres?	GP-0-20-001: II.D.3
23.	☐	☐	☐	Have stabilization measures been implemented in inactive areas per Permit (>5acres) or ESC Standard?	GP-0-20-001: II.D.3.b & III.B.1.f
24.	☐	☐	☐	Are post-construction stormwater management practices constructed/installed correctly?	GP-0-20-001: III.B.2
25.	☐	☐	☐	Has final site stabilization been achieved and temporary E&SC measures removed prior to NOT submittal?	GP-0-20-001: V.A.2
26.	☐	☐	☐	Was there a discharge from the site on the day of inspection?	
27.	☐	☐	☐	Is there evidence that a discharge caused or contributed to a violation of water quality standards?	ECL 17-0501, 6 NYCRR 703.2 & GP-0-20-001: I.D

Water Quality Observations

Describe the discharge(s): location, source(s), impact on receiving water(s), etc.

Describe the quality of the receiving water(s) both upstream and downstream of the discharge:

Describe any other water quality standards or permit violations:

Additional Comments:

☐ Photographs attached

Overall Inspection Rating: ☐ Satisfactory ☐ Marginal ☐ Unsatisfactory	
Name/Agency of Lead Inspector:	Signature of Lead Inspector:
Names/Agencies of Other Inspectors:	

NEW YORK STATE | Department of Environmental Conservation

NO EXPOSURE CERTIFICATION

For High Priority Municipal Facilities

in SPDES MS4 General Permit, GP-0-24-001

The completed No Exposure Certification must be documented in the SWMP Plan.
Please do not submit this form to the Department unless requested.

I. Owner/Facility Information

Owner/Operator Name:		
Mailing Address:	City/State/Zip:	
Contact Name:	Phone No.:	
Facility Name:		
Street Address:	City/State/Zip:	
County:	Latitude:	Longitude:

II. Exposure Checklist

	Are any of the following materials or activities exposed to precipitation, now or in the foreseeable future? (Please check either "Yes" or "No" in the appropriate box.) If you answer "Yes" to any of these questions (1) through (11), you are not eligible for no exposure.	YES	NO
1	Using, storing or cleaning machinery or equipment, and areas where residuals from using, storing or cleaning machinery or equipment remain and are exposed to stormwater		
2	Materials or residuals on the ground or in stormwater inlets from spills/leaks		
4	Material handling equipment (except adequately maintained vehicles)		
5	Materials or products during loading/unloading or transporting activities		
6	Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to stormwater does not result in the discharge of pollutants)		
7	Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers		
8	Materials or products handled/stored on roads or railways owned or maintained by the discharger		
9	Waste material (except waste in covered, non-leaking containers [e.g., dumpster])		

III. Certification

I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of "no exposure" and obtaining an exclusion from SPDES stormwater permitting. I certify under penalty of law that there are no discharges of storm water contaminated by exposure to industrial activities or materialsfrom the industrial facility or site identified in this document (except as allowed under 40 CFR 122.26(g)(2)). I understand that I am obligated to submit a no exposure certification form upon request to the NPDES permitting authority or to the operator of the local municipal separate storm sewer system (MS4) into which the facility discharges (where applicable). I understand that I must allow the SPDES permitting authority, or MS4 Operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request.

Printed Name:	Title/Position:
Signature:	Date:

NEW YORK STATE Department of Environmental Conservation	**Municipal Facility Assessment Form For SPDES MS4 General Permit, GP-0-24-001**

Assessments must be conducted by a person with the knowledge and skills to assess conditions and activities that could impact stormwater quality at the facility and evaluate the effectiveness of best management practices required by the SPDES MS4 General Permit (GP-0-24-001).

MS4 Permit ID:	MS4 Operator Name:	
Facility Name:	Facility Type:	Date:
Weather Conditions:		
Is stormwater runoff present during this assessment? ☐ Yes ☐ No		
Comments:		

General		**Yes**	**No**
1	Is this a high priority municipal facility?	☐	☐
2	If this is a high priority municipal facility, does the facility qualify for a No Exposure Certification?	☐	☐
3	If this is a high priority municipal facility, is there a completed SWPPP available?	☐	☐
4	Does the facility have any MS4 outfalls?	☐	☐
5	Does the facility have any interconnections?	☐	☐
6	Does the facility have any municipal facility intraconnections?	☐	☐
Comments:			
Good Housekeeping		**Yes**	**No**
7	Are paved surfaces free of trash, sediment, and/or debris?	☐	☐
8	Date the paved area was last swept or vacuumed.	☐	☐
9	Do outdoor waste receptacles have covers?	☐	☐
10	Are the waste receptacles emptied on a regular basis?	☐	☐
11	Are there signs of leaks, contaminants or overfilling at the waste receptacle area?	☐	☐
12	Are the following facility areas free of accumulated trash, sediment, debris, contaminants, and spills:	☐	☐
	- Salt storage areas	☐	☐
	- Container storage areas	☐	☐
	- Maintenance areas	☐	☐

	- Staging areas	☐	☐
	- Material stockpile areas	☐	☐
Comments:			

Vehicle and Equipment Areas		☐ N/A	Yes	No
13	Are vehicle/equipment parked indoors or under a roof?		☐	☐
14	Are vehicles/equipment washed in only designated areas?		☐	☐
15	Are vehicles washed regularly to remove contamination and prevent them from polluting stormwater?		☐	☐
16	Is all wash water treated in an oil water separator prior to discharge?		☐	☐
17	Is all wash water managed so it does not enter the MS4?		☐	☐
Comments				

Vehicle/Equipment Maintenance		☐ N/A	Yes	No
18	Is equipment stored under shelter or elevated and covered?		☐	☐
19	Are fluids drained over a drip pan or pad?		☐	☐
20	Are funnels or pumps used when transferring fluids?		☐	☐
21	Are waste rags and used absorbent pads disposed of properly?		☐	☐
22	Are any vehicles and/or equipment leaking fluids?		☐	☐
23	Are drip pans immediately placed under leaks?		☐	☐
24	Are materials, equipment, and activities located so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas)?		☐	☐
25	Are vehicles inspected daily for leaks?			
Comments:				

Fueling areas		☐ N/A	Yes	No
26	Is fueling performed under a canopy or roof?		☐	☐
27	Are spill cleanup materials available at the fueling area?		☐	☐
28	Are breakaway valves used on fueling hoses?		☐	☐
29	Is the fueling handle lock disconnected so the operator must attend the fueling?		☐	☐
30	Is stormwater runoff from fueling area treated in an oil/water separator?		☐	☐
31	Is the fueling automatic stop inspected regularly to ensure it is working properly?		☐	☐
32	Are all fuel deliveries monitored?		☐	☐
Comments:				

Salt Storage Piles or Pile Containing Salt		☐ N/A	Yes	No
33	Is salt stored in a salt storage building or under a roof?		☐	☐
34	Are controls in place to minimize spills while adding or removing material from the pile?		☐	☐
35	Are salt spills cleaned up promptly?		☐	☐
36	Is overflow and tracked salt removed promptly from loading areas?		☐	☐
37	Is stormwater draining away from the salt pile directed to a vegetated filter area		☐	☐
Comments:				
Fluids Management		☐ N/A	Yes	No
38	Are all drums and containers of fluids stored with proper cover and containment?		☐	☐
39	Are fluids stored in appropriate containers and/or storage cabinets?		☐	☐
40	Are all fluids kept in original containers or labeled in a manner that describes the contents adequately?		☐	☐
41	Are Material Safety Data Sheets (MSDS/SDS) readily available?		☐	☐
42	Are all containers that are stored free of leaks or deposits?		☐	☐
43	Are containers of product inspected regularly?		☐	☐
44	Is used oil and antifreeze stored indoors and/or on spill containment pallets?		☐	☐
45	Is used oil and antifreeze properly disposed of or recycled?		☐	☐
Comments:				
Lead Acid Batteries		☐ N/A	Yes	No
46	Are lead-acid batteries stored indoors on spill containment pallets or in bins?		☐	☐
47	Are intact batteries stored on an acid-resistant rack or tub?		☐	☐
48	Are cracked or leaking batteries stored in labeled, closed, leak-proof containers?		☐	☐
49	Is the date each battery was placed in storage recorded?		☐	☐
50	Are batteries stacked more than 5 high?		☐	☐
51	Are batteries inspected regularly for leaks?		☐	☐
Comments:				
Spill Prevention and Response Procedures		☐ N/A	Yes	No
52	Are vehicles inspected daily for leaks?		☐	☐

53	Is spill control equipment and absorbents readily available?	☐	☐
54	Are emergency phone numbers posted in conspicuous areas?	☐	☐
55	Are spills contained and cleaned up immediately?	☐	☐
Comments:			

General Material Storage Areas	☐ N/A	Yes	No
56	Are leaking or damaged materials stored inside a building or another type of storm resistance shelter?	☐	☐
57	Are all material stockpiles within containment structures (e.g., concrete barriers, earthen berms) or stored in a manner that does not allow discharge of impacted stormwater?	☐	☐
58	Are used fuel tanks and other scrap metal and parts drained of fluids and stored under cover?	☐	☐
59	Are outdoor containers covered?	☐	☐
60	Are piles of spoils, asphalt, debris, etc. stored under a roof or cover?	☐	☐
61	Are spills of material or debris cleaned up promptly?	☐	☐
62	Are used tire storage piles placed away from storm drains or conveyances?	☐	☐
63	Are tires recycled frequently to keep the number of stored tires manageable?	☐	☐
Comments:			

Stormwater Management		Yes	No
64	Are employees trained on the municipal facility procedures?	☐	☐
66	Are BMPs and treatment structures working as designed?	☐	☐
67	Are BMPs and treatment structures free from debris buildup or overgrown vegetation that may impair function?	☐	☐
68	Catch basins should be cleaned in accordance with the timeframes listed in Part VI.F.3.c.iii. / Part VII.F.3.c.iii, depending on the MS4 Operator type. Based on this, do any catch basins need to be cleaned?	☐	☐
69	Are berms, curbing or other methods used to divert and direct discharges adequate and in good condition?	☐	☐
70	Are rooftop drains directed to areas away from pavement?	☐	☐
Comments:			

Erosion and Sediment Controls		Yes	No
71	Are soil stabilization measures (e.g., seed and mulch, rolled erosion control products) considered in areas that have the potential for significant soil erosion?	☐	☐
72	Are natural buffers maintained around surface waters?	☐	☐
73	Are flow velocity dissipation devices in place at monitoring locations and channel outlets (rock riprap, stone check dams, concrete baffles)?	☐	☐
74	Do controls conform to the NYS Standards and Specifications for Erosion and Sediment Control (2016), or equivalent?	☐	☐

Comments:			
Corrective Actions and Comment			
Describe Inspection findings and if necessary, the corrective actions taken			
Inspector Signature		Date:	

NEW YORK STATE | Department of Environmental Conservation

Storm Event Data Form for SPDES MS4 General Permit, GP-0-24-001

Do not submit this form to the Department; keep this form with the municipal facility's SWPPP and in the MS4 Operator's SWMP Plan.

Permit Number:

N	Y	R	2	0	A			

Facility Name:

Contact First Name:

Contact Last Name:

Contact Phone:

Contact Email:

Storm Event Date:

Storm Duration (in hours):

Rainfall Measurement from Storm Event (in inches):

Date of Last Measurable Storm Event:

Duration Between Storm Event Sampled and End of Previous Measurable Storm (in hours):

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility Operator First Name (please print or type)

Facility Operator Last Name (please print or type)

/ /

Date

Signature

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Visual Monitoring Form MS4 GP-0-24-001

All high priority municipal facilities covered under the MS4 GP-0-24-001 must perform Visual Monitoring twice a permit term, separated by a minimum of one (1) year. Please see the permit Part VI.F/VII.F for additional requirements. This form is part of the facilities records and should be retained onsite with the facility's Stormwater Pollution Prevention Plan. ***Please do not submit this form to the Department.***

MS4 Operator Permit ID

Facility Name

Outfall Number

Examiner's Name

Examiner's Title

Reporting Year

Rainfall Amount

Qualifying Storm? ◯Yes ◯No

Runoff Source? ◯Rainfall ◯Snowmelt

Date/Time Collected __ __ / __ __ / __ __ __ __ : __ __ AM / PM

Date/Time Examined __ __ / __ __ / __ __ __ __ : __ __ AM / PM

1. Does the stormwater appear to be colored? ..... ◯Yes ◯No

If yes, describe

2. Is the stormwater clear or transparent? ..... ◯Yes ◯No

If yes, which of the following best describes the clarity of the stormwater: ..... ◯Clear ◯Milky ◯Opaque

3. Can you see a rainbow sheen effect on the water surface?..... ◯Yes ◯No

If yes, which best describes the sheen?..... ◯Rainbow Sheen ◯Floating Oil Globules

4. Does the sample have an odor? ..... ◯Yes ◯No

If yes, describe

5. Is there something floating on the surface of the sample? ..... ◯Yes ◯No

If yes, describe

6. Is there something suspended in the water column of the sample? ..... ◯Yes ◯No

If yes, describe

7. Is there something settled on the bottom of the sample?..... ..... ◯Yes ◯No

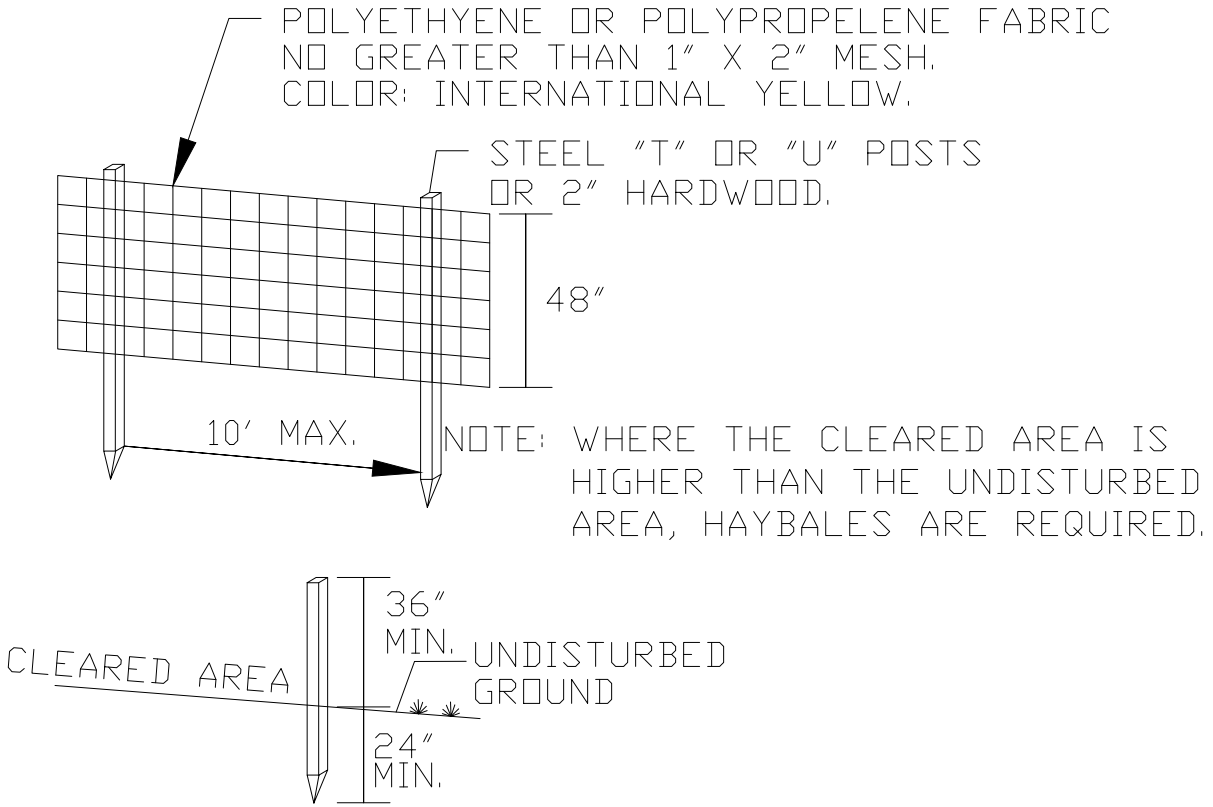
If yes, describe

8. Is there foam or material forming on the top of the sample surface?..... ◯Yes ◯No

If yes, describe

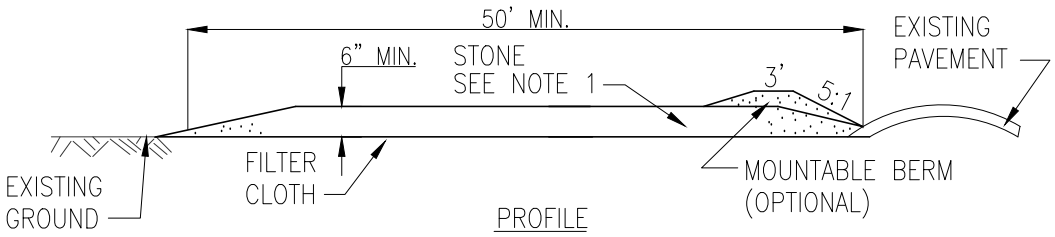
Detail any concerns, corrective actions taken and any other indicators of pollution present in the sample:

APPENDIX Q
Construction Details

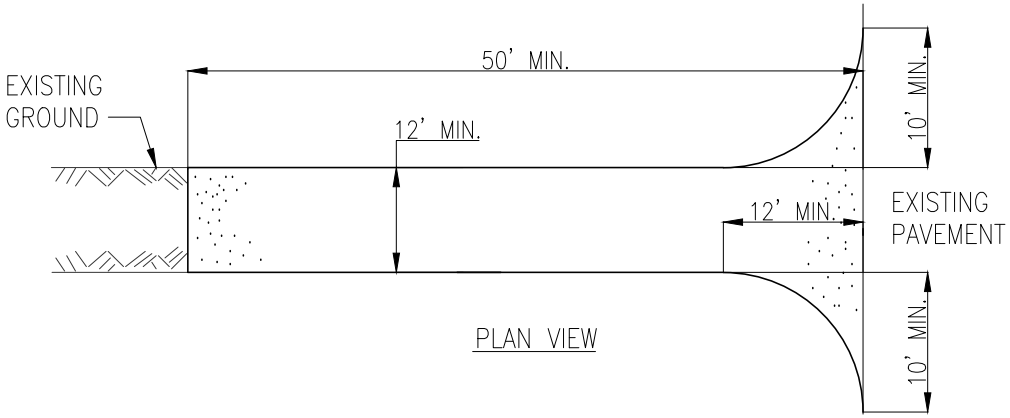


CONSTRUCTION FENCE

VILLAGE OF HEAD OF THE HARBOR SOIL & EROSION CONTROL		
DATE 03-17-07	SCALE N.T.S.	CONST. FENCE



PROFILE



PLAN VIEW

STABILIZED CONSTRUCTION ENTRANCE

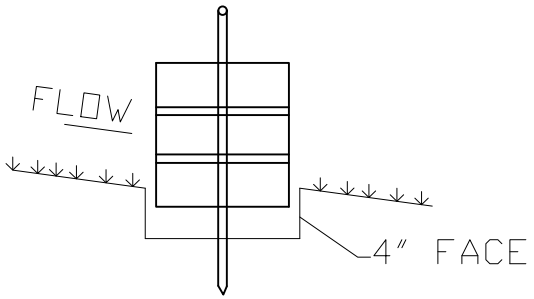
N.T.S.

STABILIZED CONSTRUCTION SPECIFICATIONS

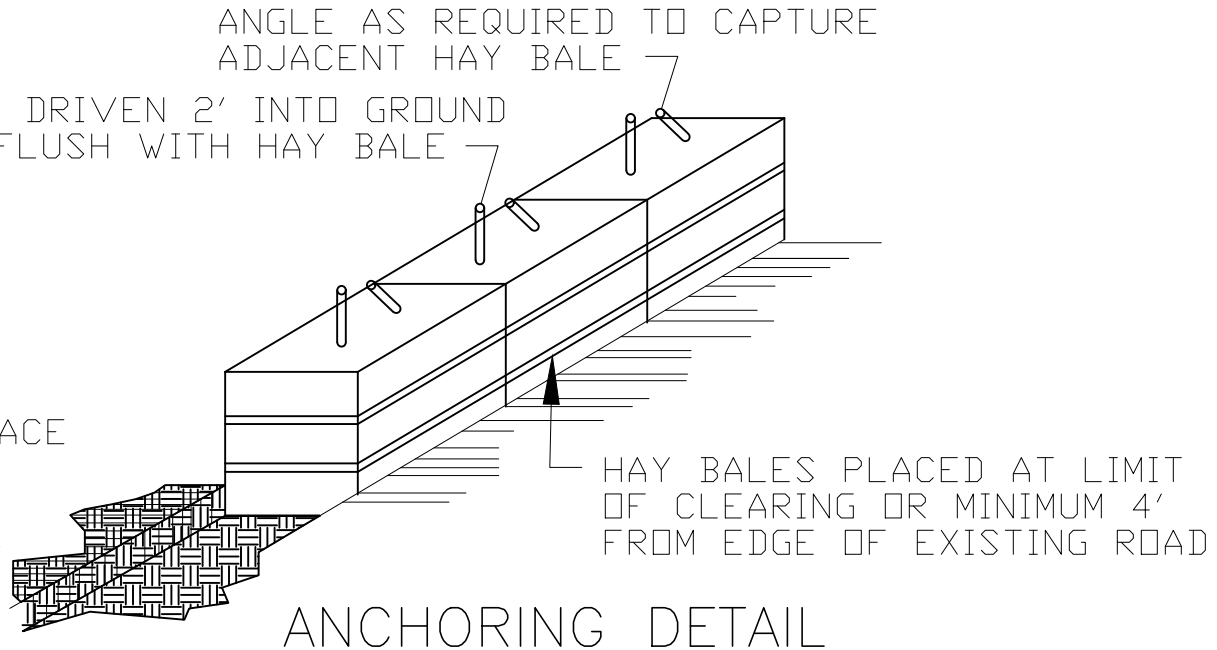
1. STONE SIZE – USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY–FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

VILLAGE OF HEAD OF THE HARBOR
SOIL & EROSION CONTROL

DATE	SCALE	CONST. ENT.
03–17–07	N.T.S.	



BEDDING DETAIL



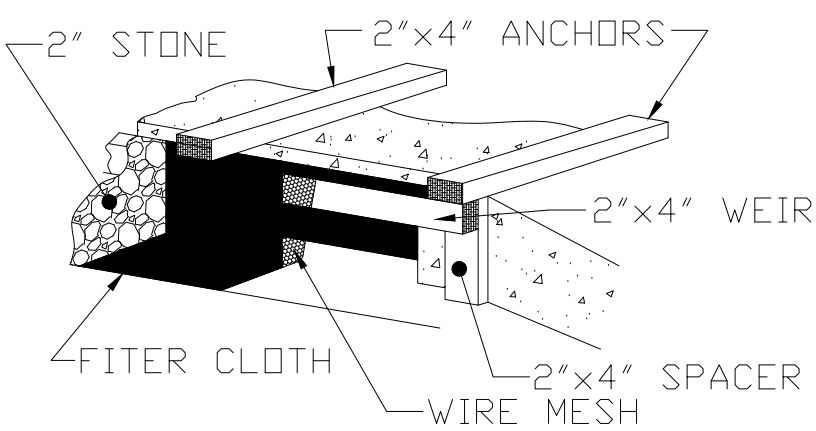
ANCHORING DETAIL

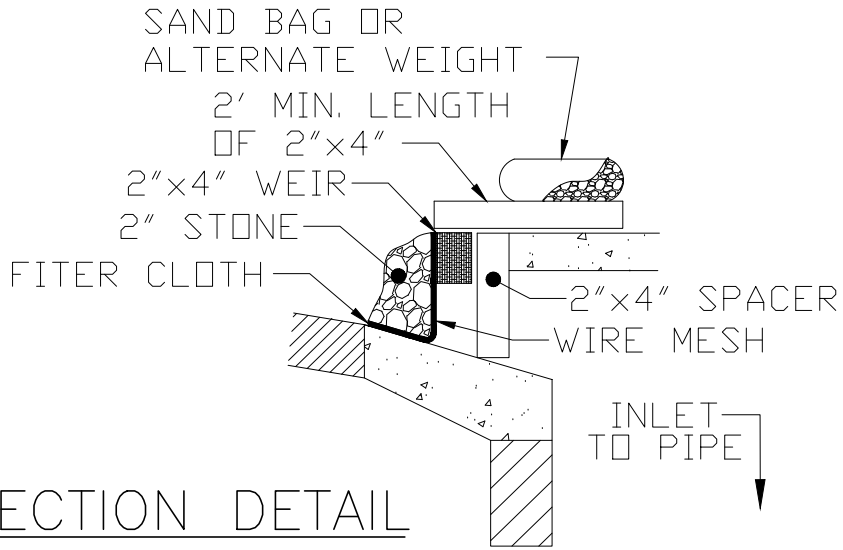
HAY BALE NOTES

1. HAY BALES ARE TO BE PLACED ALONG ROAD AND RE-SET EVERY DAY AFTER CONSTRUCTION ACTIVITY.
2. THE FIRST COURSE OF HAYBALES ARE TO BE EMBEDDED 4"
3. HAY BALES ARE TO BE ANCHORED WITH TWO STAKES DRIVEN THROUGH THE HAY BALE. THE FIRST STAKE IN EACH HAY BALE IS TO BE DRIVEN AT AN ANGLE TO CAPTURE THE PREVIOUSLY PLACED HAY BALE TO FORCE THE HAY BALES TOGETHER.
4. STAKES ARE TO DRIVEN FLUSH WITH THE TOP OF THE HAY BALES.
5. THE HAY BALES ARE TO BE INSPECTED PRIOR TO THE START OF CONSTRUCTION EACH DAY AND PRIOR TO LEAVING THE SITE AT THE END OF THE DAY.
6. HAY BALES ARE NOT TO BE REMOVED EXCEPT FOR ACCESS TO THE SITE.

VILLAGE OF HEAD OF THE HARBOR
SOIL & EROSION CONTROL

DATE	SCALE	HAY BALES
03-17-07	N.T.S.	



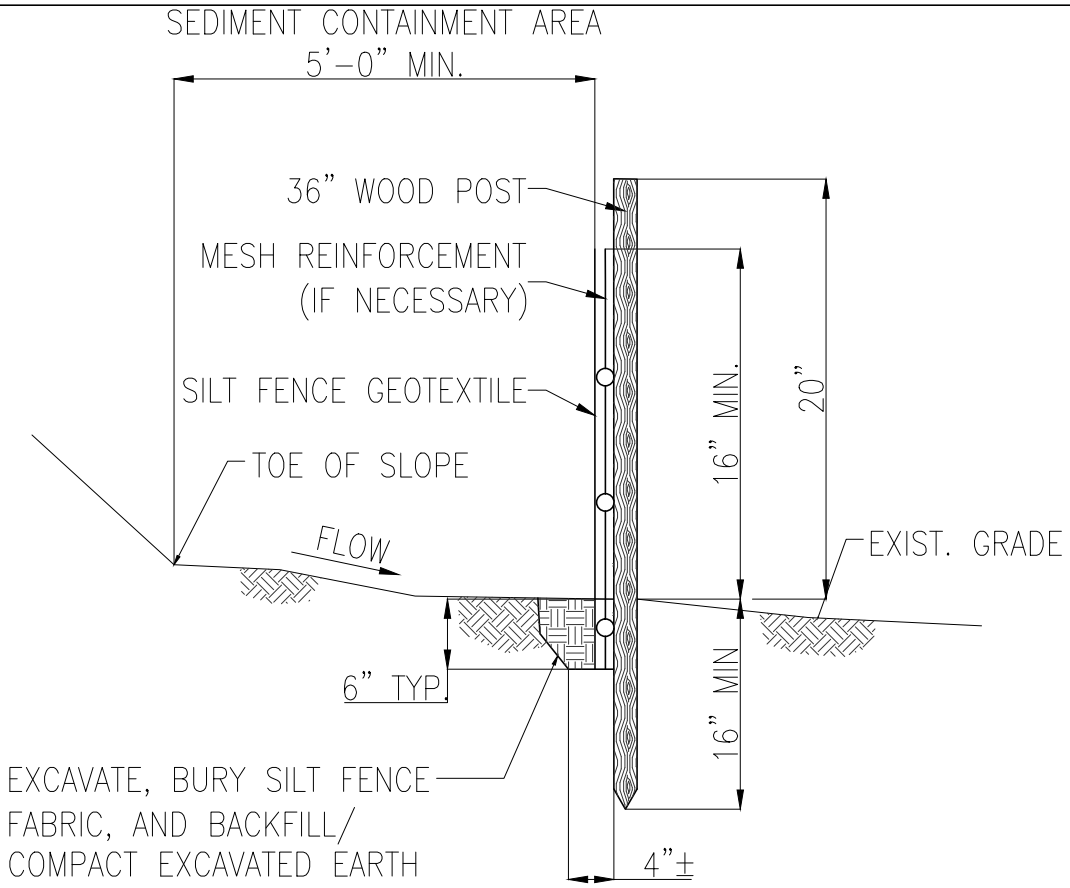


CURB INLET PROTECTION DETAIL

N.T.S.

1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85.
2. WOODEN FRAME SHALL BE CONSTRUCTED OF 2"x4" CONSTRUCTION GRADE LUMBER.
3. WIRE MESH ACROSS THROAT SHALL BE A CONTINUOUS OIECE 30 INCH MINIMUM WIDTH WITH A LENGTH 4 FEET LONGER THAN THE THROAT. IT SHALL BE SHAPED AND SECURELY NAILED TO A 2"x4" WEIR.
4. THE WEIR SHALL BE SECURELY NAILED TO A 2"x4" SPACERS 9 INCHES LONG SPACED NO MORE THAN 6 FEET APART.
5. THE ASSEMBLY SHALL BE PLACED AGAINST THE INLET AND SECURED BY 2"x4" ANCHORS 2 FEET LONG EXTENDING ACROSS THE TOP OF THE INLET AND HELD IN PLACE BY SANDBAGS OR ALTERNATE WEIGHTS.

VILLAGE OF HEAD OF THE HARBOR SOIL & EROSION CONTROL		
DATE 03-17-07	SCALE N.T.S.	CURB INLET



SILT FENCE SECTION

N.T.S.

1. SILT FENCE ASSEMBLIES SHALL BE PLACED A MINIMUM OF 5.0 FEET FROM THE TOE OF SLOPE, 10.0 FEET PREFERRED, TO PROVIDE ADEQUATE AREA FOR SEDIMENT STORAGE AND FACILITATE MAINTENANCE OF SEDIMENT CONTAINMENT AREA.

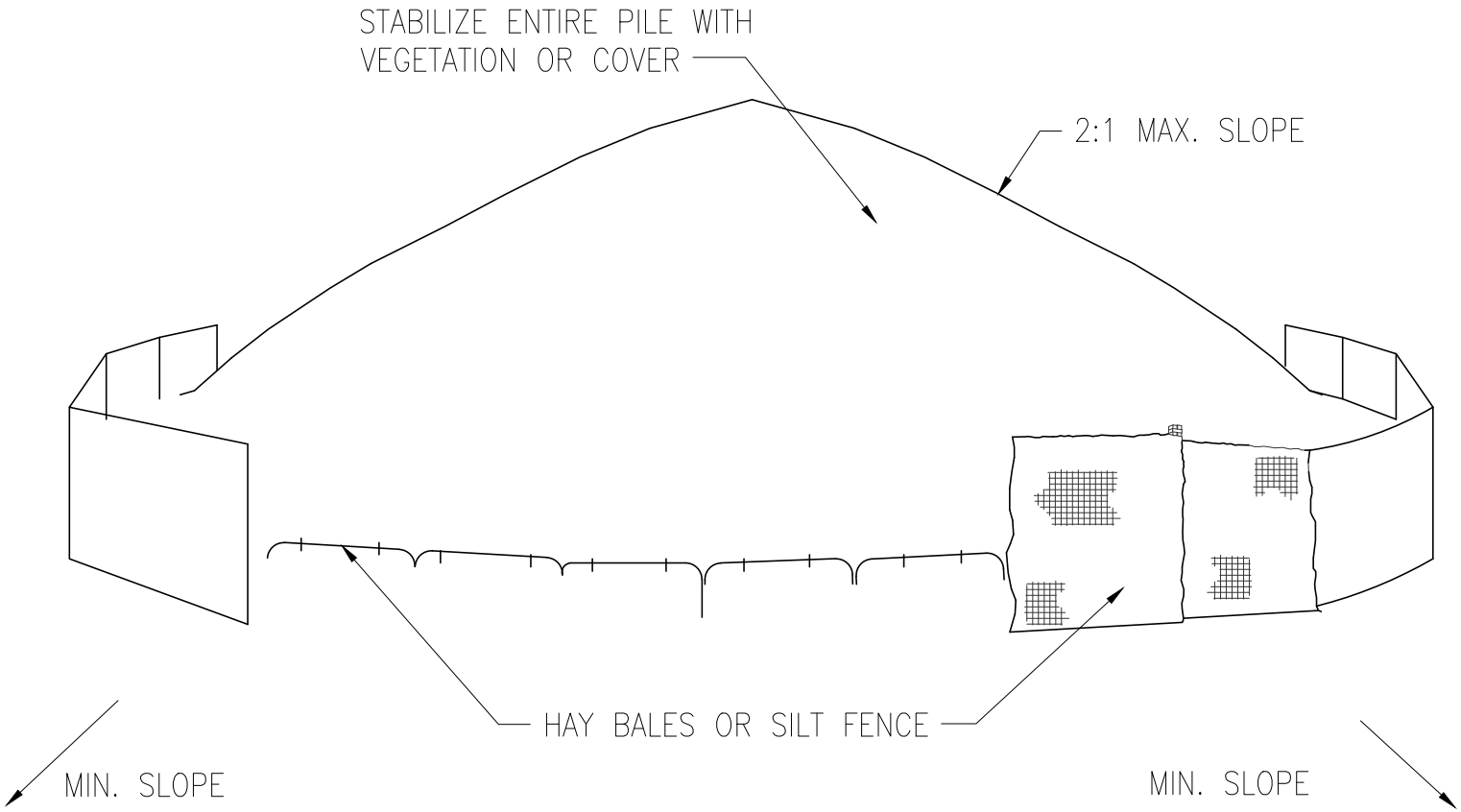
2. SILT FENCE GEOTEXTILE MATERIALS SHALL BE EITHER POLY-FILTER X, MIRAFI 100X, STABLINKA T140N, OR FROM THE CURRENT NEW YORK STATE DEPARTMENT OF TRANSPORTATION APPROVED LIST OF GEOSYNTHETICS FOR HIGHWAY CONSTRUCTION.

3. POSTS MAY BE 2"X2" (MIN.) HARDWOOD OR 2"X4" (MIN.) SOFTWOOD. POSTS SHALL BE SPACED AT EITHER 4.0 FEET OR 6.5 FEET AND MAY OR MAY NOT REQUIRE MESH REINFORCEMENT AS PER THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION APPROVED LIST OF GEOSYNTHETICS FOR HIGHWAY CONSTRUCTION.

4. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURED HEIGHT OR AS NEEDED. SEDIMENT SHALL BE DISPOSED OF BY THE CONTRACTOR AS UNSUITABLE MATERIAL.

5. AFTER REMOVAL, THE AREA BENEATH SILT FENCE SHALL BE RESTORED TO ITS ORIGINAL STATE.

VILLAGE OF HEAD OF THE HARBOR SOIL & EROSION CONTROL		
DATE 03-17-07	SCALE N.T.S.	SILT FENCE



INSTALLATION NOTES:

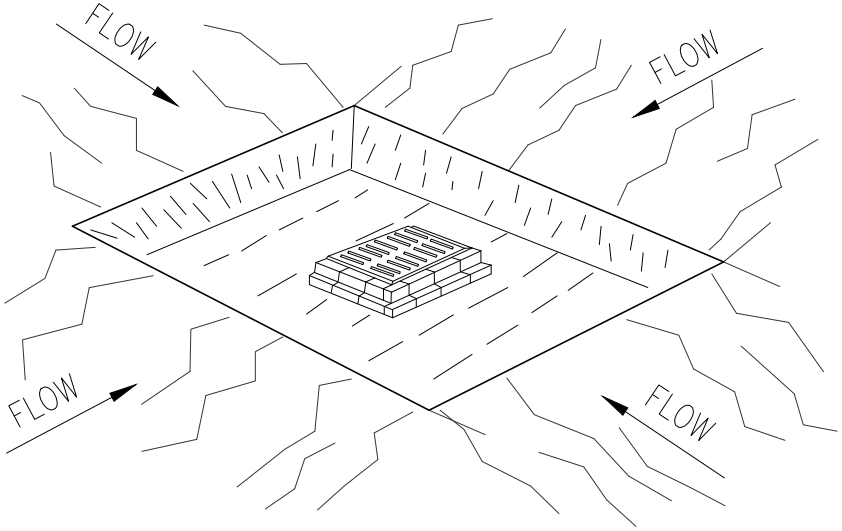
1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILES SHALL BE 2:1.
3. UPON COMPLETION OF SOIL STOCKPILING EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR HAY BALES, THEN STABILIZED WITH VEGETATION OR COVERED.
4. SEE SILT FENCE DETAIL FOR INSTALLATION OF SILT FENCE.

SOIL STOCKPILING

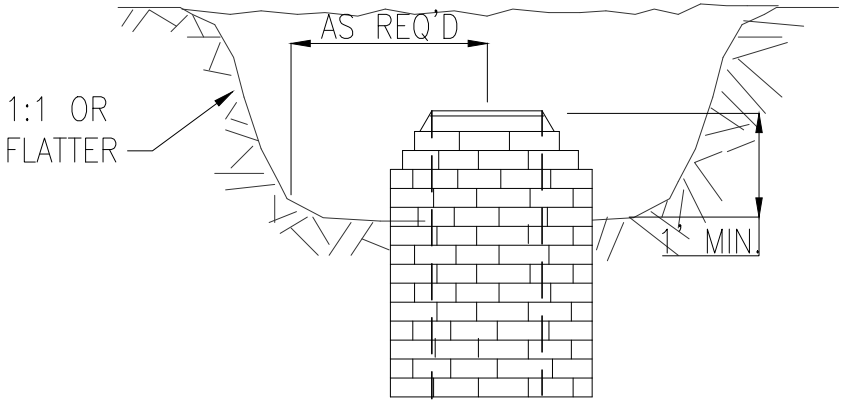
N.T.S.

VILLAGE OF HEAD OF THE HARBOR
SOIL & EROSION CONTROL

DATE	SCALE	SOIL PILE
03-17-07	N.T.S.	



YARD DRAIN



CROSS SECTION

CONSTRUCTION SPECIFICATIONS

1. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.

2. THE VOLUME OF SEDIMENT STORAGE SHALL BE 1800 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE.

3. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.

4. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION SHALL BE MINIMIZED.

5. THE SEDIMENT TRAP SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE CONSTRUCTED DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

6. ALL CUT SLOPES SHALL BE 1:1 OR FLATTER.

MAXIMUM DRAINAGE AREA: 3 ACRES

CATCH BASIN SEDIMENTATION TRAP

N.T.S.

VILLAGE OF HEAD OF THE HARBOR
SOIL & EROSION CONTROL

DATE	SCALE	BASIN TRAP
03-17-07	N.T.S.	

APPENDIX R
Storm Drainage Basin Cleaning Template Logs, Sweeping Template Logs, and Outfall Inspection Logs

Village of The Head of Harbor
2024 Stormwater Management Program Plan
Storm Drain Cleaning & Maintenance Log

Date	Location	Length of Pipe Cleaned (ft)	Number of Basins Cleaned	Amount of Debris Removed (CY)	Status

Village of The Head of Harbor
2024 Stormwater Management Program Plan
Street Sweeping Log

Date	Location	Status

APPENDIX S
Brochures

The Scoop on Pet Poop!

Please pick up after your pets!



Pick it up for our local waters:

People love walking pets near the water. Unfortunately, pet waste contains disease causing pollutants and bacteria. If left on the ground, rainstorms wash these wastes into the Peconic Estuary, Long Island Sound, or the Atlantic Ocean. There the bacteria cause water quality issues and are often absorbed by the fish and shellfish we like to eat.

Pet wastes are also high in nutrients. Adding too many nutrients to the Estuary can cause harm to eelgrass, cause harmful algal blooms, and lead to low oxygen levels in the water making it uninhabitable for many plants and animals.



Pick it up for our health:

These contaminants in local waters can lead to shellfishing closures and/or swimming closures, because if we eat contaminated food, or swim in contaminated water, **we can get sick!** Pet waste can make the local beach unclean and unsanitary for people to play and enjoy.

Pick it up for the community:

Its also just the considerate thing to do. You don't like stepping in it and your neighbors certainly don't either!

Do your part to keep our community and local waters clean and healthy!

How?

Make sure to scoop the poop every single time!

- Bring plastic bags with you when you walk your dog (such as old bread bags, newspaper bags, veggie bags, etc.).
- Tie bags to your dogs leash so you don't forget them.
- Tie the filled bag and drop it in the trash, bury the waste, or flush it if you are connected to a sewer system.
- Look into purchasing a pet waste composter, but don't mix pet waste in with your regular compost.
- Take advantage of bag dispensers and talk to your town or village representatives about making sure they are continually stocked and added in all pet frequented locations (preferably with garbage pails nearby).
- Also share bags and information with other pet owners you meet.

Why?

There are at least 6000 dogs living on the East End. On average one dog creates about 1/2 a pound of waste per day. That means our local environment receives at least 3000 pounds of pet waste per day! It all adds up, so its important to pick it up every time. Also be aware of local "pooper scooper" regulations that prohibit leaving pet waste where it lies.



GROUP FOR THE EAST END

www.EastEndEnvironment.org

Be the Solution to Stormwater Pollution in Suffolk County

What is Stormwater Pollution?

As rain or melting snow flows over roads, driveways and lawns it can pick up pollutants like motor oil, fertilizers, litter and pet waste.



This "stormwater" that is not absorbed and filtered by the ground is not treated and usually flows into a storm drain system or directly into nearby waterbodies. This becomes stormwater pollution and can be harmful to aquatic life and create human health risks.

Did You Know?

- The Environmental Protection Agency considers stormwater pollution the nation's greatest threat to clean water.
- Your daily activities such as driving a car, lawn maintenance, and waste disposal can be significant sources of stormwater pollution.
- Over 18% of all litter is swept into waterways by stormwater.
- Suffolk County maintains 420 miles of roads that contain over 6,000 storm drains.

How Does Stormwater Pollution Affect Us and the Environment?

Stormwater pollution can have many adverse impacts on people, plants and aquatic life.

- Household hazardous wastes like insecticides, pesticides, paint solvents and auto fluids can poison aquatic life.
- Bacteria and pathogens from pets/ wildlife and leaking septic systems can create health hazards that result in bathing beach closures and shellfish harvest restrictions.
- Excess nutrients from lawn fertilizers can promote harmful algal blooms that lower oxygen levels in the water when they decompose. Fish and other aquatic organisms cannot live without sufficent oxygen levels.
- Litter like plastic bags, bottles and cigarette butts are unsightly and can harm, or even kill aquatic life.
- Sediment can cloud water and stress aquatic plants and animals. Excess sediment can also destroy aquatic habitats.



What Suffolk County is Doing to Help Solve the Problem.

- Implementing a comprehensive Stormwater Management Program to reduce and remove sources of stormwater pollution from County owned roads, properties and facilities.
- Upgrading and expanding stormwater control methods on County roads and construction sites.
- Identifying, mapping and monitoring stormwater discharges from County roads and properties.
- Providing education and outreach services to Suffolk County residents.



What is stormwater runoff?



Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.

Why is stormwater runoff a problem?



Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

The effects of pollution



Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.
- Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.



- Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.
- Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.



Stormwater Pollution Solutions

Residential



Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.

Lawn care



Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.

- Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- Cover piles of dirt or mulch being used in landscaping projects.

Auto care



Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.

- Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

Septic systems



Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies. Pathogens can cause public health problems and environmental concerns.

- Inspect your system every 3 years and pump your tank as necessary (every 3 to 5 years).
- Don't dispose of household hazardous waste in sinks or toilets.

Pet waste



Pet waste can be a major source of bacteria and excess nutrients in local waters.

- When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.



Education is essential to changing people's behavior. Signs and markers near storm drains warn residents that pollutants entering the drains will be carried untreated into a local waterbody.

Residential landscaping

Permeable Pavement—Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain and snowmelt to soak through, decreasing stormwater runoff.



Rain Barrels—You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.

Rain Gardens and Grassy Swales—Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.



Vegetated Filter Strips—Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets.

SEPTIC SYTEMS

Where does your waste go?

Managing what goes down your drain and into the environment...

If you are one of the many homeowners who relies on a septic system, you should know that regular maintenance of the system is essential to its proper functioning and the health of the local environment.

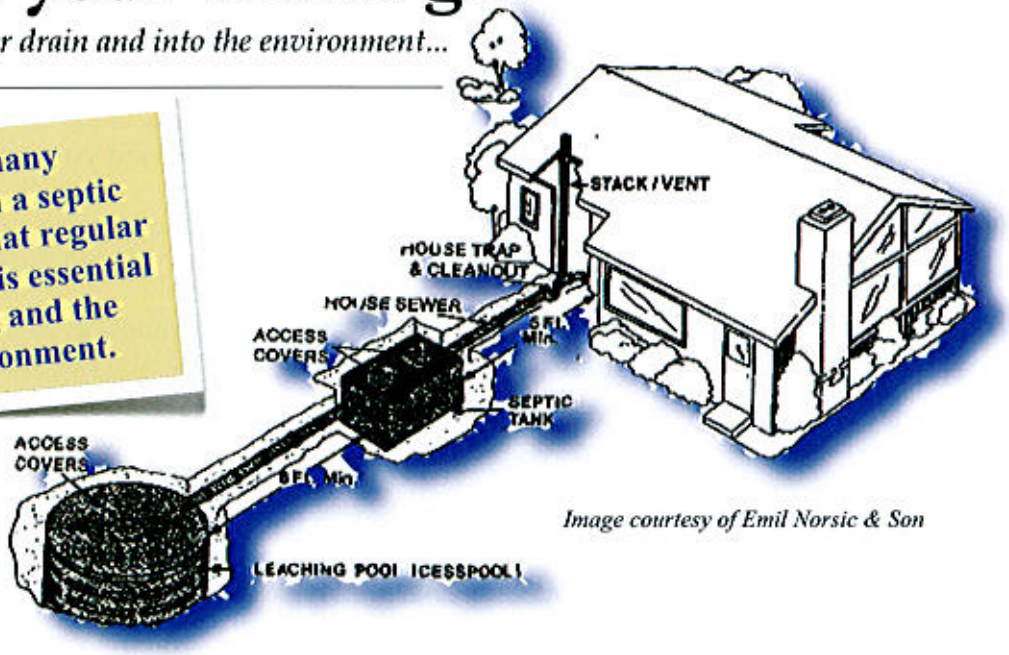


Image courtesy of Emil Norsic & Son

While it may not be a pretty topic, "down the drain" waste management is an important issue for East Enders. It can be easy to forget that waste doesn't just disappear down the drain – it ends up in our backyards, groundwater, and local surface waters.

With this in mind, we must be careful about what we put down our drains and also protect the ecological systems that filter this waste.

Most homes on the East End deal with "down the drain" waste, either through on-site cesspools, septic tanks, or connection to community sewer systems.

For septic system owners, when water goes down the drain it flows through a series of pipes into a septic tank usually buried in the yard. This tank holds wastewater and allows some wastes to either sink down or float up, while the relatively clear water in the middle is slowly piped out into a leaching ring system (see figure).

However, this relatively clear water still contains nutrients (which can be harmful to the bays) and can contain chemicals you use in your home (which can also be harmful to the natural environment).

Septic systems need maintenance to ensure that this process continues smoothly. Tanks need to be pumped out so that the solids and scum can be removed from the bottom and top of the tanks. Also, at times older tanks may need to be replaced, upgraded, or moved to a more appropriate location (this often means being moved further away from surface waters). If this maintenance is not kept up, major problems such as septic tank leaks, overflow, or failure may occur. When this happens, not only is there often an expensive mess for homeowners to clean up, but there is also a strong possibility that pollutants and excess nutrients are reaching our local surface waters and contributing to nutrient loading, which causes unhealthy conditions such as algal blooms, and fish die offs.

WHAT YOU CAN DO: Protect Local Ground and Surface Waters

- How do you know if/when your septic system needs to be pumped out or replaced? Get your septic system inspected right now (especially if it has been awhile since you last did this) and create a maintenance calendar for future pump-outs and inspections!
- On average, septic tanks need to be pumped out every 3 - 5 years, however this varies a bit with the size of the tank and number of people relying on it. Consult a professional to determine your needs.



- If your system needs to be replaced, try to do it right away if you can. The resulting mess of a septic failure can be much more costly to both the bays and your pocket.
- Conserve water and stop any faucets that are leaking or toilets that are running. When excess water runs down the drain, it can overload your septic system.
- Make sure your septic system is as far from the water as possible.
- Eliminate or at least reduce the chemicals that go down the drains in your home. Natural alternatives can be just as effective and are less harmful to the environment as they make their way through your septic system and out to our local bays. Also make sure grease does not go down drains as it can clog up septic systems.
- Eliminate garbage from your drains. Flushing solid materials clogs up the septic system and can lead to problems -- this also means avoiding use of garbage disposals.

Local Rebates and Assistance Programs:

Southold Town currently has no septic tank pump-out or replacement rebates. Please contact your town supervisor and elected officials to request that they consider septic tank pump-out rebates, inspection programs, and replacement rebates for failing systems, or a revolving loan program to support homeowners' efforts.

For Service on Your Septic System:

Look in the yellow pages under "septic tanks and system cleaning" or call your local chamber of commerce to find a reputable service provider in your area.

Links:

Peconic Estuary Program
www.peconicestuary.org

Peconic Baykeeper
www.peconicbaykeeper.org

This information was brought to you by:

GROUP FOR THE EAST END

P.O. Box 1792
Southold, NY 11971
(631) 765-6450

www.eastendenvironment.org

What Is Stormwater Runoff?

Stormwater runoff occurs after a rainfall. Storm water flows over impervious (unable to penetrate) surfaces like driveways, sidewalks, streets, parking lots and roofs and is unable to percolate (filter or seep) into the ground. This unfiltered water reaches our neighborhood streams, ponds, lakes, bays, wetlands and oceans and can eventually make its way into our ground water. (Water beneath the earth's surface)

Why Is Stormwater Runoff a Problem?

Stormwater runoff can collect many different types of pollution before it reaches a body of water, including debris, dirt and chemicals. The storm water collects these materials and flows directly into a body of water like a stream or lake. These water bodies may be used for swimming, fishing and may even provide some of us with drinking water.

How Do Different Types of Pollution Affect My Watershed?

There are two basic types of pollution: point source and non-point source. Point source pollution is easy to understand because it can be traced directly to its source. Point source pollution was a big concern in the past, but today stricter laws and regulations have drastically decreased the problem.

Non-point source pollution is a little more difficult to understand. Stormwater runoff pollution is a type of non-point source pollution. This means that the pollution cannot be traced back to a specific source, but instead comes from many different sources throughout the environment. Non-point source pollution is the primary cause of watershed pollution today. Non-point source pollution occurs when small amount of pollution from a large variety of sources is picked up by stormwater runoff and carried into water bodies.

Stormwater runoff can carry many different types of non-point source pollution. Each can affect your watershed in a different way. Sediment (dirt, soil, sand) can increase the turbidity (a measure of water cloudiness) of a water body. Turbidity can block sunlight from reaching aquatic plants, making it impossible for them to grow. Without plants, animals lose a food source and it is more difficult to filter pollutants from the water. Instead, pollutants collect in the bottom of the water body and remain there indefinitely.

Excess nutrients carried in stormwater runoff can also negatively affect our water supply. These nutrients, primarily nitrogen and phosphorus, can come from lawn fertilizers or natural sources, such as manure. Nutrients can cause algal and bacterial blooms, which proliferate (reproduce) rapidly. Algae will consume oxygen, increase turbidity in the water body and eventually die along with the fish and other aquatic life that need oxygen to live.

Debris such as plastic bags, bottles and cigarette butts can wash into a water body and interfere with aquatic life. Other hazardous wastes can be carried into a water body. These include insecticides, (chemicals used to control or kill insects) herbicides, (chemicals used to kill unwanted plants) paint, motor oil and heavy metals.

What Can You Do?

Now you know that pollution from stormwater runoff can contaminate our water supply. So what can you do to prevent this problem? Here are some tips to help you on your way to a pollution solution:

- Never Dump Anything Down Storm Drains
- Use Fertilizers Sparingly
- Control Soil Erosion by Planting Over Bare Spots in Landscape
- Collect Rainwater in Rain Barrels for Lawn Use
- Sweep Driveways, Sidewalks and Roads Instead of Using Hose
- Compost Yard Waste
- Properly Dispose of Hazardous Household Chemicals
- Avoid Pesticides
- Direct Downspouts Away From Paved Surfaces
- Use Car Wash Instead of Washing Car in Driveway
- Check Car for Leaks and Recycle Motor Oil
- Properly Dispose of Pet Waste
- Inspect and Pump Septic Tank Regularly
- Protect Wetlands that Serve as Natural Buffers to Pollution, Soil Erosion and Flooding
- Join Adopt-a-Watershed
- Educate Friends, Family, Neighbors
- Recycle