Town of Niskayuna
Stormwater Management Plan

September 2010

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Permit Summary
for Municipal Separate Storm Sewer Systems (MS4)
Town of Niskayuna Stormwater Management Program

OVERVIEW:
Stormwater Management and Non-point Source Pollution moved into the forefront of Local Government with the U.S. Environmental Protection Agency (EPA) Final Rule for Phase II of the Clean Water Act (CWA; Dec. 8, 1999; 64 FR 68722) National Pollutant Discharge Elimination System (NPDES). The Phase II Final Rule attempts to capture those Municipal Separate Storm Sewer Systems (MS4s) not currently regulated under Phase I of the NPDES Program. Identified as "small" MS4s, Phase II regulates Municipalities with a population of 249,999 or less, but with an aggregate population *density* of *at least* 1,000 people per square mile. In addition, these Municipalities must be part of an contiguous Urbanized Area (UA) as defined by the 2000 U.S. Census (U.S. Bureau of Census). The objective of Phase II is to control the last unregulated source of water pollution –non-point source (NPS) pollution- in the U.S. through implementation of a comprehensive program targeting surface runoff and surface water resources.

Municipalities regulated by Phase II must initiate and fully integrate a permanent non-point source pollution prevention and mitigation program to protect surface- and groundwater resources within their jurisdiction. Generally titled Stormwater Management, each Municipality must develop and implement a program that consists of six Minimum Control Measures (MCM 1-6):

1. ***Public Education and Outreach***	2. ***Public Involvement & Participation***
3. ***Illicit Discharge Detection & Elimination***	4. ***Construction Site Runoff Control***
5. ***Post-Construction Runoff Control***	6. ***Good Housekeeping & Pollution Prevention***

The program attempts to capture the major contributors to urban non-point source pollution at the local level and utilizes the MS4 as the base management unit; reaching out to the public, commercial and industrial operations, the construction industry and incorporating Best Management Practices (BMPs) into Municipal operations, facilities, equipment and practices.

Each of the MCMs addresses a particular aspect within local Municipalities as a potential source of NPS pollution:

MCM1 addresses the need to inform municipal staff and officials, residents, business owners, and the local construction industry of the problems associated with NPS pollution specific to their sector, the daily activities of each which contribute to NPS pollution, and ways to modify their awareness, attitudes and behavior that effect NPS pollution.

MCM2 is intended to create opportunities for residents, citizen groups, business owners, etc. to get involved in the processes of government and their local Stormwater Management Program (SWMP). Additionally, MCM2 creates opportunities for such individuals and groups to become involved in direct actions designed to control NPS pollution such as stream clean-ups,

Adopt-a-Stream, -Pond, & -Highway Programs, Household Hazardous Waste Clean-up, Pet Waste Control, etc.

MCM3 focuses on the detection and elimination of pollutants being discharged into the MS4. Primarily, the focus is on any discharge into the MS4 other than stormwater runoff and includes direct connections of waste water and effluent from residential or industrial/commercial sources. Municipalities must map all outfalls into surface water bodies, outfalls into adjacent MS4s, all infiltration practices such as dry-wells –as points of discharge to groundwater. Additionally, Municipalities must adopt a local law prohibiting illegal connection to or illegal dumping into the MS4. Examples of prohibited practices include wastewater/grey water or rooftop runoff conveyances connected to the MS4 and disposal of chemicals and other waste products into ditches, storm sewers, catch basins, etc. An on-going outfall reconnaissance inventory (ORI) is also required at a rate not less than 20% per year.

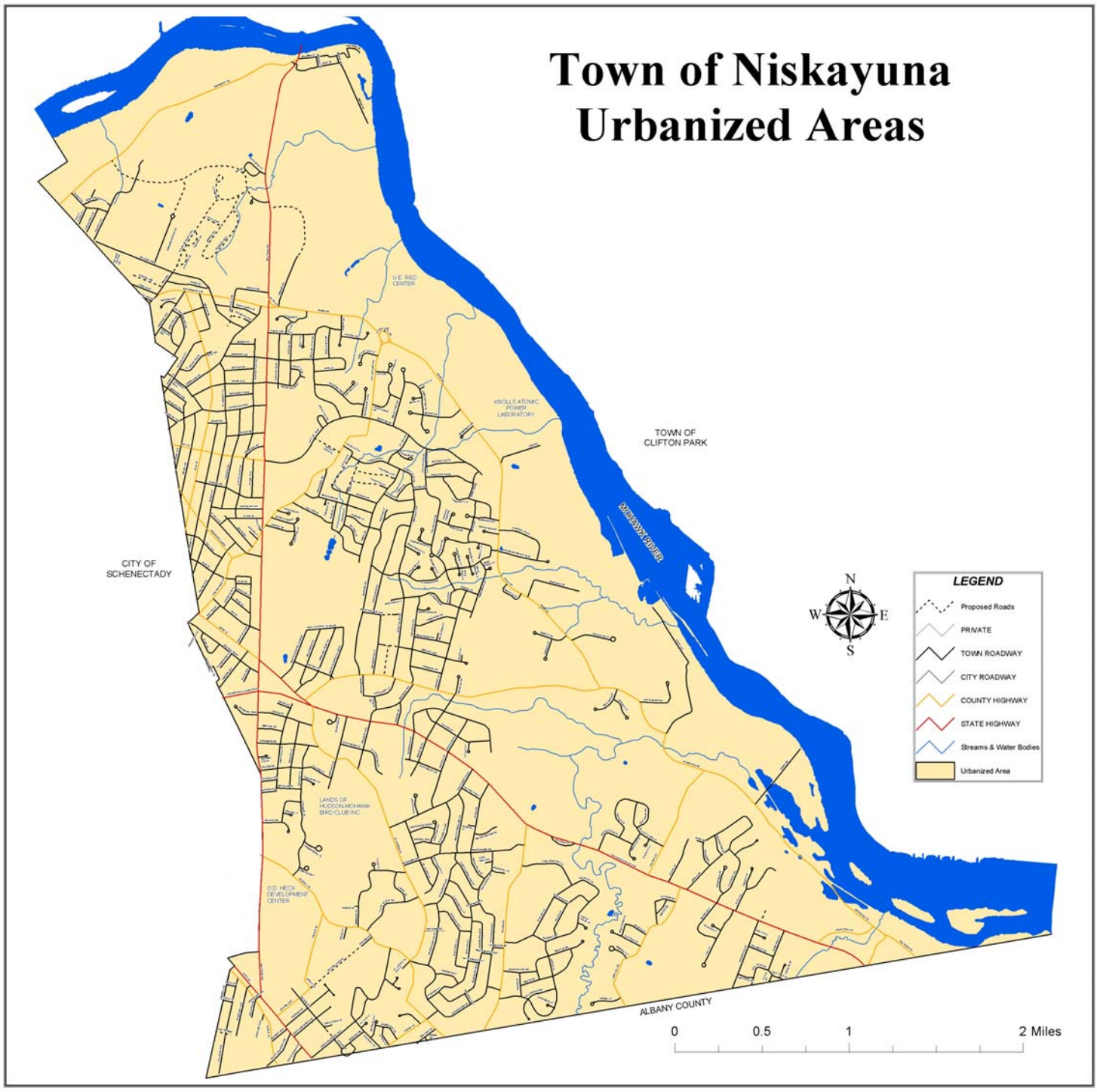
MCM4 creates regulatory control of construction activities at the local level as it pertains to erosion and sediment control (E&SC). Under the first MS4 Permit (GP-02-02) Municipalities have adopted a stormwater Law that regulates the E&SC practices of all construction activities disturbing one or more acres of soil within the Municipality. At a minimum, Municipalities must provide an equivalent standard of protection established by the DEC State Pollutant Discharge Elimination System (SPDES) Permit for Stormwater Discharges from Construction Activities (GP-0-10-002; effective 5/1/2010 – 4/30/2015). The technical standards for E&SC in New York State are the Standards and Specifications for Erosion and Sediment Control Manual (the "Blue Book").

MCM5 addresses control of runoff from new and re-development projects, of significant size, post-construction. Phase II regulations modify traditional runoff control by integrating quantity ***and*** quality stormwater treatment practices. The technical standards for acceptable SMPs to be utilized by Municipalities is the NYS Stormwater Management Design Manual (SWMDM). Also under MCM5, Municipalities must map all post-construction stormwater management practices (SMP) built since March 2003 and regularly inspect them for structural and functional viability.

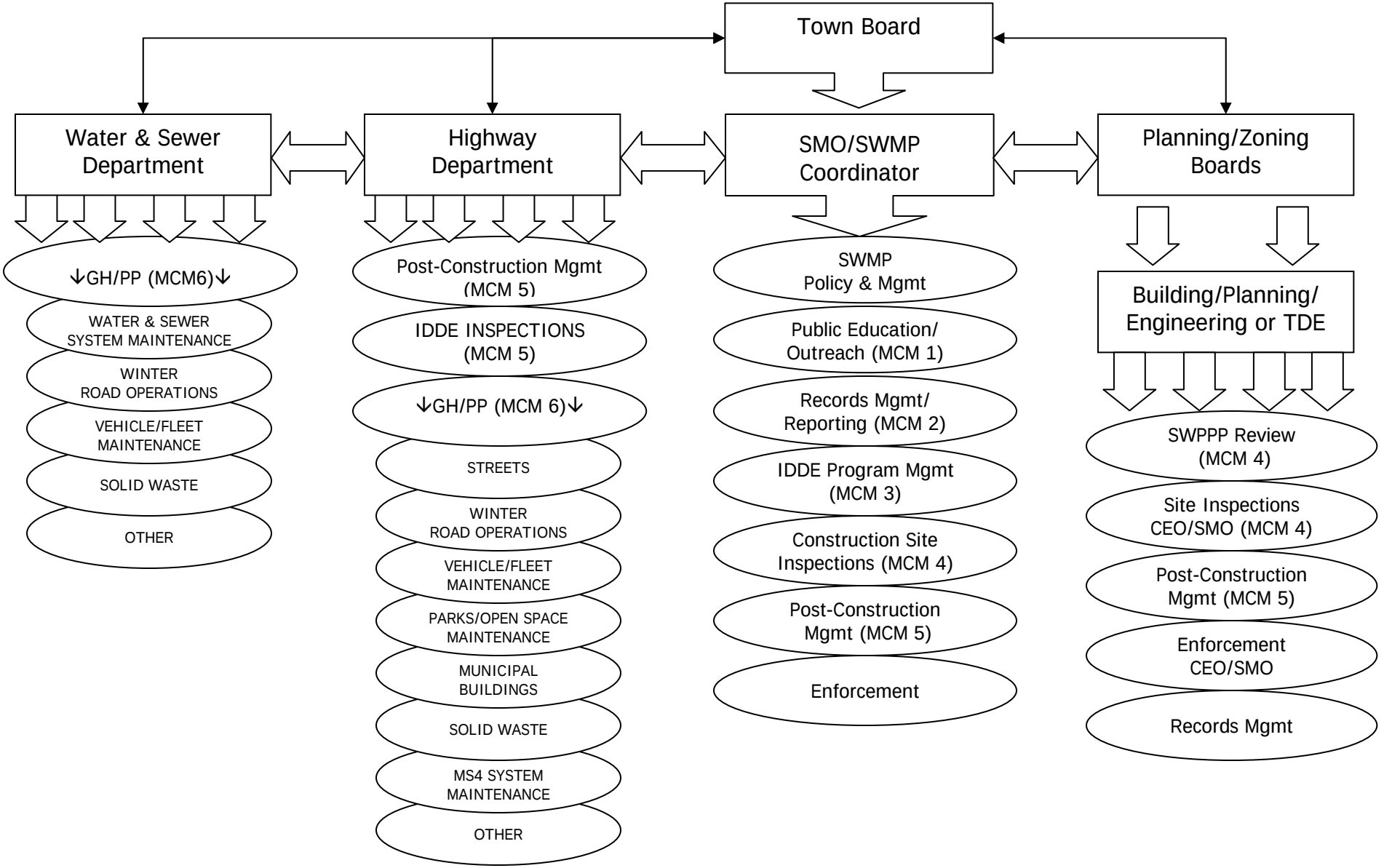
MCM6 captures Municipal government itself by requiring all regulated Municipalities to implement a program to minimize or eliminate pollution from all operations, facilities, equipment, and practices. All Municipal operations must be scrutinized to eliminate or mitigate practices that contribute to NPS pollution. A program of inspection and maintenance of the MS4 system must be developed and implemented. Finally, a program of employee education must also be developed in conjunction with the auditing of Municipal operations thereby fully integrating the practice of NPS pollution control in municipal operations.

Figure 1:

TOWN OF NISKAYUNA U.S. CENSUS URBANIZED / MS4 AREA



TOWN OF NISKAYUNA
STORMWATER MANAGEMENT PROGRAM
ORGANIZATIONAL STRUCTURE



SECTIONS I – IV: MINIMUM CONTROL MEASURES & PROGRAM MANDATES

The following Sections describe the Management Objectives that *must* be met by the Town of Niskayuna to maintain our MS4 Permit.

Section I: Minimum Control Measure 1 ~ *Public Education and Outreach*

Why Is Public Education and Outreach Necessary?

An informed and knowledgeable community is crucial to the success of a Stormwater Management Program since it helps to ensure the following:

- ***Greater support*** for the program as the public gains a greater understanding of the reasons why it is necessary and important. Public support is particularly beneficial when operators of small MS4s attempt to institute new funding initiatives for the program or seek volunteers to help implement the program, and

- ***Greater compliance*** with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.

What Is Required?

Taken from the SPDES General Permit for Stormwater Discharge from MS4s, GP-0-10-002:

(SPDES GP-0-10-002 Part VII.A.1.; pg 28-29)
Part VII. MINIMUM CONTROL MEASURES - TRADITIONAL LAND USE CONTROL

A. Traditional Land-Use Control MS4 Minimum Control Measures (MCMs)

These MCMs apply to traditional land use control MS4s (cities, towns, villages).

1. Public Education and Outreach - SWMP Development / Implementation

At a minimum, all *permittees* must:

a. Identify POCs, waterbodies of concern, geographic areas of concern, target audiences;

b. Develop and implement an ongoing public education and outreach program designed to describe to the general public and target audiences:

i. the impacts of stormwater discharges on waterbodies;
ii. POCs and their sources;
iii. steps contributors of these pollutants can take to reduce pollutants in stormwater runoff; and
iv. steps contributors of non-stormwater discharges can take to reduce pollutants

(non-stormwater discharges are listed in Part I.A.2);

c. Develop, record, periodically assess, and modify as needed, measurable goals; and

d. Select appropriate education and outreach activities and measurable goals to ensure the reduction of all POCs in stormwater discharges to the MEP.

Required SWMP Reporting

e. **Program *implementation* reporting** for **continuing *covered entities*** (MS4s covered for 3 or more years on the *reporting date*). At a minimum, the *covered entity* shall report on the items below:

i. list education / outreach *activities* performed for the general public and target audiences and provide any results (for example, number of people attended, amount of materials distributed, etc.);

ii. *covered entities* performing the education and outreach activities required by other MCMs (listed below), may report on those activities in MCM 1 and provide the following information applicable to their program:

- IDDE education *activities* planned or completed for public employees, businesses, and the general public, as required by Part VII.A.3;
- construction site *stormwater* control training planned or completed, as required by Part VII.A.4; and
- employee pollution prevention / good housekeeping training Planned or completed, as required by Part VII.A.6; and

To facilitate shared annual reporting, if the education and outreach activities above are implemented by a third party, and the third party is completing the associated portions of the annual report, that third party may report on the education and outreach activities within MCM 1 of the annual report and not within the MCMs that the education and outreach activities are required by,

iii. report on effectiveness of program, BMP and measurable goal assessment; and

iv. maintain records of all training activities.

Table 1: MCM1 *Public Education & Outreach* Program Requirements

Requirements:	Activities/Practices:
Plan and conduct an ongoing public education and outreach program that describes: ➢ The impacts of stormwater discharges on waterbodies, ➢ The pollutant(s) of concern and their sources, and ➢ Steps contributors of stormwater and non-stormwater discharges can take to reduce the pollutants. Develop measurable goal and select the appropriate activities to ensure the reduction of all pollutants of concern in stormwater discharges to the maximum extent practicable.	The program for this measure includes the following activities: ➢ Speaking to community groups and schools ➢ Door hangers and drain markers ➢ News articles and outdoor advertising ➢ Handouts and brochures ➢ Displays local events ➢ Sponsorship of training events ➢ Direct training ➢ Workshops for the public ➢ Coordination with local community and watershed groups ➢ Coordination of trainings and workshops with other local/county/regional entities ➢ Operation & Maintenance of a website (www.niskayuna.org/stormwater)

Adapted from Overview of the Municipal Separate Storm Sewer Systems (MS4) Phase II Stormwater Permit Program; A Summary of MS4 Phase II Permit Requirements. NYS DEC of August 2003. Revised November 2008 by BRN

MANGEMENT SUMMARY

As evidenced by the generality of the above excerpts MS4 Municipalities and entities have a wide degree of latitude in selecting and implementing appropriate measures to meet the *Public Education and Outreach* requirement of the MS4 Permit. At minimum regulated Municipalities must procure existing educational materials or develop their own to meet the measurable goals of their particular Stormwater Management Program. Currently, a host of pamphlets, brochures, posters, etc. available through the DEC and the EPA to meet the needs of regulated Municipalities. A thorough list of the resources of the Intermunicipal Program can be found in Appendix 1: Stormwater Education, Training, and Guidance Materials.

The U.S. Environmental Protection Agency (EPA)

The EPA has a website dedicated to Stormwater Management and the NPDES program. Throughout the life of the program the EPA has developed a number of Education and Outreach materials targeting both residential and industrial audiences. Local Stormwater Managers and Coordinators can review the EPA offerings by visiting the following website: http://cfpub.epa.gov/npdes/stormwatermonth.cfm#materials

Additionally, these publications can be ordered directly from the EPA or downloaded into a printable format, sent to a professional printer and customized with the appropriate local contact information (i.e. Town/City/Village and the name of the Local Stormwater Coordinator). In addition to the publications for public distribution, the NPDES website has a host of other informative publications (fact sheets) which can be printed directly from the website. These can be found at: http://www.epa.gov/nps/toolbox/

The U.S. EPA publication *Getting In Step; A Guide for Conducting Watershed Outreach Campaigns* is currently the main guidance document utilized by the Intermunicipal Program in developing strategies and outreach programming. This document is available online at:

ADDITIONAL RESOURCES:

The Program recognizes the following organizations that also have credible publications and information available on the web or by direct contact:

The Center For Watershed Protection
http://www.cwp.org
8390 Main Street, Second Floor
Ellicott City, MD 21043-4605
Phone: (410) 461-8323
Fax: (410) 461-8324

The Stormwater Manager's Resource Center
http://www.stormwatercenter.net/

NEMO: Nonpoint Education for Municipal Officials
http://nemo.uconn.edu/index.htm

The above list is by no means exhaustive. The are many other Municipalities, Non-governmental Organizations, Universities and Extensions providing information and guidance to aid non-point source pollution prevention programs. To access many of them simply use an internet search engine of your choosing and type the keyword *stormwater* into the search field.

MANAGEMENT GOALS & OBJECTIVES

The goal of the education & outreach component of the Town of Niskayuna's SWMP is to develop, deliver, and promote greater awareness of the impacts of improperly managed stormwater runoff to the waterbodies of Niskayuna. To do this, the program has identified four (4) *target audiences*. Target audiences are groups or individuals which have a direct interest in either Permit compliance or local water quality relative to the issue of stormwater management. Also known as stakeholders, each target audience has a need to be informed, relative to their particular sphere of interest, of stormwater management and the permit requirements.

Target Audiences

- RESIDENTS
- BUSINESS OWNERS
- CONTRACTORS & DEVELOPERS
- GOVERNMENT PERSONNEL & OFFICIALS

All audiences have broad education, outreach, and information needs. To satisfy these needs and act as a primer for more in-depth information on specific aspects of stormwater management several general or generic resources are utilized by the Program such as the *After the Storm* brochure –for a complete list see Appendix 1. Each of the audiences also have specific needs as well. Since the beginning of the Town's SWMP both the general and specific information and outreach needs of all target audiences have been addressed on an on-going basis. It is the long-term objective of the Town's SWMP to continual identify or develop resources for these target audiences as new information becomes available.

Pollutants of Concern (POC/s)

Currently The Town of Niskayuna SWMP recognizes the general threat to local water quality by all pollutants transported by stormwater runoff from urbanized areas. In a general sense, the Program acknowledges this by not focusing on a single pollutant of concern but rather the more common suite of POCs. (Sediment, Nutrients, Pathogens, Trash/Debris, and Oil/Grease)

Techniques and Strategies

The Town seeks to raise the level of awareness of stormwater pollution by using direct actions, passive education, and targeted information campaigning.

DIRECT ACTIONS:

Direct actions are the engagement of the Stormwater Management Officer and/or other qualified professionals in delivering educational programming to a given target audience/s. Involvement in various annual community (ex. Niska-Day, Public Meeting, etc.) events each year are the most common implementation strategies. Depending on the audience/s, the information that is delivered is tailored to the specific area/s of interest of the audience/s.

The Stormwater Management Officer also uses such opportunities to market the other resources of the SWMP to audience members (i.e. website, volunteer opportunities, Town resources, etc.).

PASSIVE EDUCATION:

Passive education is the user-based or user-defined access to the Program's website and internet-based resources (guidance manuals, technical manuals, fact sheets, etc.). It is an integral tool in reaching as many people as possible in Niskayuna. It also the most cost-efficient means of providing multiple sectors of information to all target audiences or interested parties. The website is not static however and is updated on a quarterly basis. Out-dated information is replaced and new resources are added, exemplifying the continuous improvement strategy of the SWMP. The Town also engages in passive education by maintaining displays of certain resources in public areas such as the Town Hall and Recreation Center. Passive education is also employed during community events where fact sheets and brochures are always available.

The SWMP also utilizes storm drain markers in certain areas where pedestrian traffic is highest in a given community.

Section II: Minimum Control Measure 2 ~ *Public Participation and Involvement*

Why Is Public Participation and Involvement Necessary?

The EPA believes that the public can provide valuable input and assistance to a regulated small MS4's municipal storm water management program and, therefore, suggests that the public be given opportunities to play an active role in both the development and implementation of the program. An active and involved community is crucial to the success of a storm water management program because it allows for:

- **Broader public support** since citizens who participate in the development and decision making process are partially responsible for the program and, therefore, may be less likely to raise legal challenges to the program and more likely to take an active role in its implementation;

• **Shorter implementation schedules** due to fewer obstacles in the form of public and legal challenges and increased sources in the form of citizen volunteers;
• **A broader base of expertise** and **economic benefits** since the community can be a valuable, and free, intellectual resource; and
• **A conduit to other programs** as citizens involved in the stormwater program development process provide important cross-connections and relationships with other community and government programs. This benefit is particularly valuable when trying to implement a storm water program on a watershed basis, as encouraged by EPA.

What Is Required?

Taken from the SPDES General Permit for Stormwater Discharge from MS4s, GP-0-10-002:
(SPDES GP-0-10-002 Part VII.A.2.; pg 30-33)

2. Public Involvement / Participation / SWMP Development / Implementation

At a minimum, all *covered entities* must:

a. Comply with the *State Open Meetings Law* and local public notice requirements, such as *Open Meetings Law,* when implementing a public involvement / participation program;

b. *Develop (for newly authorized MS4s)* and *implement* a public involvement/participation program that:

i. identifies key individuals and groups, public and private, who are interested in or affected by the *SWMP* ;

ii. identifies types of input the *covered entity* will seek from the key individuals and groups, public and private, to support *development* and *implementation* of the SWMP program and how the input will be used; and

iii. describes the public involvement / participation activities the *covered entity* will undertake to provide program access to those who want it and to gather the needed input. The activities included, but are not limited to a water quality
hotline (report spills, dumping, construction sites of concern, etc.), stewardship activities like stream cleanups, storm drain marking, and volunteer water quality monitoring;

iv. provide the opportunity for the public to participate in the *development, implementation*, review, and revision of the *SWMP.*

c. **Local stormwater public contact.**
Identify a local point of contact for public concerns regarding *stormwater* management and compliance with this *SPDES general permit*. The name or title of this contact and the telephone number must be published in public outreach and

public participation materials and kept updated with the *Department* on the MCC form;

d. **Annual report presentation.**

Below are the requirements for the annual report presentation:

i. prior to submitting the final annual report to the *Department*, by June 1 of each reporting year (see Part V.C.), present the draft annual report in a format that is open to the public, where the public can ask questions about and make comments on the report. This can be done:

- at a meeting that is open to the public, where the public attendees are able to ask questions about and make comments on the report. This may be a regular meeting of an existing board, such as planning, zoning or the town board. It may also be a separate meeting, specifically for *stormwater*. If multiple *covered entities* are working together, they may have a group meeting (refer to Part V.C.2); or

- on the internet by:
  - making the annual report available to the public on a website;
  - providing the public the opportunity to provide comments on the internet or otherwise; and

- making available the opportunity for the public to request an open meeting to ask questions about and make comments on the report. If a public meeting is requested by 2 or more persons, the covered entity must hold such a meeting. However, the covered entity need only hold a public meeting once to satisfy this requirement.

ii. provide public notice about the presentation, making public the following information when noticing the presentation in accordance with the local public notice requirements:

- the placement of the annual report on the agenda of this meeting or location on the internet;
- the opportunity for public comment. This *SPDES general permit* does not require a specified time frame for public comments, although it is recommended that *covered entities* do provide the public an opportunity to comment for a period after the meeting. Comments received after the final annual report is submitted shall be reported with the following year's annual report. *Covered entities* must take into account those comments in the following year;
- the date and time of the meeting or the date the annual report becomes available on the internet; and

- the availability of the draft report for prior review prior to the public meeting or duration of availability of annual report on the internet;

iii. the *Department* recommends that announcements be sent directly to individuals (public and private) known to have a specific interest in the *covered entity's SWMP*;

iv. include a summary of comments and (intended) responses with the final annual report. Changes made to the *SWMP* in response to comments should be described in the annual report; and

v. ensure that a copy of the final report and, beginning in 2009, the SWMP plan are available for public inspection;

e. *Develop (for newly authorized MS4s)*, record, periodically assess and modify as needed *measurable goals*; and

f. Select and implement appropriate public involvement / participation *activities* and *measurable goals* to ensure the reduction of *POCs* in *stormwater discharges* to the *MEP*.

Required SWMP Reporting

g. **Program *implementation* reporting** for **continuing *covered entities*** (MS4s covered for 3 or more years on the *reporting date*). At a minimum, the *covered entity* shall report on the items below:

i. annual report presentation information (date, time, attendees) or information about how the annual report was made available for comment;

ii. comments received and intended responses (as an attachment);

iii. public involvement / participation *activities* (for example stream cleanups including the number of people participating, the number of calls to a water quality hotline, the number and extent of storm drain stenciling); and

iv. report on effectiveness of program, *BMP* and *measurable goal* assessment.

Table 3: MCM2 *Public Involvement & Participation* Program Requirements

Requirements:	**Activities/Practices:**
Comply with State and local public notice requirements when implementing a public involvement/participation program. Comply with public participation and involvement provisions of the Clean Water Act as applicable. Design and conduct a public involvement &	A program for this measure might include activities such as: ➢ Forming an advisory committee(s) within the municipality and in cooperation with other regulated municipalities. ➢ Seeking out and establishing a list of

participation program that: ➢ identifies key individuals and groups who are interested in or affected by the stormwater permitting program, ➢ identifies the type of input the MS4 will seek from them, and ➢ describes activities the MS4 will undertake to provide program access and gather needed input. Identify and publish the name of a contact person for the Stormwater Management Program. Prior to submitting the annual report, present the draft annual report at a meeting that is open to the public *OR* post the report on the municipal website. Create the opportunity and means for public comment, the date and time of the meeting, and the availability of the draft report for prior review. Include a summary of comments and intended responses in the annual report and make the final report available for public inspection. Develop measurable goals and select appropriate public involvement activities to ensure the reduction of all pollutants of concern in stormwater discharges to the maximum extent practicable.	stakeholders who would like to be apprised of milestones and give input to decisions. ➢ Year-round posting of the Annual Report for the preceding Permit-year (March 10-March 9) on the web at: www.niskayuna.org/stormwater ➢ Encouraging citizen volunteer programs for activities like cleanups, picking up litter, stream monitoring and field surveys, and storm drain stenciling. ➢ Maintaining a list of individual volunteers and organizations that can be utilized for activities. ➢ Maintaining a record of activities and the participants and partners ➢ SWMP regular topic at both Public Works, Planning and Economic Development, and Highway Committee Meetings

Excerpt from Overview of the Municipal Separate Storm Sewer Systems (MS4) Phase II Stormwater Permit Program; A Summary of MS4 Phase II Permit Requirements. NYS DEC; Revised August 2003. Revised November 2008 by BRN

MANAGEMENT GOALS & OBJECTIVES

It is highly recommended that regulated Municipalities form a Stormwater Management Committee (SMC). The formation of such a Committee enables Municipalities to more fully coordinate their SWMP *and* build public involvement directly into the SWMP by creating a citizen advisory position on the Committee.

Because of the complex and comprehensive nature of the MS4 permit a local SMC should be comprised of members of the involved agencies within local government. Planning, Building Code Enforcement, Highway & DPW, Engineering, Environmental Specialists, and Executive branch representatives should sit on the Committee. Consultants, as well, that fulfill the roles of Planning, Engineering or Environmental Specialists should be asked to participate. Creating a broad, cross-sectional committee representative of the local government, as a whole, enables coordination and integration of the SWMP much easier.

At the very least, though, *all* regulated Municipalities must hold at least one public hearing a year to review the Annual Report or publish the Report on the web. The substance of that meeting should communicate three key pieces of information: 1) Inform the public of the SWMP, as a whole; 2) inform the public of the activities that have been accomplished over the past year under the SWMP; and 3) inform the public of the activities that have been planned for the coming year, under the SWMP.

Once that key information has been delivered to the public the second objective of the meeting is to receive comment from the public concerning the SWMP. Municipalities should have a prepared form available at the time of the meeting. The form should list the immediate local contact for stormwater related issues (i.e. the Local MS4 Coordinator or Stormwater Management Officer), the address to mail the comments and ample space for the comments, themselves. Municipalities should be prepared to receive comment, directly, during the meeting. This requires a secretary to take minutes of the meeting *or* another means of directly recording the meeting (i.e. audio- or video-taping).

Timing of the meeting should be coordinated to coincide with the end of the Annual Reporting period (March 9th) and comments should be incorporated into to the following year's activities (if possible). These reports are due no later than June 1st of each year. This will give each Municipality a window of approximately sixty (80) days to draft an Annual Report and hold a public meeting (as required by the Permit).

To ensure the maximum exposure of the public to the Program and the highest level of meeting attendance possible the SMC should set a date for the meeting well in advance and publicize the meeting through all media available (Websites, newsletters, local papers, message boards, etc.) in accordance with State laws regarding the announcement of general public meetings. (see Public Officers Law §100-107 & *Conducting Public Meetings and Public Hearings;* The James L. Coon Technical Series NYS-DOS, Pub.; for specific requirements and details)

The key, ultimately, to gaining Public Involvement & Participation is to have a strong Public Education Program. Residents and business owners won't attend a meeting unless they have a solid understanding of the purposes of the MS4 Permit, stormwater management, and, perhaps most importantly, why they should care about NPS pollution and local water quality. It is important to realize this relationship at the outset. Hosting an annual meeting gives local governments the opportunity to ***directly educate*** residents and business-owners, giving them a sense of empowerment and investing them in the present and future quality of community life.

Section III:

Minimum Control Measure 3 ~ *Illicit Discharge Detection and Elimination*

Why: A significant portion of flows from MS4s are not directly attributable to precipitation runoff. They are due to illicit and/or inappropriate discharges and connections to the MS4. Illicit discharges enter the system through direct or indirect connections. The result is inadequately treated discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, viruses, and bacteria to receiving waterbodies.

What is an "Illicit Discharge"?

Federal regulations define an illicit discharge as **"….any discharge to an MS4 that is not composed entirely of stormwater…."** with some exceptions. These exceptions include discharges from fire-fighting activities and other "clean" sources (ex. irrigation, line flushing).

Any discharge other than stormwater that is not regulated by another permit or does not cause or contribute to a violation of the Clean Water Act. Illicit discharges are considered "illicit" because MS4s are not designed to accept, process, or discharge such non-stormwater wastes. Sources of illicit discharges include: sanitary wastewater, effluent from septic tanks, car wash wastewaters, improper oil disposal, radiator flushing disposal, laundry wastewaters, spills from roadway accidents, and improper disposal of auto and household toxics.

What Is Required?

Taken from the SPDES General Permit for Stormwater Discharge from MS4s, GP-0-10-002:
(SPDES GP-0-10-002 Part VII.A.3.; pg 34-35)

3. Illicit Discharge Detection and Elimination (IDDE) SWMP Development / Implementation

At a minimum, all *covered entities* must:

a. *Develop (for newly authorized MS4s)*, *implement* and enforce a program to detect and eliminate *illicit discharges* (as defined at 40CFR 122.26(b)(2)) into the *small MS4*;

b. *Develop (for newly authorized MS4s)* and maintain a map, at a minimum within the *covered entity's* jurisdiction in the *urbanized area* and *additionally designated* area, showing:

   i. the location of all *outfalls* and the names and location of all *surface waters of the State* that receive *discharges* from those *outfalls*;
   ii. by March 9, 2010, the preliminary boundaries of the *covered entity's storm sewersheds* have been determined using GIS or other tools, even if they extend outside of the *urbanized area* (to facilitate track down), and *additionally designated* area within the *covered entity=s* jurisdiction; and
   iii. when grant funds are made available or for sewer lines surveyed during an illicit discharge track down, the *covered entity's* storm sewer system in accordance with available *State* and EPA guidance;

c. Field verify *outfall* locations;

d. Conduct an outfall reconnaissance inventory, as described in the EPA publication entitled Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessment, addressing every *outfall* within the *urbanized area* and *additionally designated area* within the *covered entity's* jurisdiction at least once every five years, with reasonable progress each year;

e. Map new *outfalls* as they are constructed or newly discovered within the *urbanized area* and *additionally designated area*;

f. Prohibit, through a law, ordinance, or other regulatory mechanism, *illicit discharges* into the *small MS4* and *implement* appropriate enforcement procedures and actions. This mechanism must be equivalent to the *State*'*s* model IDDE local law "NYSDEC Model Local Law to Prohibit Illicit Discharges, Activities and Connections to Separate Storm Sewer Systems". The mechanism must be certified by the attorney representing the *small MS4* as being equivalent to the *State*'s model illicit discharge local law. Laws adopted during the GP‐02‐02 permit cycle must also be attorney‐certified as effectively assuring implementation of the *State*'s model IDDE law;

g. *Develop (for newly authorized MS4s)* and *implement* a program to detect and address non‐stormwater *discharges*, including illegal dumping, to the *small MS4* in accordance with current assistance and guidance documents from the State and EPA. The program must include: procedures for identifying priority areas of concern (geographic, audiences, or otherwise) for the IDDE program; description of priority areas of concern, available equipment, staff, funding, etc.; procedures for identifying and locating *illicit discharges* (trackdown); procedures for eliminating *illicit discharges*; and procedures for documenting actions;

h. Inform public employees, businesses, and the general public of the hazards associated with illegal *discharges* and improper disposal of waste, and maintain records of notifications;

i. Address the categories of non‐stormwater *discharges* or flows listed in Part I.A.2 as necessary;

j. *Develop (for newly authorized MS4s)*, record, periodically assess, and modify as needed, *measurable goals*; and

k. Select and implement appropriate IDDE *BMPs* and *measurable goals* to ensure the reduction of all *POCs* in *stormwater discharges* to the *MEP*.

Required SWMP Reporting

l. **Program *implementation* reporting** for **continuing *covered entities*** (MS4s covered for 3 or more years on the *reporting date*). At a minimum, the *covered entity* shall report on the items below:

i. number and percent of *outfalls* mapped;
ii. number of *illicit discharges* detected and eliminated;
iii. percent of outfalls for which an outfall reconnaissance inventory has been performed. ;
iv. status of system mapping;
v. activities in and results from informing public employees, businesses, and the general public of hazards associated with illegal *discharges* and improper disposal of waste;

vi. regulatory mechanism status – certification that law is equivalent to the *State's* model IDDE law (if not already completed and submitted with an earlier annual report); and

vii. report on effectiveness of program, *BMP* and *measurable goal* assessment.

Table 4: MCM3 *Illicit Discharge Detection & Elimination* Program Requirements

Regulated *Illicit* Discharges (required)*	Un-regulated (*non-illicit)* Discharges
➢ Sanitary wastewater ➢ Effluent from septic tanks ➢ Car wash wastewaters ➢ Improper oil disposal ➢ Radiator flushing disposal ➢ Laundry wastewaters ➢ Spills from roadway accidents ➢ Improper disposal of auto and household toxics * The above list is not exhaustive. It is recommended that Municipalities regulate *all* discharges into the MS4 which contravene Federal, State and Local water quality and Human Health Laws.	➢ Water line flushing; ➢ Landscape irrigation; ➢ Diverted stream flows; ➢ Rising ground waters; ➢ Uncontaminated ground water infiltration; ➢ Uncontaminated pumped ground water; ➢ Discharges from potable water sources; ➢ Foundation drains; ➢ Air conditioning condensation; ➢ Irrigation water; ➢ Springs; ➢ Water from crawl space pumps; ➢ Footing drains; ➢ Lawn watering; ➢ Individual residential car washing; ➢ Flows from riparian habitats and wetlands; ➢ De-chlorinated swimming pool discharges; ➢ Street wash water.

Excerpt from the EPA Storm Water Phase II Final Rule Fact Sheet Series- 2.5 Illicit Discharge Detection and Elimination.

Table 5: MCM3 *Illicit Discharge Detection & Elimination* Program Outline

Requirements	Activities & Practices
Develop, Implement & enforce a program to detect & eliminate illicit discharges into the MS4. Develop & maintain a map showing the location of all outfalls and the names & locations of all waters of the U.S. (defined as surface waters) that receive discharges form those outfalls. *An outfall is defined as any point where an MS4 discharges stormwater to either waters of the U.S. or another MS4.* Develop and maintain a map showing the boundaries of storm sewer-sheds within the urbanized area by March 9, 2010 Prohibit, through local law, illicit discharges into the storm sewer system and implement appropriate enforcement procedures and actions.	A program for this measure includes the following activities: ➢ Conduct outfall surveys; 20% per year ➢ Source trackdown of suspected or detected illicit discharges, connections, or activities utilizing Center for Watershed Protection IDDE Manual (CWP and R. Pitt, 10/2004). All investigations documented using the appropriate form/s (See Appendix 4) ➢ Encourage citizen reporting of suspected illicit discharges, connections, and/or activities to the Office of the Management Coordinator or the local public contact through education/outreach materials (See *MCM 1 ~ Public Education & Outreach* and Appendix 3 for materials).

Develop & implement a program to detect and address non-stormwater discharges into the system. Inform pubic employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.	➢ Utilization of GPS to conduction system mapping where applicable

Excerpt from Overview of the Municipal Separate Storm Sewer Systems (MS4) Phase II Stormwater Permit Program; A Summary of MS4 Phase II Permit Requirements. NYS DEC; Revised August 2003. Revised 2008 by BRN

Table 6: MCM3 *IDDE* Program Requirements (continued)

Requirements	Activities & Practices
Address the following categories of non-stormwater discharge flows as necessary *only* if they are determined to be a substantial contributor of pollutants: ➢ Waterline flushing ➢ Landscape irrigation ➢ Diverted stream flows ➢ Rising groundwaters ➢ Uncontaminated groundwater infiltration ➢ Discharges from potable water sources ➢ Foundation drains ➢ Air conditioning condensation ➢ Irrigation water ➢ Individual residential car washing ➢ Flows from riparian habitats and wetlands ➢ De-chlorinated swimming pool discharges ➢ Street wash water ➢ Fire-fighting activities Develop measurable goals and select appropriate management practices to ensure the reduction of all pollutant of concern from illicit discharges to the stormwater system to the maximum extent practicable.	➢ Measurable goals: ▪ 20% of outfalls inspected annually; 100% every 5 years ▪ 100% of suspected illicit discharges, connections, or activities investigated ▪ 100% of confirmed illicit discharges, connections, or activities addressed through remediation and/or enforcement action per local IDDE law ▪ 100% of Storm Sewer-sheds mapped by March 9, 2010 ▪ Adopted Local IDDE Law October 9, 2007

Excerpt from Overview of the Municipal Separate Storm Sewer Systems (MS4) Phase II Stormwater Permit Program; A Summary of MS4 Phase II Permit Requirements. NYS DEC; Revised August 2003. Revised 2008 by BRN

MANAGEMENT SUMMARY

The purpose of the Illicit Discharge Detection and Elimination measure is to develop and implement a program to maintain the integrity of the MS4 as a separated stormwater conveyance/treatment system. To effectively do so, Permittees must make and maintain a complete inventory of the system's outfalls, adopt local legislation making it illegal to discharge anything but stormwater to the MS4, inspect the system regularly, and inform the users of the MS4 of the proper use of the MS4. As with the other Minimum Control Measures, a system must also be developed to maintain a record of the policies, procedures, and actions of a Permittee in the course of conducting this program.

MANAGEMENT GOALS & OBJECTIVES

Per the excerpted portion of SPDES GP-0-10-002 The Permittee has to:

1. enacted a local law that prohibits illicit discharges, activities, or connections to the MS4. The law must be certified as meeting the requirements and intent of the State's "Model Law for Prohibiting Illicit Discharges, Activities, and Connections to Separate Storm Sewer System"; DEC April 2006.
2. map 100% of all existing outfalls within the Permittees Urbanized Area (see figure 1.);
3. map 100% of all new outfalls as they are constructed;
4. by 9 March 2010, created a map of the drainage area (DA) for each outfall using GIS or "other" available tool/s. The full extent of all Das must be mapped including any additional designated areas to their full extent;
5. implement an outfall inspection program, utilizing properly trained personnel, where 100% of all outfalls are inspected at least once every five (5) years;
6. implement testing/ID and trackdown procedures for suspected illicit discharges
7. implement enforcement and remediation procedure/s in the event an illicit discharge is detected;
8. implement an education program to inform Target Audiences of the law and the "hazards associated with illicit discharges" (see *MCM1 Public Education)*;
9. maintain records of all outfalls (map), outfall inspections, complaints, violations and corrective actions taken each year.

1. Local Laws:

The Town of Niskayuna adopted a local IDDE law October 9, 2007. Niskayuna based the local law on the State's Model IDDE Law. The local IDDE law was reviewed and certified by the Town of Niskayuna legal department. Copy of the certification letter can be found in Appendix 2.

2&3. Existing and Newly Constructed Outfall Mapping:

All known outfalls within the Town of Niskayuna have been mapped utilizing GPS equipment and has been added to the town wide GIS system. The Engineering and Highway Departments share (2) GPS units. The Engineering Department maintains the GIS system that is used by multiple town departments.

The storm sewer mapping is currently being updated using the above referenced GPS units. Staff from the Highway Department and Engineering are working together to most efficiently perform this work. Such a measure will speed the track down of any illicit discharges detected during an inspection and be useful for any Spill Prevention Control and Countermeasure (SPCC) Plan.

The outfall location map should be updated annually or whenever a new outfall/s is/are constructed. In the case of an outfall/s being constructed through the development of private land, the developer should be solely responsible for providing that information to the MS4. In the case of a public project that creates an outfall/s the cost of updating the outfall location map should be included in the total project cost estimate and contract. For MS4s that utilized GIS or a consultant with GIS capabilities all newly constructed outfalls should be updated as they are added to the MS4 inventory through dedication - or construction in the case of publicly funded projects.

4. Storm Sewershed Delineation/Outfall drainage area:
Storm sewer shed mapping was performed town wide during the 1990's. This information was added to the Town's GIS system in 2009. Newly obtained Digital Elevation Model (DEM) data will be utilized to update the sewer shed mapping.

5. Outfall Inspections:
The following information must be recorded, and updated with each inspection, in connection with each outfall to create a minimum record of the individual asset:

- Receiving waters (ex. Lishakill, Mohawk River, etc.)
- Discharge (yes/no)
- Discharge description (if any; clear, sediment, oil, debris, foam, etc.)
- Outfall Condition (i.e. good, fair, poor)
- Special Designation (i.e. 001, 002, 003, etc.)
- Inspection Date (if conducting inspection without use of a GPS Unit)

It is recommended that the following information also be recorded, and updated with each inspection, in connection with each outfall to create a complete record of the individual asset:

- Type (e.g. culvert, swale, pipe, etc.)
- Material (i.e. plastic, concrete, grassed, etc.)
- Size (ex. diameter, width, etc.)
- Shape (ex. round, square, box, etc.)
- Flow Direction (north, south, east, west, etc)
- Repair (yes/no)
- Repair Recommendation/s
- Maintain (yes/no)
- Maintenance Recommendation/s (ex. clean debris)
- Weather Conditions (ex. sunny/dry, rain, snow, etc.)

The Town's GPS units are capable of recording data in the field at the time of inspection or initial location. That data system, a "data dictionary", incorporates all of the above characteristics. Town staff are capable of recording this data when conducting an Outfall Reconnaissance Inventory, routine inspection or complaint investigation. Digital photographs were also collected at the time of the inspections.

NOTE: Outfall inspection must be conducted during "dry weather". "Dry Weather" is described as a 48-hour (or greater) period with no precipitation. ORI within 48 hours of a precipitation

event may lead to a "false positive" finding of a suspected illicit discharge which may be nothing more than interception and infiltration (I&I) of ground water into the MS4.

6. Testing and Trackdown Procedures:

During the course of conducting outfall inspections *any* discharge coming from an outfall should be considered suspicious. An immediate cursory investigation should commence at the time of discovery to determine if a local cause exists and the nature and extent of the source of the discharge. If the source of the discharge is among those listed in Table 6 (above) they should be recorded but are not necessarily actionable unless they can be determined to be a "substantial contributor" of a Pollutant of Concern (POC).

The primary POC/s are:

- Nitrogen
- Phosphorous
- Silt and Sediment
- Pathogens
- Floatables (both debris and sanitary waste)
- Petroleum (illegal dumping, spills, tank seepage/rupture, etc.)

Of secondary concern are:

- Petroleum Hydrocarbons
- Polycyclic Aromatic Hydrocarbons (PAH)

First priority should always be given to waterbodies and their tributaries that are found on the 303(d) List of Impaired Waters (see Table 2). However, the detection of an illicit discharge to any waters of the State or U.S. and their tributaries must be acted upon with all due diligence. If the cause and nature of the discharge cannot be immediately determined, field personnel should fully document the discharge (including photo/s) and prepare to conduct further testing of the discharge to more accurately determine its nature.

The following equipment should be utilized by staff conducting IDDE inspections

- Safety Vest/s
- Flashlight/s
- Batteries
- Cell Phone programmed with emergency contact numbers (ex. Water &/or Sewer District, DEC Spill Response, Highway or Public Works Dept., etc.)
- Manhole Cover puller or Pry Bar
- Sledge or 3 lbs. Dead Blow Hammer
- Work Gloves
- Clipboard
- Digital Camera
- Tracer Testing Dye (non-toxic & vegetable-based)
- Machete

A flowing discharge during a dry weather period whose source is not known should be considered illicit and tracked to the source, if possible. However, if there is other evidence of a "transitory" illicit discharge such as staining, sediment build-up, or bacterial foams but no

discharge occurring at the time of inspection the inspector will have to utilize some additional methods to determine the periodicity and nature of the discharge.

7. Enforcement and Remediation of Violations:

Under the IDDE Law the Stormwater Management Officer (SMO) is empowered to issue cease and desist orders upon the discovery of an illicit connection, discharge, or activity. In any such case the SMO is also empowered to force an immediate remedy of the illicit connection, discharge, or activity on the part of the violator. It shall be the policy of the Intermunicipal Program to place first priority on the rapid remedy of the violating connection, discharge, or activity.

In the case of an illicit connection, upon the discovery of the source of the connection the responsible party shall be ordered to cease the activity and remove the connection immediately. If the responsible party refuses a notice of violation and local appearance ticket shall be issued and the work shall be completed by the MS4 Owner/Operator and the expense charged to the responsible party.

In the case of a chronic illicit discharge to the storm sewer system the violator will be notified, in writing, of the governing statute and be issued a cease and desist order. If the responsible party continues to violate the governing statute a notice of violation and local appearance ticket will be issued and a court-ordered injunction sought to prevent the responsible party from engaging in the illicit action in question.

In the case of illicit activities such as illegal dumping the matter will be investigated to the fullest extent possible and the illicit materials shall be removed as soon as possible by the MS4 Owner/Operator. In the event that a responsible party can be indentified a notice of violation and local appearance ticket will be issued immediately and the matter will then be resolved by the local courts. All expenses incurred to remove the illicit materials (including but not limited to personal time, materials, and tipping fees) shall also be charged to the responsible party.

8. Education Programming

Education Programming and resources regarding Illicit Discharges are described –and conducted- as a part of MCM 1 ~ Public Education & Outreach section of this document (pages 9-15).

9. Records Maintenance

It is the responsibility of all MS4 Permittees to maintain accurate, original records of all activities associated with the Stormwater Permit. All such records must be produced at the request of the public or an authorized State (DEC, NYSAG, NYSDOS) or Federal Agency (EPA).

Minimum Control Measure 4 & 5: *Construction Site & Post-Construction Runoff Control*

Summary

Minimum Control Measures 4 & 5 are closely related. Combined, these two aspects of the MS4 Permit manage *all* new construction and re-development projects that –at a minimum- disturb one or more acres within regulated Municipalities. These two Measures have, arguably, the largest degree of importance to the Town of Niskayuna.

In short these two measures require that MS4 Municipalities implement a program to regulate and enforce proper erosion and sediment controls, during construction, *and* proper quantity and quality stormwater control practices be designed and built into such projects to manage stormwater runoff once construction is completed.

At this time *all* regulated Municipalities are expected to have passed a unified Stormwater Local Law that incorporates these two (2) aspects of regulation and enforcement: 1) assume regulatory responsibilities to regulate and enforce erosion and sediment control during project construction; and 2) regulate the design of new projects to ensure they do not contravene local water quality, effect no net change to project-site hydrology, and manage the quality of runoff discharged through the MS4 into receiving waters. The deadline for passage of the Law was the end of the first MS4 Permit cycle; January 8th, 2008.

This entails the delegation of responsibility to one or more Municipal employees to review proposed Stormwater Pollution Prevention Plans (SWPPPs), inspect the construction site to ensure the execution of the SWPPP, during construction, and that the practices being installed for Post-Construction control adhere to the approved design. Municipalities must also implement penalties for non-compliance with the tenets of these permits including fines and other penalties (allowable under the Home Rule Act as misdemeanor violations). Municipalities must also establish a program informing contractors and developers of their responsibilities and procedures under this local law.

A consideration for Local Planning Boards and Departments is the type of practices being installed, particularly if those practices are to be dedicated to the Municipality once construction is complete. Projects should utilize practices familiar to the Municipal Highway or Public Works Department(s). This allows the integration of the newly dedicated facilities into the existing maintenance program. Dedicated treatment practices should be selected on the basis of performance, as well. This is particularly important if the project is located in an area of the Municipality known to have particular environmental constraints or concerns. Along with the dedication, Municipalities should require a document from the builder detailing maintenance procedures and schedules so that the practice performs, as intended, over time.

Additionally, MS4 municipalities should give extensive consideration to non-structural practices as well. Such practices include cluster or conservation subdivisions, so called “Low Impact Development”, Better Site Design, riparian overlay/special protection districts, and the protection of other natural resources such as unique habitat, wetlands, forests and so on.

Section IV: Minimum Control Measure 4 ~ Construction Site Runoff Control

Why Is The Control of Construction Site Runoff Necessary?

Polluted storm water runoff from construction sites often flows to MS4s and ultimately is discharged into local rivers and streams. Of the pollutants listed in Table 1, sediment is usually the main pollutant of concern. Sediment runoff rates from construction sites are typically 10 to 20 times greater than those of agricultural lands, and 1,000 to 2,000 times greater than those of forest lands. During a short period of time, construction sites can contribute more sediment to streams than can be deposited naturally during several decades. The resulting siltation, and the contribution of other pollutants from construction sites, can cause physical, chemical, and biological harm to our nation's waters. For example, excess sediment can quickly fill rivers and lakes, requiring dredging and destroying aquatic habitats.

What Is Required?

(SPDES GP-0-10-002 Part VII.A.4. pg. 36-40)

Taken from the SPDES General Permit for Stormwater Discharge from MS4s, GP-0-10-002:

4. Construction Site Stormwater Runoff Control - SWMP Development / Implementation

At a minimum, all *covered entities* must:

a. *Develop (for newly authorized MS4s), implement,* and enforce a program that:

i. provides equivalent protection to the NYS SPDES General Permit for Stormwater Discharges from Construction Activities, unless more stringent requirements are contained within this *SPDES general permit* ;

ii. addresses *stormwater* runoff to the *small MS4* from *construction activities* that result in a land disturbance of greater than or equal to one acre. Control of *stormwater discharges* from *construction activity* disturbing less than one acre must be included in the program if:
-t hat *construction activity* is part of a *larger common plan of development or sale* that would disturb one acre or more; or
-if controlling such activities in a particular watershed is required by the *Department;*

iii. incorporates mechanisms for construction runoff requirements from new development and redevelopment projects to the extent allowable under *State* and local law that meet the *State*=s most current technical standards:
- through available mechanisms (ie. tenant lease agreements, bid specifications, requests for proposals, standard contract provisions, connection permits, maintenance directives / BMPS, access permits, consultant agreements, internal policies);
- procedures or policies must be developed for implementation

and enforcement of the mechanisms;
- a written directive from the person authorized to sign the NOI stating that updated mechanisms must be used and who (position(s)) is responsible for ensuring compliance with and enforcing the mechanisms for construction projects that occur on property owned, under easement to, within the right-of-way of, or under the maintenance jurisdiction by the *covered entity* or within the maintenance jurisdiction of the MS4; and
-the mechanisms and directive must be equivalent to the to the requirements of the NYS SPDES General Permit for Stormwater Discharges from Construction Activities.

iv. allows for sanctions to ensure compliance to the extent allowable by *State* law;

v. describes procedures for receipt and follow up on complaints or other information submitted by the public regarding construction site stormwater runoff;

vi. educates construction site operators, design engineers, *municipal* staff and other individuals to whom these regulations apply about the construction requirements in the *covered entity's* jurisdiction, including the procedures for submission of *SWPPPs*, construction site inspections, and other procedures associated with control of construction stormwater;

vii. Ensures that construction site contractors have received erosion and sediment control training, including the *trained contractors* as defined in the SPDES general permit for construction, before they do work within the *covered entity's* jurisdiction:
-training may be provided by the *Department* or other qualified entities (such as Soil and Water Conservation Districts);
-the *covered entity* is not expected to perform such training, but they may co-sponsor training for construction site operators in their area;
- the *covered entity* may ask for a certificate of completion or other such proof of training; and
-the *covered entity* may provide notice of upcoming sediment and erosion control training by posting in the building department or distribute with building permit application.

viii. establishes and maintains an inventory of active construction sites, including the location of the site, owner / operator contact information;

ix. develop *(for newly authorized MS4s)*, record, periodically assess and modify as needed *measurable goals*; and

x. select and implement appropriate construction stormwater *BMPs* and *measurable goals* to ensure the reduction of all *POCs* in *stormwater discharges* to the *MEP*.

Required SWMP Reporting

b. **Program *implementation* reporting** for **continuing *covered entities*** (MS4s covered for 3 or more years on the *reporting date*). At a minimum, the *covered entity* shall report on the items below:

i. number and type of sanctions employed;
ii. status of regulatory mechanism - certify that mechanisms will assure compliance with the NYS SPDES General Permit for Stormwater Discharges from Construction Activities;
iii. number of construction sites authorized for disturbances of one acre or more; and
iv. report on effectiveness of program, *BMP* and *measurable goal* assessment.

Table 7: MCM4 *Construction Site Runoff Control* Program Requirements

Requirements	Activities & Practices
Develop, implement, & enforce a program to reduce pollutants in any stormwater runoff to the small MS4 from construction activities that result in a land disturbance of one acre (minimum) or more. Include construction activities on less that one acre in the program if: 1) it is a part of a larger common plan of development or sale or 2) controlling such activities in a particular watershed is required by the Department. Develop a program that, at a minimum, provides equivalent protection to the NYS SPDES General Permit for Stormwater Discharges from Construction Activities including: ➢ A Local Law or other regulatory mechanism to require erosion & sediment controls including requirements for construction site operators to implement erosion & sediment control practices and sanctions to ensure compliance ➢ Requirements for construction site operators to control wastes (i.e. discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste) at the construction site that may cause adverse impacts to water quality. ➢ Procedures for site plan review that incorporate consideration of potential water quality impacts and review of individual pre-construction site plans to ensure consistency with local erosion & sediment control requirements. ➢ Procedures for receipt and consideration of information submitted by the public. ➢ Procedures for site inspections and enforcement of control measures, and ➢ Education and training for construction site inspectors about (local) requirements. ➢ Education for construction site operators regarding local E&SC requirements.	Read and understand the requirements of the General Permit for Construction (GP-02-01) Examples of activities a program for this measure must include are: 1. Adopt a Local Law or Policy mechanism consistent with the requirements of GP-02-02 by January 2008. Local Law must be certified by the MS4 Attorney. 2. Implement SWPPP reviews by trained personnel 3. Establish a procedure to receive and consider information from the public regarding SWPPPs 4. Establish procedures for regular site inspections & enforcement by trained personnel and in response to citizen complaint. 5. Implement a education program for construction site operators about Local requirements. 6. Ensure contractors working within the MS4-area have received DEC training; *beginning March 2010.* 7. Maintain records of reviews, inspections, and enforcement per GP-0-10-002

Excerpt from Overview of the Municipal Separate Storm Sewer Systems (MS4) Phase II Stormwater Permit Program; A Summary of MS4 Phase II Permit Requirements. NYS DEC; Revised August 2003. Revised 2008 by BRN

MANAGEMENT GOALS & OBJECTIVES

Construction Activities within a Regulated MS4

MS4s are advised to become familiar with the *SPDES General Permit For Stormwater Discharges from Construction Activity* (GP-0-10-001 or as amended or revised) because their program must, at a minimum, provide equivalent protection to this permit. The Department's technical standards for this permit are contained in the *New York State Stormwater Management Design Manual* and the *New York Standards and Specifications for Sediment and Erosion Control*. MS4s should use these documents in developing their SWPPP Review/approval and inspection programs.

1. Adoption of a Local Law

The Town of Niskayuna adopted a local law November 28, 2006. Per GP-0-10-002 this law was certified by the Municipal Attorney as meeting the substantive and technical requirements of the NYSDEC "Sample Local Law for Stormwater Management and Erosion and Sediment Control" (September 2004). A copy of the certification letter can be found in Appendix 2.

2. SWPPP Reviews and 3. Receipt of Public Comments

Stormwater Pollution Prevention Plan (SWPPP) reviews shall be conducted by trained staff and/or certified 3rd-party professionals for completeness of content per the Stormwater Management Local Law (Chapter 180 of Niskayuna Town Code). Specifically the section entitled "Stormwater Pollution Prevention Plans"; *Article 2 Section 2 (all) of the Sample Local Law* -NOTE- insert correct citation for specific local laws-* including Conditions A, B, & C (see next section for details). In such cases where Conditions A, B, or C apply the SWPPP shall include all additional applicable information for all post-construction stormwater management practices (SMP) associated with the project.

- It shall be the responsibility of the SWPPP author/s to certify that the plan/s are accurate and meet the technical requirements of the New York State Standards and Specifications for Erosion & Sediment Control (aka the "Blue Book).
- It shall be the responsibility of the SMO or designee to certify that the plan/s are accurate and meet the technical requirements of the New York State Stormwater Management Design Manual (SWMDM). A sample SWPPP Certification Form has been provided in this document in Appendix 3.
- For all projects within the Urbanized/MS4-designated area/s an "MS4 Acceptance Form" shall be provided to the project owner/operator per **GP-0-10-002 Part VII.4.a.vii**. (see Appendix 3)
- The owner/operator of the project shall provide a list of all contractors that will have direct implementation responsibilities for any/all portions of the SWPPP. All such contractors shall be required to sign the "Contractor Certification Form" provided in Appendix 3 prior to the commencement of construction and appended to the project documentation.
- A pre-construction meeting between local staff, the owner/operator and the contractors that have signed the Contractor Certification Form shall take place prior to the commencement of construction.
- The Town shall document and retain all written and oral comments submitted by the public in connection with projects that require a SWPPP during the "Public Comment Period" for Subdivision, Site Plan, PUD/PDD or other projects under review by the Town of Niskayuna in accordance with State Open Meetings Law (OML) and any applicable local law/s. Such comments shall be given due consideration –based on merit, veracity, applicability, and technical feasibility- during the course of review.

4. Site Inspections and Citizen Complaints

All construction projects and sites are unique. Some require a greater degree of oversight than others because of the extent or intensity of the project, environmental conditions, proximity to sensitive natural resources, or any combination thereof. It is *recommended* that all sites be inspected at least three (3) times during the life of the project.

- An initial inspection of the site to ensure that all erosion and sediment controls called for in the accepted SWPPP have been properly installed including the delineation of all disturbance limits.
- An interim inspection, as needed, to ensure that the accepted SWPPP is being adhered to and that all erosion and sediment controls are being properly installed and maintained.
- A final inspection, prior to the issuance of final Certificates of Occupancy (CO) or acceptance through dedication to the Town of Niskayuna of any roads or attendant stormwater appurtenances to ensure that the site is permanently stabilized and that all SMP have been properly constructed, are properly functioning and in "as new" condition. It is highly recommended that the owner/operator provide "as built" drawing/s of all SMP prior to the issuance of any final CO or dedication AND that the SMP designer/s provide and review the Maintenance Plan for all SMP with local staff that shall be responsible for their operation and maintenance as required by this plan.
- At any time during the course of construction staff shall document and respond to complaints made by the public in connection with any project approved/permitted by the Town of Niskayuna. The response shall include the name of the complainant and date of initial complaint, a written summary of the nature and extent of the complaint, a summary of the action taken by staff regarding the complaint to determine veracity and any violation/s that may have/are occurring, and the final outcome/s and dispensation/s of any violations. Complainants shall be informed of all outcomes upon request.
- The MS4 shall send all new staff, officials, or 3rd party professionals tasked with conducting SWPPP-compliance site inspections to a NYSDEC Division of Water sponsored Site Inspectors' Training course. It is recommended that all previously trained staff attend the same course once every three (3) years as a re-training event and to stay current on any regulatory changes.

5. Contractor Training and 6. Contractor Certifications

The MS4 shall inform all parties of the standard operating procedures (SOP) for the submission, review, and approval or permitting of a project that will require a SWPPP per the local Stormwater Management Law. This information shall include:

- a summary outline of the timing of submittal, review, and approval including procedures for re-submittal or redress of any SWPPP deficiencies;
- all SOP employed by the Town of Niskayuna to review SWPPPs including use and name of 3rd party professionals to avoid any conflict/s of interest;
- all information to be presented in the SWPPP as required by the local law and relevant the specific proposed project;
- any special requirement/s that may be imposed on the project/applicant because of project location within a special protection/overlay district, discharges to 303(d)-listed receiving waters, or other condition that may require additional conditions to met prior to project approval.

- **In accordance with** GP-0-10-002 Part VII.4.a.vii; see above) all contractors that will engage in earth disturbing activities, including the placement and/or grading of fill materials, shall be required to produce a valid and current NYSDEC Contractor Erosion & Sediment Control Training Certificate at the time of the pre-construction meeting with

MS4 staff prior to the issuance of a site development permit or permissions for construction to begin.

7. Records Management

It shall be the responsibility of the Stormwater Management Officer/MS4 Staff to maintain all records associated with the review/acceptance of SWPPPs, the number and outcomes of inspections conducted, and the number of enforcement actions taken each year. These records shall be kept to facilitate program auditing the NYSDEC –or another authorized Agency (i.e. U.S. EPA) or for examination by the public. To simplify annual reporting to the NYSDEC a summary of certain actions associated with this section of the General Permit should be kept. Specifically the summary should reflect:

- number of SWPPPs reviewed;
- number and type of enforcement actions;
- percent of active construction sites inspected once;
- percent of active construction sites inspected more than once;
- number of construction sites authorized for disturbances of one acre or more.

The SMO shall be responsible for maintaining all records associated with the training of site inspection personnel (i.e. attendance records and training event dates).

Section V: Minimum Control Measure 5 ~ *Post-Construction Runoff Control*

Why Is The Control of Post-Construction Runoff Necessary?

Post-construction storm water management in areas undergoing new development or redevelopment is necessary because runoff from these areas has been shown to significantly effect receiving waterbodies. Many studies indicate that prior planning and design for the minimization of pollutants in post-construction storm water discharges is the most cost-effective approach to storm water quality management.

There are generally two forms of substantial impacts of post-construction runoff. The first is caused by an increase in the type and quantity of pollutants in storm water runoff. As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus) altering the chemical composition of the water itself. These pollutants often become suspended in runoff and are carried to receiving waters, such as lakes, ponds, and streams. Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans. The second kind of post-construction runoff impact occurs by increasing the quantity of water delivered to the waterbody during storms. Increased impervious surfaces interrupt the natural cycle of gradual percolation of water through vegetation and soil. Instead, water is collected from surfaces such as asphalt and concrete and routed to drainage systems where large volumes of runoff quickly flow to the nearest receiving water. The effects of this process include streambank scouring and downstream flooding, which often lead to a loss of aquatic life and damage to property.

What Is Required?

(SPDES GP-0-10-002 Part VII.A.5. pg. 40-45)

Taken from the SPDES General Permit for Stormwater Discharge from MS4s, GP-0-10-002:

5. Post-Construction Stormwater Management – SWMP Development / Implementation

At a minimum, all *covered entities* must:

a. *Develop (for newly authorized MS4s), implement,* and enforce a program that:

i. provides equivalent protection to the NYS SPDES General Permit for Stormwater Discharges from Construction Activities, unless more stringent requirements are contained within this *SPDES general permit*;

ii. addresses *stormwater* runoff from new development and redevelopment projects to the *small MS4* from projects that result in a land disturbance of greater than or equal to one acre. Control of *stormwater discharges* from projects of less than one acre must be included in the program if:
- that project is part of a *larger common plan of development or sale*;
- if controlling such activities in a particular watershed is required by the *Department*;

iii. incorporates enforceable mechanisms for post‐construction runoff control from new development and re‐development projects to the extent allowable under or local law that meet the *State*'s most current technical standards:
- through available mechanisms (i.e. tenant lease agreements, bid specifications, requests for proposals, standard contract provisions, connection permits, maintenance directives / BMPS, access permits, consultant agreements, internal policies);
- procedures or policies must be developed for implementation and enforcement of the mechanisms;
- a written directive from the person authorized to sign the NOI stating that updated mechanisms must be used and who (position(s)) is responsible for ensuring compliance with and enforcing the mechanisms for construction projects that occur on property owned by the *covered entity* or within the maintenance jurisdiction of the MS4; and
- the mechanisms and directive must assure compliance with the requirements of the NYS SPDES General Permit for Stormwater Discharges from Construction Activities;

iv. includes a combination of structural or non‐structural management practices (according to standards defined in the most current version of the NYS

Stormwater management Design Manual) that will reduce the *discharge* of pollutants to the MEP. In the development of environmental plans such as watershed plans, open space preservation programs, local laws, and ordinances covered entities must incorporate principles of *Low Impact Development* (LID), *Better Site Design* (BSD) and other *Green Infrastructure* practices to the MEP. Covered entities must consider natural resource protection, impervious area reduction, maintaining natural hydrologic condition in developments, buffers or set back distances for protection of environmentally sensitive areas such as streams, wetlands, and erodible soils in the development of environmental plans.

- if a *stormwater* management practice is designed and installed in accordance with the New York State Stormwater Management Design Manual or has been demonstrated to be equivalent and is properly operated and maintained, then *MEP* will be assumed to be met for the post construction *stormwater* discharged by the practice;

v. establish and maintain an inventory of post‐construction stormwater management practices to include at a minimum practices discharging to the *small MS4* that have been installed since March 10, 2003, those owned by the small MS4, and those found to cause water quality standard violations.

- the inventory shall include, at a minimum: location of practice (street address or coordinates); type of practice; maintenance needed per the NYS Stormwater Management Design Manual, *SWPPP*, or other provided documentation; and dates and type of maintenance performed; and

vi. ensures adequate long‐term operation and maintenance of management practices by trained staff, including assessment to ensure that the practices are performing properly.

- The assessment shall include the inspection items identified in the maintenance requirements (NYS Stormwater Management Design Manual, *SWPPP*, or other maintenance information) for the practice. *Covered entities* are not required to collect *stormwater* samples and perform specific chemical analysis;

vii. Covered entities may include in the SWMP Plan provisions for development of a banking and credit system. MS4s must have an existing watershed plan based on which offsite alternative stormwater management in lieu of or in addition to on‐site stormwater management practices are evaluated. Redevelopment projects must be evaluated for pollutant reduction greater than required treatment by the state standards. The individual project must be reviewed and approved by the *Department*. Use of a banking and credit system for new development is only acceptable in the impaired watersheds to achieve the no net increase requirement and watershed improvement strategy areas to achieve pollutant reductions in

accordance with watershed plan load reduction goals. A banking and credit system must at minimum include:

- Ensures offset exceeds standard reduction by factor of at least 2
- Offset is implemented within the same watershed
- Proposed offset addresses the POC of the watershed
- Tracking system is established for the watershed
- Mitigation is applied for retrofit or redevelopment
- Offset project is completed prior to beginning the proposed construction
- A legal mechanism is established to implement the banking and credit system

b. *Develop (for newly authorized MS4s), implement,* and provide adequate resources for a program to inspect development and redevelopment sites by trained staff and to enforce and employ sanctions;

c. *Develop (for newly authorized MS4s),* record, annually assess and modify as needed *measurable goals*; and

d. Select and implement appropriate post‐construction *stormwater BMPs* and *measurable goals* to ensure the reduction of all *POCs* in *stormwater discharges* to the *MEP*.

Required SWMP Reporting

e. Program *implementation* reporting for continuing *covered entities* (MS4s covered for 3 or more years on the *reporting date*). At a minimum, the *covered entity* shall report on the items below:

i. number of *SWPPPs* reviewed;

ii. number and type of enforcement actions;

iii. number and type of post‐construction stormwater management practices inventoried;

iv. number and type of post‐construction stormwater management practices inspected;

v. number and type of post‐construction stormwater management practices maintained;

vi. regulatory mechanism status ‐ certification that regulatory mechanism is equivalent to one of the NYSDEC Sample Local Laws for Stormwater Management and Erosion and Sediment Control@ (if not already done); and

vii. report on effectiveness of program, BMP and measurable goal assessment, and implementation of a banking and credit system, if applicable;

Table 8: MCM5 *Post-Construction Runoff Control* Program Requirements

Requirements	Activities & Practices
Implement a program that: ➢ Include a combination of management practices that will reduce the discharge of pollutants to the maximum extent practicable* ➢ Use a Local Law to address post-construction runoff from development and re-development, and is certified to meet the State's requirements (see MCM4 above) ➢ Create an inventory of all MS4-owned SMP constructed since March 2003 and a procedure to inspect the SMP ➢ Ensure adequate long-term operation and maintenance of management practices, including regular inspections. ➢ Retain adequate records to meet Annual Reporting requirements	Examples of activities the program for this measure must include are: 1. Develop and implement structural and non-structural practices to reduce pollutants from new and existing development* 2. Adopt/certify a post-construction Law that includes structural and/or non-structural management practices for new development and re-development projects 3. Implement an MS4-owned SMP inventory using MS4 for location and MS4 for data/asset management that is updated as new SMP come "on line" 4. Utilize qualified personnel to inspect existing and newly constructed MS4-owned SMP to ensure they are functioning properly and have been built/installed according to the SWPPP and the NYS SWMDM 5. Create a records management system for all relevant/required information
*NOTE: For MS4s that discharge to 303(d)-listed bodies of water (see page 12) Part III.B of GP-0-08-002 (page 8) applies. Therefore, the MS4 must ensure that the post-construction SMP accepted in the SWPPP are appropriate in addressing the POC/s named as the impairment to the 303(d)-listed water body. *BRN 2009*	

Excerpt from Overview of the Municipal Separate Storm Sewer Systems (MS4) Phase II Stormwater Permit Program; A Summary of MS4 Phase II Permit Requirements. NYS DEC; Revised August 2003. Revised February 2009 by BRN

MANAGEMENT GOALS & OBJECTIVES

1. Reduction of Pollutants to the Maximum Extent Practicable (MEP)

As is stated in the excerpted Permit language –Part VII.5.a.iv- any Stormwater Management Practice (SMP) that is designed and built in accordance with the NYSDEC Stormwater Management Design Manual (SWMDM) will be assumed to fulfill the requirement to reduce pollutants to the MEP. Therefore it is highly recommended that only such SMP be considered and that all SMP that are a part of an accepted SWPPP be so certified by the designer/s. Additionally, several other considerations and procedures are also highly recommended to ensure the reduction of pollutants:

- All SMP should be cross-referenced with Chapter 7 *SMP Selection Matrices* of the SWMDM for feasibility and applicability;
- The primary consideration in addressing water quality issues is source control. SMP should be considered ***after*** all other source-control Best Management Practices (BMP) have been considered and incorporated in to the project design, as a whole
- All evaluations of outlet control structures ***must*** be done by a Civil Engineer (PE) licensed by the State of New York;
- The designer/s of all SMP ***must*** provide an Operations and Maintenance manual that includes all elements for the particular practice/s called for in the SWMDM to the Town. If necessary, the Town should request a meeting with all relevant staff to review the O&M manual and the practice/s to review the document and ensure that it is fully understood by Town staff responsible for the SMP inventory, inspection, operation, and maintenance.
- In the instance of existing SMP where this is not possible/feasible Chapter 6 *Performance Criteria* of the SWMDM should be referenced in creating guidelines for the MS4 staff responsible for O&M of these practices

2. Adoption of Local Law

The Town of Niskayuna adopted a local law November 28, 2006. Per GP-0-10-002 this law was certified by the Municipal Attorney as meeting the substantive and technical requirements of the NYSDEC "Sample Local Law for Stormwater Management and Erosion and Sediment Control" (September 2004). A copy of the certification letter can be found in Appendix 2.

3. SMP Inventory

As stated in the Permit excerpt all MS4 must create an inventory (map) of all SMP constructed after March 2003 and owned by the MS4. Additionally, the inventory ***must include*** any SMP *not owned* by the MS4 (and constructed after 3/2003) within the MS4's urbanized area. This map can be found in the Town of Niskayuna Engineering Office.

The inventory was conducted with the use of GPS that is data-capture capable and that location and asset data can then be transferred to a GIS for ease of viewing and management. This information shall be provided by the owner/operator or project applicant at the time the project is approved for SMP that are part of a newly accepted SWPPP and a project that will be constructed. The inventory should capture the following information in the field at the time it is inventoried:

- The latitude and longitude –or other desired coordinate system- location of the SMP
- The physical address of the SMP
- The type of practice (e.g. Pond (incl. type; P1, P2, etc.), Infiltration Basin, Surface Sand Filter, etc.)
- The receiving waters of the SMP –if named or known
- The date the SMP was inventoried –this is automatically recorded if using a GPS

Additional information to be captured –desktop/office

- The approximate date of construction –if not exactly known
- The inspection frequency as called for in the SMP O&M manual or SWMDM (Ch.6)

For SMP that are to be constructed as part of an accepted SWPPP the owner/operator or applicant shall provide the information above following final project approval by the MS4 OR prior to the filing of the Notice of Termination (NOT) of the project's State Construction Permit (GP-0-10-001 or as amended or revised).

4. SMP Inspections

All inventoried SMP shall be inspected on a regular basis per the SWMDM (Ch. 6) or per the SMP O&M manual provided by the designer/s. All existing SMP within the urbanized area must be inspected –regardless of ownership- prior to March 9, 2010. All those non-MS4 owned SMP within the UA must be inspected by a qualified professional –at the owner/operators expense- to ensure that they are not causing or contributing to a water quality violation. It should, however, be made clear to the owner/operators of all such SMP that if they are found to be the cause of or a contributor to a water quality violation that the MS4 has a duty to remediate OR refer the matter to the NYSDEC or other entity for further action.

In the case where the SMP discharges to the MS4, the MS4 has the ability to remedy the issue based on the Illicit Discharge Law (see Section III). In the case where the SMP discharges to a waterbody of New York State or the United States the matter must be referred to NYSDEC Region 4 Division of Water personnel for further action. In the case where an SMP discharges to an adjacent or inter-jurisdictional entity (e.g. County- or NYS-owned system) the matter must be referred to the proper Agency/Agent of said entity.

All SMP inspections shall be conducted by a qualified professional (i.e. PE or Certified Professional in Stormwater Quality/CPSWQ) or individuals that have received the training of a qualified professional for the express purpose of SMP evaluation. The inspection report for each SMP shall contain a summary of the overall condition and level of functionality of the SMP. A sample inspection form can be found in Appendix 4. Additionally, the inspection report *must include* any specific information/inspection points called for in the SMP O&M manual or the SWMDM (Ch. 6) including, but not limited to:

- the overall condition of the SMP (e.g. good, fair, poor)
- the condition of the inlet structure/s
- the condition of the outlet structure/s including any seepage around the structure/s*
- the level of water –if any- in any/all monitoring well/s (infiltration and filtering practices)*
- the condition of embankments and emergency/auxiliary spillways including any seepage (ponds, wetlands, infiltration basins, swales/channels)*
- the condition of the bed/floor (ponds, infiltration basins, surface filters, trapezoidal channels)
- the condition of the forebay/s (ponds, wetlands, infiltration basins) or pretreatment areas/filter strips (surface filters, swales/channels)
- the visible or excessive presence of silt/sediment in the forebay area/s (ponds, wetlands)*
- the visible or excessive presence of silt/sediment in the permanent pool (ponds, wetlands)*
- the visible or excessive presence of silt/sediment in the bed/floor (infiltration basins)*

- the visible or excessive presence of staining, foam, algal growth, or other signs of pollutants passing through the outlet structure/s*
- the visible or excessive presence of vegetation, shrubs or trees along embankments, spillways, inlet or outlet structures*

4. SMP Inspections (continued)

- the visible or excessive presence of scouring and erosion at the inlet or outlet structure/s or anywhere within the SMP (if applicable)*
- the visible presence of trash or other debris at the inlet or within the practice
- the presence of an oily sheen at the surface of the SMP (ponds, wetlands) that may (bacterial film) or may not (oils/petroleum) break as the surface tension of the water is broken*
- the presence of standing water (infiltration SMP) greater than 48 hours after a storm event –except where basins have been designed and sized for extended detention storage of runoff volumes in excess of the Water Quality Volume (WQv)*

**NOTE: if the any of the above conditions are observed the information should be referred immediately to the Stormwater Management Officer for further action. Although in many instances scouring, sediments, and vegetation are matters generally handled during routine maintenance the presence of any of these items may indicate an ongoing or imminent failure of the practice. The presence of an unbreakable oily sheen may indicate a petroleum spill somewhere in the drainage area. The presence of a breakable sheen may indicate the failure of a sanitary sewer or onsite (septic) system within the drainage area. Particular attention must be paid to seepage in embankments and around outlet structures.*

5. Records Management

In addition to the SMP inventory and individual SMP inspection records which must be originated and maintained to achieve Permit compliance or for an audit of the program a summary of MCM 5 activities outlined herein must also be maintained year-to-year. For the purposes of the Annual Reporting the following summary information must be kept:

- number of SWPPPs reviewed
- number and type of enforcement actions
- number and type of post-construction stormwater management practices inventoried
- number and type of post-construction stormwater management practices inspected
- number and type of post-construction stormwater management practices maintained report on effectiveness of program, BMP and measurable goal assessment;
- regulatory mechanism status – certification that regulatory mechanism is equivalent to one of the "NYSDEC Sample Local Laws for Stormwater Management and Erosion and Sediment Control" (*Year-6/2009 only*)

Section VI: MCM6 ~ *Good Housekeeping & Pollution Prevention*

Why Is Pollution Prevention/Good Housekeeping Necessary?

The Pollution Prevention/Good Housekeeping for municipal operations minimum control measure is a key element of the small MS4 storm water management program. This

measure requires the small MS4 operator to examine and subsequently alter their own actions to help ensure a reduction in the amount and type of pollution that: (1) collects on streets, parking lots, open spaces, and storage and vehicle maintenance areas and is discharged into local waterways; and (2) results from actions such as environmentally damaging land development and flood management practices or poor maintenance of storm sewer systems.

While this measure is meant primarily to improve or protect receiving water quality by altering municipal or facility operations, it also can result in a cost savings for the small MS4 operator, since proper and timely maintenance of storm sewer systems can help avoid repair costs from damage caused by age and neglect.

What Is Required?
(SPDES GP-0-10-002 Part VII.A.6. pg. 45-48)

Taken from the SPDES General Permit for Stormwater Discharge from MS4s, GP-0-10-002:

6. Pollution Prevention/Good Housekeeping For Municipal Operations
SWMP Development / Implementation

At a minimum, all *covered entities* must:

a. Develop *(for newly authorized MS4s)* and *implement* a pollution prevention / Good housekeeping program for *municipal* operations and facilities that:

i. addresses *municipal* operations and facilities that contribute or potentially contribute *POCs* to *the small MS4* system. The operations and facilities may include, but are not limited to: street and bridge maintenance; winter road maintenance; stormwater system maintenance; vehicle and fleet maintenance; park and open space maintenance; municipal building maintenance; solid waste management; new construction and land disturbances; right-of-way maintenance; marine operations; hydrologic habitat modification, or other;

ii. includes the performance and documentation of a self assessment of all municipal operations to:
- determine the sources of pollutants potentially generated by the *covered Entity's* operations and facilities; and
- identify the *municipal* operations and facilities that will be addressed by the pollution prevention and good housekeeping program, if it is not done already;

iii. determines *management practices*, policies, procedures, etc. that will be *developed* and *implemented* to reduce or prevent the discharge of (potential) pollutants. Refer to *management practices* identified in the NYS Pollution Prevention and Good Housekeeping Assistance Document@ or other guidance materials available from the EPA, the *State*, or other organizations;

iv. prioritizes pollution prevention and good housekeeping efforts based on geographic area, potential to improve water quality, facilities or operations most in need of modification or improvement, and *covered entity's* capabilities;

v. addresses pollution prevention and good housekeeping priorities;

vi. includes an employee pollution prevention and good housekeeping training program and ensure that staff receive and utilize training;

vii. requires third party entities performing contracted services, including but not limited to, street sweeping, snow removal, lawn / grounds care, etc., to make the necessary certification in Part IV.G; and

viii. requires *municipal* operations and facilities that would otherwise be subject to the NYS Multisector General Permit (MSGP, GP-0-06-002) for industrial stormwater discharges to prepare and *implement* provisions in the SWMP that comply with Parts III. A, C, D, J, K and L of the MSGP. The covered entity must also perform monitoring and record keeping in accordance with Part IV. of the MSGP. Discharge monitoring reports must be attached to MS4 annual report. Those operations or facilities are not required to gain coverage under the MSGP. *Implementation* the above noted provisions of the SWMP will ensure that MEP is met for discharges from those facilities;

b. b. Consider and incorporate cost effective runoff reduction techniques and green infrastructure in the routine upgrade of the existing stormwater conveyance systems and municipal properties to the MEP. Some examples include replacement of closed drainage with grass swales, replacement of the existing islands in parking lots with rain garden, or curb cuts to route the flow through below grade infiltration areas or other low cost improvements that provide runoff treatment or reduction.

c. *Develop (for newly authorized MS4s),* record, periodically assess and modify as needed *measurable goals ;* and

d. Select and implement appropriate pollution prevention and good housekeeping *BMPs* and *measurable goals* to ensure the reduction of all *POCs* in *Stormwater discharges* to the *MEP.*

e. Adopt techniques to reduce the use of fertilizers, pesticides, and herbicides, as well as potential impact to surface water.

Required SWMP Reporting

f. **Program implementation reporting for continuing covered entities** (MS4s covered for 3 or more years on the *reporting date*). *Covered entities* are required to report on all *municipal* operations and facilities within their jurisdiction (*urbanized area* and *additionally designated area*) that their program is addressing. The *covered entity* shall report at a minimum on the items below:

i. indicate the *municipal* operations and facilities that the pollution prevention and good housekeeping program assessed;

ii. describe, if not done so already, the management practices, policies and procedures that have been developed, modified, and / or implemented and report, at a minimum, on the items below that the *covered entity's* pollution prevention and good housekeeping program addresses during the reporting year:
- acres of parking lot swept;
-miles of street swept;
-number of catch basins inspected and, where necessary, cleaned;
-post-construction control stormwater management practices inspected and, where necessary, cleaned;
-pounds of phosphorus applied in chemical fertilizer
-pounds of nitrogen applied in chemical fertilizer; and
-acres of pesticides / herbicides applied.

iii. staff training events and number of staff trained; and

iv. report on effectiveness of program, *BMP* and *measurable goal* assessment. If the pollution prevention and good housekeeping program addresses other operations than what is listed above in Part VIII.A.6.a(ii), the *covered entity* shall report on items that will demonstrate program effectiveness.

Table 9: MCM6 *Good Housekeeping & Pollution Prevention* Program Requirements

Requirements	Activities & Practices
Develop and implement an operation & maintenance program that is designed to reduce and prevent the discharge of pollutants to the maximum extent practicable from activities such as park & open space maintenance, fleet & building maintenance, roadway maintenance, hydrologic habitat modification, and marine operations. Include a training component in the program. Follow management practices identified in the *New York State Management Practices Catalogue for Non-Point Source Pollution Prevention* or other equivalent guidance materials available from the EPA, New York State, Tribal, or other organization. Develop measurable goals and select appropriate management practices to ensure the reduction of all pollutants of concern in stormwater discharge to the maximum extent practicable.	A program for this measure might include activities such as: ➢ Examine municipal operations and alter actions where needed for pollution prevention. ➢ Develop maintenance schedules for structural and non-structural controls. ➢ Develop procedures for proper waste disposal and transfer. ➢ Coordinate with flood managers to identify and address environmental impacts from flood management projects. ➢ Protect hazardous material storage areas.

Excerpt from Overview of the Municipal Separate Storm Sewer Systems (MS4) Phase II Stormwater Permit Program; A Summary of MS4 Phase II Permit Requirements. NYS DEC; Revised August 2003.

MANGEMENT SUMMARY

Good Housekeeping & Pollution Prevention is, perhaps, the easiest of the six minimum control measures to develop and implement. Educationally, what is required of regulated Municipalities is to inform employees of the problems associated with polluted runoff. This information should already be in use under the *Public Education & Outreach* program.

Secondly, Municipalities must audit there current operations, facilities & equipment and then, using that information, make alterations or additions to existing practices. The end goal is to reduce and/or eliminate potential sources of pollution to the "maximum extent practicable".

Lastly, a suite of "Best Management Practices" (BMP) must be identified and implemented by Municipalities for all maintenance of existing and construction of new stormwater treatment practices and the MS4, as a whole. Standard operating procedures (SOPs) covering pollution prevention/good housekeeping for municipal operations have been drafted for both the Town of Niskayuna Water and Sewer Department and the Niskayuna Highway Department. A copy of these documents can be found in Appendix 5.

Recognizing the benefits of pollution prevention practices, the rule requires an operator of a regulated small MS4 to:

- Develop and implement an operation and maintenance program with the ultimate goal of preventing or reducing pollutant runoff from municipal operations into the storm sewer system;
- Include employee training on how to incorporate pollution prevention/good housekeeping techniques into municipal operations such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance. To minimize duplication of effort and conserve resources, the MS4 operator can use training materials that are available from EPA, their State or Tribe, or relevant organizations;
- Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

Excerpt from the EPA Storm Water Phase II Final Rule Fact Sheet Series- 2.8 Good Housekeeping & Pollution Prevention.

Self-Auditing

The first step to be taken towards reducing pollutants (or potentially polluting practices) generated by municipal operations involves close scrutiny of *all* phases of municipal operations. This includes everything from stockpiling of building and maintenance materials (e.g. sand, salt, gravel, crusher-run, topsoil, fuels, oil, and other haz-mats), equipment storage, equipment maintenance, waste management, as well as construction practices and employee training (i.e. spill response, pollution prevention, Erosion & Sediment Control, etc.). Facilities, themselves, should be inspected as well, with an eye to identifying potential problems and potential solutions. Because, traditionally, Highway and Public Works Departments have primary responsibility in managing and maintaining roads, bridges and all

other Municipal infrastructure and equipment these departments should also be the agency with primary responsibility for developing and implementing a Good Housekeeping/Pollution Prevention Program. However, cooperation is encouraged between departments and other governments at every opportunity (Ex. Sharing street sweeping equipment or HiVac trucks).

There is no short-cut to be taken when undergoing this process. Each Municipality must simply invest the time and personnel necessary to complete the task. Before beginning the process some planning as to who, how, and when the audit will occur should be done to eliminate duplicate responsibilities and work. Chief elected officials from the Highway and/or Public Works Departments, the chief elected Municipal official (e.g. Supervisor, Mayor, etc.) as well as Municipal Attorneys should be involved. Essentially, each MS4 Municipality will be conducting a risk assessment of their operations, not only identifying potential sources of pollution, but, potential sources of liability as well.

Table 11. Municipal Operations Self-Audit Example Checklist

Area of Concern	P R A C T I C E
Equipment:	
Housing	⌖ Are all equipment stored or housed in an enclosed area (i.e. Garage, out-building, other enclosure)?
Inspection	⌖ Is there a regular schedule of inspection for all Municipally owned equipment to ensure proper working condition? (i.e. no leaking fluids and/or worn parts)
Washing	⌖ Are equipment and trucks washed regularly?
	⌖ When washing is done is it contained? (i.e. where does the runoff and wash water go?)
Maintenance	⌖ Is there a regular schedule of maintenance for each piece of equipment owned by the Municipality?
Repairs	⌖ Are repairs of equipment done at a Municipally owned facility? If so, are they normally done in an enclosed area (e.g. a garage)?
	⌖ When conducting repairs are there adequate controls available for spill and waste management?
	⌖ When repairs are complete how is the waste (if any) managed (i.e. used fluids, broken parts, etc.)? Are wastes recycled to the maximum extent practicable?

Table 12. Municipal Operations Self-Audit Example Checklist (Continued)

Area of Concern	P R A C T I C E
Facilities	
Drainage and Runoff Controls	⌖ Are adequate stormwater controls in place to properly handle runoff from impervious surfaces?
	⌖ Are there potential “hot spots” at any Municipal facilities?
	⌖ Are these practices designed to remove pollutants or are they for control only?
	⌖ Are all stormwater runoff controls in proper working condition (i.e. catch basins are clean, inlets free of debris, ditches are vegetated and debris-free, etc.)?
	⌖ Are all rooftop drains disconnected from the MS4?

	⌖ Are paved surfaces in good repair?
	⌖ Are the grounds and paved surfaces inspected regularly to remove sediments and debris? If so, how frequently?
	⌖ When affecting repairs are adequate steps taken to manage wastes generated (if any)?
Fuel, oil, Haz-Mat & Materials Storage	⌖ Are these facilities equipped with both a primary and secondary containment system?
	⌖ Are these facilities adequately equipped to handle an emergency spill?
	⌖ Are these facilities sufficiently isolated from Local bodies of water?
	⌖ Are stock piles and road salt covered from the elements? Are they stored in a weather-tight facility?
Operations	
Employee Training	⌖ Do you have an employee Stormwater Pollution Prevention Training Program? If so, does it address the following: ⌖ The importance of protecting water quality ⌖ Best Management Practices for vehicle/equipment maintenance/safety ⌖ BMPs for construction projects & sites ⌖ Emergency Spill Response ⌖ Hazardous Materials Safety

Inventory

Next, Municipalities will need to quantify the assets available to them. Simply put, it is an inventory of the personnel, equipment, and facilities owned, leased, or sub-contracted by a Municipality which will be used when implementing a Good Housekeeping/Pollution Prevention Program. This inventory should also be used as a tool to identify liabilities to an effective Program. Primarily, equipment and facilities that no longer suit the needs of the Municipality or are (potentially) a source of pollution.

Operations	
Construction	⌖ Do you have a documented internal policy regarding the accepted BMPs for Municipal construction projects?
	⌖ Are construction projects, disturbing more than one acre or adjacent to a body of water, in compliance with NYS-DEC Stormwater regulations (ref: GP-02-01 SPDES Permit for Construction Activities)?
	⌖ Are project designers/engineers aware of the NYS-DEC GP-02-01 SPDES Permit requirements for Construction Activities?
	⌖ Is the NYS Guidelines for Erosion and Sediment Control referenced and adhered to?
	⌖ Is the NYS Stormwater Management Design Manual utilized when designing all Stormwater Treatment Practices (STPs) to be constructed?
MS4 Maintenance	⌖ Does a documented inspection and maintenance program exist regarding the Municipal Separate Storm Sewer System?
	⌖ Do you have the necessary equipment, personnel & financial resources for such a program?
	⌖ Are Streets, Bridges and Roads regularly swept?
	⌖ Are all other MS4 components inspected and/or maintained (e.g. Ditches, culverts, catch basins, etc.)?
	⌖ Do components of the MS4 have a planned obsolescence (e.g. an estimated life span or replacement date)?
	⌖ Is there a system to document all such activities and maintenance requirements?

Below is one potential example of how such an inventory can be conducted.

Table 14. Municipal Asset Inventory

A S S E T S	I N V E N T O R Y
MS4 Infrastructure:	
Open Drainage	⌖ Miles of Road:
	⌖ Miles of Ditchline:
	⌖ Number & Size of Ponds or Retention/Detention Areas:
	⌖ Number of Outfalls:
Closed Drainage	⌖ Number of Catch basins:
	⌖ Linear Distance of Pipe & Culvert:
	⌖ Additional Underground Stormwater Controls (ex. Vaults, French Drains, dry-wells, etc):

Table 15. Municipal Asset Inventory (continued)

A S S E T S	I N V E N T O R Y
Equipment:	
Fleet Vehicles	⌖ Cars:
	⌖ Vans:
	⌖ Light Trucks:
Heavy Trucks	⌖ Single Axle:
	⌖ Twin Axle:
	⌖ Tri-axle:
	⌖ Tractor/Trailer:
Construction & Road Building	⌖ Excavators:
	⌖ Back Hoes:
	⌖ Graders:
	⌖ Bull Dozers:
	⌖ Loaders:
	⌖ Rollers:
	⌖ Pavers:
	⌖ Tank Trucks (water):
Facilities:	
Garages/Operations Structures	⌖ Vehicle/Equipment Repair:
	⌖ Vehicle/Equipment Storage:

	⌖ Vehicle/Equipment Washing:
Storage/Warehousing	⌖ Construction/Maintenance Materials:
	⌖ Hazardous Materials:
	⌖ Fuels/Oils/Fluids:
Sheds/Shelters	⌖ Salt/Sand:
	⌖ Small Equipment:
	⌖ Other/Miscellaneous:

Table 16. Municipal Asset Inventory (continued)

A S S E T S	I N V E N T O R Y
Personnel	⌖ Foreman/Crew Chief:
	⌖ Skilled or Specialized Labor/Equipment Operators:
	⌖ General Labor:
Winter Road Maintenance & De-Icing	⌖ Plows:
	⌖ Spreaders:
	⌖ Specialty Equipment (i.e. Skid-steer w/ snow thrower):

Once the assessment is complete, each Municipality can make decisions, as to how and where to make improvements to their respective operations. Keeping in mind that the end-goal is to mitigate or abate potential pollutant-generating practices. This goal is achieved by implementing BMPs and Employee Education Programs.

To accomplish this, two aspects of Municipal Operations must be assessed. First, the self-audit should allow Municipalities to identify areas of needed and potential improvement. Those practices, facilities and equipment which can be readily changed as a part of MCM 6 of the SPDES GP-02-02 Permit. For example, purchasing Oil & Grit Separator inserts for catch basins where vehicles are washed, covering of stockpiles with plastic sheeting to prevent wind and stormwater erosion, disconnection of rooftop drains from the MS4, etc. Anywhere that potential pollutants can be mitigated or abated. Additionally, Municipalities should determine what specific trainings employees will need in combination with a general training/education program about pollution prevention and water quality protection. For example, the Cornell

Local Roads Program (CLRP) provides education programs for Highway and DPW Managers and personnel on better construction and maintenance of roads and attendant infrastructure. The end result is an assessment of the gap between what should be done to mitigate or abate pollution and what is currently being done.

An added benefit can also be realized through Employee Education. An informed workforce can better identify areas of potential improvement, both operational & structural, over time. This means soliciting suggestions from them, both passively and directly. Passive means would be through a mechanism like a "Suggestion Box". Directly would be through mechanisms such as a "Comment" section on Field Report Forms or open discussion during a training session.

Secondly, Municipalities should assess their capability to maintain the MS4. This can be easily accomplished if a map of the MS4 has been completed (see *MCM3 ~ Illicit Discharge Detection & Elimination).*
If mapping has not been completed it will be difficult to compare the current Municipal capabilities, assets and personnel *v.* the Operation and Maintenance (O&M) of the MS4. Assuming mapping has been completed, the types and numbers of practices which make up the MS4 must be compared to current equipment, personnel and budget available for

O&M of the MS4. It is important to realize, however, that each segment of the MS4 will *not* need maintenance on an annual basis. Therefore a schedule of maintaining the MS4 should be developed to optimize the use of personnel, equipment and money, year to year. The end result should be a schedule of annual activities, that, over time, create a cycle that will provide for maintenance of the entire MS4.

For example, Municipality X has 5000 catch basins. Each catch basin requires a three-person crew to maintain. The crew can perform maintenance on 10 catch basins per day. At this rate, Municipality X will need 500 days to maintain all of their catch basins. Excluding weekends, under perfect conditions (good weather, no absences, no equipment failure, etc.) it would take Municipality X nearly two years to clean and maintain every catch basin, provided everything and everyone worked without fail, every work day, assuming a dedicated crew. This is not the norm for most Municipal Highway and Public Works departments. Combined with seasonal priorities and constraints, the actual time to maintain all 5000 catch basins, realistically, will approach Five years, if not more. Therefore, priorities must be set and a workable schedule created so that, in a 5 year (or longer) cycle all the catch basins will be maintained throughout the MS4. Although the example is greatly simplified, it is indicative of the variables and challenges that must be dealt with in creating a ***realistic*** MS4 maintenance program.

The reason for such scheduling is to minimize the potentiality of pollutants impacting Local water resources to the ***maximum extent practicable***. Establishing a schedule also allows for inclusion of newly dedicated stormwater infrastructure and treatment practices, through time, as new development occurs and the MS4 grows in size and complexity.

To formalize the process, a report should be prepared for decision-maker(s) to summarize the process, publish the results of the assessment, and detail changes that need to be made to

reduce the generation of pollutants and potentially polluting behaviors to the maximum extent practicable*. The focus of these recommendations should be those improvements which can be made given current resources (i.e. without additional investment in personnel, equipment, or facilities). It should also be noted that this process of self-assessment is open-ended and should be revisited on a regular basis (Ex. every 5 – 10 years or more often) to facilitate strategic increases in budgets, equipment, and personnel.

The bottom line with this aspect of Local Stormwater Management Programs, as with all other aspects, is that the Program remain flexible and adaptable to changing conditions, both politically and environmentally through time. Municipal Good Housekeeping and Pollution Prevention is not something which can be looked at once, improved and forgotten, it must be re-evaluated continuously to ensure pollution prevention to the maximum extent practicable.

NOTE:* "*maximum extent practicable***" references and is indicative of the awareness that not all Municipalities are alike. A wide range of capabilities and responsibilities exist from Municipality to Municipality. Because of this, the EPA and DEC recognize that Municipalities can create the ideal Stormwater Management Program given their budget, personnel, and equipment. Each MS4 permitee must do the best they can with the tools that they currently possess. However, those tools and capabilities must be re-assessed and correlated to a Municipality's growth, through time, on a regular basis.

Continuous Assessment & Accounting

To facilitate that re-evaluation, through time, a system of prioritizing, planning, & tracking activities should be implemented. In short, a system to plan the O&M of the MS4 and then evaluate the success of that plan based on what activities were completed versus the cost. Implementing such a planning and tracking strategy has a two-fold benefit to the MS4 permitted Municipality: 1) a more efficient, standardized O&M planning and evaluation tool and 2) a means of accounting for MCM 6-related activities in anticipation of preparing the Annual Report. Below are two tables that have been approved for use by the NYS-DEC as a means of reporting individual tasking in the field and the compilation of individual reports by the Municipality, in total for year-end reporting. The results of field reporting can simply be compiled throughout the year and transferred directly to the Annual Report at the end of the reporting year (March 10th, annually). Through time such tools will be highly valuable from a standpoint of efficiency by enabling budgetary decision-making based on actual time and money spent versus production.

Table 17. MS4/STORMWATER MANAGEMENT PROGRAM ACTIVITIES SUMMARY (example)

MS4/STORMWATER MANAGEMENT PROGRAM ACTIVITIES DATABASE FOR ANNUAL REPORTING						
PROGRAM AREA/ACTIVITIES	TOTAL HOURS	SUMMARY				
1 ~ Street & Bridge Maintenance		Linear Dist. (mi.) Maintained			Total Number of Repairs	
2 ~ Winter Road Maintenance		Total Salt Applied (tons)			Total Sand Applied (tons)	
3 ~ MS4 Maintenance		Ditchline (miles)		Culvert (ft)	catch basins	#
						cu yds
		MS4 Insp. #			BMPs # instl,mntd,refit	
4 ~ Vehicle/Fleet Maintenance			# maintained		# repaired	fluid recovery (U.S. gal.)
		Trucks/OTR:				
		Equipment:				
5 ~ Park & Open Space Maintenance						
6 ~ Municipal Bldg Maintenance						
7 ~ Solid Waste Management						
8 ~ Streambank Stabilization & Hydrologic Habitat Modification						
9 ~ Stormwater Management & Pollution Prevention Training						

Appendix 1.

Summary of Available Stormwater Education,
Training, and Guidance Materials

Summary Of Educational Material Available To The Public:

Brochures

After The Storm A Citizens Guide To Understanding Stormwater
Bank On Clean Water
Clean Water Everybody's Business
Get Your Feet Wet
Illicit Discharge & Connection Detection and Elimination Program
Landscaping To Save Water
Lawn Pesticides An Unacceptable Risk
Let's Learn About The Water Cycle
New Requirements For Small Construction Projects
Protect Out Water (Pencil)
Protecting Water Quality From Urban Runoff
Stormwater Runoff Crossword
Summer Pollution Solutions
The Environmental Effects Of Polluted Stormwater Runoff
Up For A Swim?

Video

After The Storm (Video)

Appendix 2.

Certification Letters for IDDE and ESC Local Laws

TOWN OF NISKAYUNA

OFFICE OF THE TOWN ATTORNEY

One Niskayuna Circle
Niskayuna, New York 12309-4381

(518) 386-4505
Fax: (518) 386-4592

Paul Briggs
Deputy Town Attorney

Peter J. Scagnelli
Deputy Town Attorney

Town Attorney

February 11, 2010

Joe Landry, Town Supervisor
Town of Niskayuna
One Niskayuna Circle
Niskayuna, New York 12309

Re: Certification of Town Local Law 134

Dear Mr. Landry:

I hereby certify that I have reviewed the Town of Niskayuna Local Law 134 enacted October 10, 2007 Prohibiting Illicit Discharges, Activities and Connections to the Town of Niskayuna Separate Storm Sewer System. It has been compared to the New York State Department of Environmental Conservation (NYSDEC) "Model Local Law Prohibiting Illicit Discharges, Activities and Connections to Separate Storm Sewer Systems" (April 2006) and is its substantive and functional equivalent, meeting the intent and letter of the NYSDEC SPDES Permit GP-02-02.

Very truly yours,

PAUL BRIGGS
Deputy Town Attorney

PB/kmm

TOWN OF NISKAYUNA

OFFICE OF THE TOWN ATTORNEY

One Niskayuna Circle
Niskayuna, New York 12309-4381

(518) 386-4505
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Paul Briggs
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Peter J. Scagnelli
Deputy Town Attorney

Town Attorney

February 11, 2010

Joe Landry, Town Supervisor
Town of Niskayuna
One Niskayuna Circle
Niskayuna, New York 12309

Re: Certification of Town Local Law 180

Dear Mr. Landry:

I hereby certify that I have reviewed the Town of Niskayuna Local Law 180 enacted November 28, 2006 for Stormwater Management and Erosion and Sediment Control and Post-Construction Stormwater Management. It has been based on and/or compared to the New York State Department of Environmental Conservation (NYDEC) "Sample Local Law for Stormwater management and Erosion and Sediment Control" (September 2004) and is its substantive and functional equivalent, meeting the intent and letter of the NYSDEC SPDES Permit GP-02-02.

Very truly yours,

PAUL BRIGGS
Deputy Town Attorney

PB/kmm

Appendix 3.

Sample SWPP Related Forms

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

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:
12. MS4 SPDES Permit Identification Number: NYR20A _____
13. Contact Person:
14. Street Address:
15. City/State/Zip:
16. Telephone Number:

(NYS DEC - MS4 SWPPP Acceptance Form - January 2010)

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 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. Additional Information

CONTRACTOR and SUBCONTRACTOR CERTIFICATION STATEMENT

for the New York State Department of Environmental Conservation (DEC) State Pollutant Discharge Elimination System Permit for Stormwater Discharges from Construction Activity (GP-0-10-001)

As per *Part III.A.6* on page 13 of *GP-0-10-001* (effective January 29, 2010):

'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 post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and sub-contractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor*. The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.'

The *owner or operator* shall have each contractor and subcontractor involved in soil disturbance sign a copy of the following certification statement before they commence <u>any</u> *construction activity*:

_____	**NYR** _____	_____
Name of Construction Site	*DEC Permit ID*	*Municipality (MS4)*

"I hereby certify that I understand and agree to comply with the terms and conditions 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 terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit 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 understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Responsible Corporate Officer/Partner Signature	Date
Name of above Signatory	Name of Company
Title of above Signatory	Mailing Address
Telephone of Company	City, State and Zip

Identify the specific elements of the SWPPP the contractor or subcontractor is responsible for:

***'TRAINED CONTRACTOR'* FOR THE CERTIFIED CONTRACTOR OR SUBCONTRACTOR**

_____	_____	_____
Name of Trained Employee	*Title of Trained Employee*	*NYSDEC SWT #*

A copy of this signed contractor certification statement must be maintained at the SWPPP on site

TOWN OF NISKAYUNA
DEPARTMENT OF ENGINEERING

CONSTRUCTION STORMWATER INSPECTION REPORT

Project Name and Location: _____

Date: _____ **Entry Time:** _____ **Exit Time:** _____

Weather Conditions: _____

On-site Representative(s): _____ **Phone #:** _____

INSPECTION CHECKLIST

Required On-site Documentation

	Yes	No	N/A	
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	
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	
10.	☐	☐	☐	Are inspections being performed as required by the permit (every 7 days and after ½" rain event)?
11.	☐	☐	☐	Are the site inspections being performed by a qualified professional?
12.	☐	☐	☐	Are all required reports signed/certified by the permittee?
13.	☐	☐	☐	Does the SWPPP include copies of the monthly/quarterly written summaries of compliance status?

Visual Observations

	Yes	No	N/A	
14.	☐	☐	☐	All erosion and sediment control measures have been installed/constructed?
15.	☐	☐	☐	All erosion and sediment control measures are being maintained properly?
16.	☐	☐	☐	Are there currently more than 5 acres of disturbed soil at the site without prior approval?
17.	☐	☐	☐	Have stabilization measures been initiated in inactive areas?
18.	☐	☐	☐	Are permanent stormwater control measures being implemented?
19.	☐	☐	☐	Was there a discharge into the receiving water on the day of inspection?
20.	☐	☐	☐	Is there evidence of turbidity, sedimentation, or oil in the receiving waters? (If yes, complete Page 2)

OVERALL INSPECTION RATING: ☐ SATISFACTORY ☐ MARGINAL ☐ UNSATISFACTORY

Lead Inspector Name: _____ Signature of Lead Inspector:_____

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

Appendix 4.

Sample Stormwater Management Practice Inspection Form

TOWN OF NISKAYUNA
DEPARTMENT OF ENGINEERING
One Niskayuna Circle, Niskayuna, NY 12309
(518) 386-4520

STORMWATER STRUCTURE INSPECTION REPORT

Structure Name: _____

Date: _____ **Inspector:** _____

Weather Conditions: _____

Yes	No	N/A	
☐	☐	☐	Has the storage volume of the structure been lost to sediment?
☐	☐	☐	Has the vegetation been maintained/mowed?
☐	☐	☐	Is additional mulching necessary?
☐	☐	☐	Is correct amount of water being maintained?
☐	☐	☐	Is increased vegetation necessary?
☐	☐	☐	Is outlet channel conveyance in good working order?
☐	☐	☐	Is pilot channel conveyance in good working order?
☐	☐	☐	Is replacement or repair of displaced rip-rap necessary?
☐	☐	☐	Is replacement or unclogging of filter gravel necessary?
☐	☐	☐	Is the general appearance and overall function satisfactory?
☐	☐	☐	Is the structure functioning as originally designed?
☐	☐	☐	Is there any water quality problems/violation in structure?
☐	☐	☐	Is trash, debris, obstruction, and/or litter removal required?

Are any of the following present?

Yes	No	N/A		Yes	No	N/A	
☐	☐	☐	Bulges	☐	☐	☐	Undermining
☐	☐	☐	Eroded Inlet Channel	☐	☐	☐	Deteriorated Piping
☐	☐	☐	Evidence Of Burrowing Animals	☐	☐	☐	Displacement Of Structures
☐	☐	☐	Exposed Fabric	☐	☐	☐	Joint Separation
☐	☐	☐	Failed Side Slopes	☐	☐	☐	Leaks
☐	☐	☐	Longitudinal Cracking	☐	☐	☐	Abnormal Water Levels
☐	☐	☐	Rutting	☐	☐	☐	Algae Blooms
☐	☐	☐	Settlement	☐	☐	☐	Nuisance Insects
☐	☐	☐	Sinkholes	☐	☐	☐	Oil Sheen
☐	☐	☐	Slumping	☐	☐	☐	Stagnation
☐	☐	☐	Transverse Cracking	☐	☐	☐	Whirlpools

OVERALL INSPECTION RATING:

☐ SATISFACTORY ☐ MARGINAL ☐ UNSATISFACTORY

Additional Comments: _____

_____

_____

_____

_____

_____

☐ Mark if photographs are attached

Appendix 5.

Standard Operating Procedures for Municipal Operations

HIGHWAY AND PARKS DEPARTMENT

POLLUTION PREVENTION/GOOD HOUSEKEEPING

FOR MUNICIPAL OPERATIONS:

STANDARD OPERATING PROCEDURES

January 15,2008

POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS:

STANDARD OPERATING PROCEDURES

TABLE OF CONTENTS

Standard Operating Procedures for:

Landscaping and Lawn Care

Purpose: to prevent contamination of stormwater by minimizing contact with fertilizer and by using innovative landscaping techniques

1.	Plant vegetation that needs minimal amounts of care (i.e. water, fertilizer).	Frequency – At time of initial landscaping
2.	Implement landscaping techniques that minimize water usage.	Frequency – At time of initial landscaping
3.	Water just enough to supplement rainfall – use drip irrigation techniques.	Frequency - Always
4.	Minimize fertilizer application, use slow release fertilizers.	Frequency - Always
5.	Mow with blades set high, leave grass clippings on lawn.	Frequency - Always
6.	Use compost or natural (organic) fertilizers.	Frequency – Whenever possible

Standard Operating Procedures for:

Spill Response and Prevention

Purpose: to prevent contamination of stormwater by using proper washing techniques, proper washing locations, and proper disposal of wash water

1.	Monitor equipment storage areas, materials storage areas, and waste storage areas, checking for: fluid leaks, uncovered containers, and deteriorating labels and/or containers, and correct any problems that are noted.	Frequency- Daily
2.	Inspect secondary containment systems (i.e. oil, fuel storage tanks) as necessary, and empty them as necessary.	Frequency- Monthly
3.	Monitor oil/water separators and their downstream discharges. An oily discharge indicates that the unit is either not functioning properly or needs to be "pumped out".	Frequency- Monthly
4.	Install oil absorbent materials in floor drains and/or catch basins, and inspect, remove/replace as appropriate.	Frequency- Monthly
5.	Monitor floor drains and storm receiver inlets and outlets for excessive amounts of contaminants, and clean out as necessary.	Frequency- Monthly
6.	Remove spilled salt from salt loading area, and use or store.	Frequency- Monthly
7.	Document any/all inspection activities on the proper forms.	Frequency – Always
8.	In the event of a chemical spill refer to the Town of Niskayuna Spill Prevention, Control, and Countermeasure Plan.	Frequency – Always

Standard Operating Procedures for:

Pest Control

Purpose: to prevent contamination of stormwater by pesticides which can be toxic to aquatic life and may contaminate receiving waters

1.	Purchase only enough pesticides for 1 year, and store properly.	Frequency – Always
2.	Adopt Integrated Pesticide Management techniques.	Frequency – Always
3.	Adopt alternatives to pesticides options.	Frequency – Always
4.	Eliminate food, water, harborage for pests by implementing routine inspections.	Frequency – Weekly
5.	Inspect pest traps regularly, remove and properly dispose of dead pests.	Frequency – Daily
6.	Minimize pesticide application, use non toxic/lowest toxicity pesticides - (glue boards).	Frequency – As Warranted
7.	Do not apply pesticides immediately before/during rain events.	Frequency – Always

Standard Operating Procedures for:

Pet Waste Collection

Purpose: to prevent contamination of stormwater via contact with pet related wastes

1.	Check for pet waste (i.e. feces, food wastes) each day.	Frequency – Daily
2.	Remove all pet waste, and dispose of properly. Preferred method of disposal is into a toilet for disposal at either a municipal wastewater treatment plant or a septic system.	Frequency – Daily
3.	Document any/all inspection activities on the proper forms.	Frequency – Always

Standard Operating Procedures for:

Septic System Management

Purpose: to prevent contamination of stormwater that may contact septic system effluents

1.	Physically mark the locations of each of the appurtenances that make up the system - septic tank/lid, distribution lines, distribution box, absorption field or sand filter, chlorination tank, and outlet. Then, make a site sketch of the system, and file that document.	Frequency – At time of Construction / Modifications
2.	To prevent damage, never allow heavy equipment to travel on top of the system	Frequency – Always
3.	Prevent materials that are not readily decomposed (i.e. cigarette butts, plastic items, trash) from entering the system.	Frequency – Always
4.	Minimize solids loading by avoiding the use of a garbage disposal, and minimize hydraulic loading by "spreading out" the processes that use water	Frequency – Weekly
5.	Maintain vegetation (optimally, grass) that grows on the system by mowing regularly. Remove all woody vegetative growth.	Frequency – Weekly
6.	Inspect the system, looking for evidence of problems, such as sewage odors, backup of wastewater in sewer lines or the distribution box, "ponding" of wastewater on the ground's surface at the system's components	Frequency – Monthly
7.	Pump out the septic tank as needed.	Frequency – As Warranted
8.	Maintain records of inspections, pump outs. Store contractor information where it is readily available.	Frequency – Always
9.	Document any/all inspection activities on the proper forms.	Frequency – Always

Standard Operating Procedures for:

Vehicle and Equipment Maintenance

Purpose: to prevent contamination of stormwater by using proper maintenance techniques, proper maintenance locations, and retrofitting infrastructure

1.	Conduct maintenance work indoors – dedicate specific vehicle bays, seal floor drain systems.	Frequency – At time of Construction / Modifications
2.	If work is performed outside, protect stormwater drainage conveyances from spills.	Frequency – Always
3.	Clean up spilled materials immediately, using dry methods (absorbents).	Frequency – Always
4.	Install oil/water separators where necessary.	Frequency – At time of Construction / Modifications
5.	Rinse grass from lawn care equipment over permeable, vegetated areas.	Frequency – Always
6.	Never leave vehicles/equipment unattended while refueling.	Frequency – Always
7.	Document any/all inspection activities on the proper forms.	Frequency – Always

Standard Operating Procedures for:

Vehicle and Equipment Washing

Purpose: to prevent contamination of stormwater by using proper washing techniques, proper washing locations, and proper disposal of wash water

1.	Designate a specific vehicle washing bay/facility – the wastewater from the floor drain should flow into an oil/water separator – the treated wastewater should flow to a municipal sanitary sewer line, if possible. If a sanitary sewer is not available, a wastewater permit must be obtained for the floor drain discharges.	Frequency – At time of Construction / Modifications
2.	Close unneeded floor drains.	Frequency – At time of Construction / Modifications
3.	Wash vehicles indoors, using water and limited amounts of detergents for washing – DO NOT OVERUSE DETERGENTS, as they emulsify oils thereby making the oil/water separator less effective.	Frequency – Always
4.	Equip hoses with automatic shutoff devices and spray nozzles.	Frequency – Always
5.	Inspect oil/water separators and floor drain systems periodically to determine maintenance needs.	Frequency – Yearly
6.	Document any/all inspection activities on the proper forms.	Frequency – Always

Standard Operating Procedures for:

Roadway Maintenance

Purpose: to prevent contamination of stormwater as it flows over debris that is deposited on road infrastructure

1.	Pave only in dry weather	Frequency – Always
2.	Cover manholes and catch basins prior to paving, patching, etc.	Frequency – Always
3.	Clean all fluid leaks immediately	Frequency – Always
4.	Maintain roadside vegetation – restrict pesticide use	Frequency – Whenever possible
5.	Sweep/vacuum roadways and shoulders to remove debris, particulate matter	Frequency – Whenever possible

Standard Operating Procedures for:

Alternative Discharge Options for Chlorinated Water

Purpose: to prevent contamination of stormwater that may come into contact with pool water or with treated waters from municipal systems

1.	For each source of chlorinated water which will be discharged, determine whether (or not) a sanitary sewer system is available for that discharge.	Frequency – At time of Construction / Modifications
2.	Prior to discharge, allow disinfectant in the pool to dissipate, or dechlorinate. The disinfectant will break down more quickly in sunny conditions. Check the residual with the proper test kit –the target residual is 0.2 ppm or less.	Frequency –As Needed
3.	If a sanitary sewer is available for discharge, contact the sewer authority/wastewater treatment plant personnel and obtain their guidelines for this activity.	Frequency –As Needed
4.	If no sanitary sewer is available, discharge the water at a slow rate (i.e. using a siphon hose) to a vegetated area so that it can be filtered and absorbed, not to a surface water, storm sewer, or ditch where it can potentially harm aquatic life.	Frequency –As Needed
5.	Discharge during dry weather conditions only.	Frequency – Always
6.	Document any/all inspection activities on the proper forms.	Frequency – Always

Standard Operating Procedures for:

Hazardous and Waste Materials Management

Purpose: to prevent contamination of stormwater by properly storing, handling, and disposing of hazardous and waste materials

1 .	Store all materials/wastes in closed, labeled containers – if outside storage is necessary, the storage area should be sheltered from the weather.	Frequency – Always
2.	Designate storage areas away from floor drains (if inside) and storm receivers (if outside)	Frequency – Always
3.	Install a pretreatment system (oil/water separator) where a potential exists for petroleum products to enter floor drains. Eliminate floor drains if possible	Frequency – At time of Construction / Modifications
4.	Reduce stocks of materials where viable - use “first in/first out” management techniques	Frequency –As Needed
5.	Use least toxic materials	Frequency – Always
6.	Install secondary containment devices where appropriate	Frequency – At time of Construction / Modifications
7.	Recycle/dispose of materials properly	Frequency – Always
8.	Do not mix dissimilar wastes in the same containers	Frequency – Always
9.	Document any/all inspection activities on the proper forms.	Frequency – Always

Standard Operating Procedures for:

Operational By Products/Wastes

Purpose: to prevent contamination of stormwater by preventing "illegal" disposal, and by properly storing, handling, and disposing of facility generated and wastes

FOR FACILITY GENERATED WASTES:

1.	Develop a list of wastes, with associated procedures for handling/storage/recycling/disposal, and provide to staff. Instruct all staff to adhere to this information, and to inform the facility manager if new wastes are generated.	Frequency – Initially, with annual reviews/updates
2.	Secure the facility to prevent access (fence/lock gates)	Frequency – At close of business

FOR MUNICIPAL AREAS THAT ARE SUSCEPTIBLE TO ILLEGAL DUMPING:

1 .	Post/maintain "NO DUMPING" signs, erect barriers to prevent access, illuminate area.	Frequency –As Needed
2.	Patrol areas.	Frequency –As Needed
3.	Maintain areas/remove illegally dumped trash/debris.	Frequency –As Needed
4.	Document any/all inspection activities on the proper forms.	Frequency –As Needed

Standard Operating Procedures for:

Catch Basin and Storm Drain System Cleaning

Purpose: to prevent contamination of stormwater via contact with debris which has been deposited in storm drain systems by performing periodic maintenance

Catch basins

1.	Identify catch basins that need frequent maintenance, and prioritize.	Frequency – Always
2.	During cleaning, identify the need for repair of structure (also pertains to manholes, piping).	Frequency – Always
3.	Clean catch basins when debris has filled it 1/3 of the way to the outlet.	Frequency – Always
4.	Inspect/determine the need for cleaning after storm events.	Frequency – Always
5.	Coordinate catch basin cleaning with related street sweeping events.	Frequency – Whenever possible

Ditches

1.	When cleaning, remove obstacles/debris.	Frequency – Always
2.	Cut/remove vegetation (as opposed to ditch scraping) to allow capture of sediment.	Frequency – Whenever possible
3.	Document any/all inspection activities on the proper forms.	Frequency – Always
4.	ID excessive siltation in ditch - may indicate the need to re-grade the ditch.	Frequency – Always
5.	During ditch scraping, maintain vegetation (downstream in ditch) to capture sediment.	Frequency – Always
6.	If ditch scraping results in bare soil, hydro-seed / mulch the exposed soil upon completion.	Frequency – Always

Standard Operating Procedures for:

Street Cleaning and Maintenance

Purpose: to prevent contamination of stormwater as it comes into contact with debris that has been deposited on roadways

1.	Consider shouldered roads instead of curbed roads	Frequency – At time of Construction / Modifications
2.	Coordinate activity with catch basin cleaning	Frequency – Always
3.	Prioritize street cleaning, perform maintenance routinely	Frequency – Always
4.	Maintain roadside vegetation, re-seed as necessary	Frequency – Whenever possible
5.	Maintain equipment – address fluid leaks immediately	Frequency – At scheduled times
5.	Cover catch basins/storm inlets prior to street maintenance	Frequency – Always
6.	Collect leaves (Autumn)	Frequency – As warranted
7.	Sweep/vacuum sand/salt residues (Spring)	Frequency – As warranted

Standard Operating Procedures for:

Road Salt Storage and Application

Purpose: to prevent contamination of stormwater by using proper storage techniques, and improving application techniques of deicing materials

1.	Store road salt, road salt/sand mixtures in properly sized, covered structure.	Frequency – At time of Construction / Modifications
2.	Order/request salt delivery prior to the onset of winter weather to enable immediate storage (i.e. in salt barn, under tarp) to prevent runoff.	Frequency – At time of purchase
3.	Unload salt deliveries directly into barn, or move inside immediately.	Frequency – At time of delivery
4.	Store salt on highest ground possible.	Frequency – Always
5.	Cover salt loading area or “build into” storage shed.	Frequency – At time of Construction / Modifications
6.	Control spreading speeds, use a wetting agent to minimize “bounce”.	Frequency – As needed
7.	Control spread patterns to concentrate material where it is most effective.	Frequency – Always
8.	Inspect salt storage area, salt loading area to ensure that salt is not exposed to weather.	Frequency – Once daily
9.	Minimize salt usage by calibrating salt application equipment periodically.	Frequency – Weekly
10.	Minimize salt spillage by not exceeding capacities of equipment (i.e. front end loader, truck bed) during loading operations.	Frequency – Always
11.	Always plow when de-icing roads.	Frequency – Always
12.	Reference/use Chemical Application Rate Charts.	Frequency – Always
13.	Consider alternative treatments (plow only, erect snow fence) that do not require the application of materials.	Frequency – As applicable
14.	Document any/all inspection activities on the proper forms.	Frequency – Always

Standard Operating Procedures for:

Construction and Land Disturbance

Purpose: to prevent contamination of stormwater runoff by preventing contact with barren soils and/or capturing silt and sediment prior to leaving the site

1.	Install sediment barriers prior to land disturbance, and maintain.	Frequency – Always
2.	Maintain native vegetation, if possible.	Frequency – Always
3.	Install sediment control devices prior to land disturbance, and maintain.	Frequency – Always
4.	Stabilize site.	Frequency – Always
5.	Maximize opportunities for infiltration.	Frequency – Always
6.	Minimize compaction of soils, limit grading to small areas.	Frequency – Whenever possible
7.	Divert stormwater away from barren slopes.	Frequency – Whenever possible
8.	Refer to the New York Standards and Specifications for Erosion and Sediment Control for further guidance pertaining the proper selection and use of erosion and sediment control practices.	Frequency – As applicable

DEPARTMENT OF WATER AND SEWER

POLLUTION PREVENTION/GOOD HOUSEKEEPING

FOR MUNICIPAL OPERATIONS:

STANDARD OPERATING PROCEDURES

JANUARY 15, 2008

POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS:

STANDARD OPERATING PROCEDURES

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Standard Operating Procedures for:

Landscaping and Lawn Care

Purpose: to prevent contamination of stormwater by minimizing contact with fertilizer and by using innovative landscaping techniques

1.	Plant vegetation that needs minimal amounts of care (i.e. water, fertilizer).	Frequency – At time of initial landscaping
2.	Implement landscaping techniques that minimize water usage.	Frequency – At time of initial landscaping
3.	Water just enough to supplement rainfall – use drip irrigation techniques.	Frequency - Always
4.	Minimize fertilizer application, use slow release fertilizers.	Frequency - Always
5.	Mow with blades set high, leave grass clippings on lawn.	Frequency - Always
6.	Use compost or natural (organic) fertilizers.	Frequency - Always

Standard Operating Procedures for:

Spill Response and Prevention

Purpose: to prevent contamination of stormwater by using proper washing techniques, proper washing locations, and proper disposal of wash water

1.	Monitor equipment storage areas, materials storage areas, and waste storage areas, checking for: fluid leaks, uncovered containers, and deteriorating labels and/or containers, and correct any problems that are noted.	Frequency- Daily
2.	Inspect secondary containment systems (i.e. oil, fuel storage tanks) as necessary, and empty them as necessary.	Frequency- Monthly
3.	Monitor oil/water separators and their downstream discharges. An oily discharge indicates that the unit is either not functioning properly or needs to be “pumped out”.	Frequency- Monthly
4.	Install oil absorbent materials in floor drains and/or catch basins, and inspect, remove/replace as appropriate.	Frequency- Monthly
5.	Monitor floor drains and storm receiver inlets and outlets for excessive amounts of contaminants, and clean out as necessary.	Frequency- Monthly
6.	Remove spilled salt from salt loading area, and use or store.	Frequency- Daily
7.	Document any/all inspection and clean-up activities on the proper forms.	Frequency – Always
8.	In the event of a chemical spill refer to the Town of Niskayuna Spill Prevention, Control, and Countermeasure Plan.	Frequency – Always

Standard Operating Procedures for:

Pest Control

Purpose: to prevent contamination of stormwater by pesticides which can be toxic to aquatic life and may contaminate receiving waters

1.	Purchase only enough pesticides for 1 year, and store properly.	Frequency – Always
2.	Adopt Integrated Pesticide Management techniques.	Frequency – Always
3.	Adopt alternatives to pesticides options.	Frequency – Always
4.	Eliminate food, water, harborage for pests by implementing routine inspections.	Frequency – Weekly
5.	Inspect pest traps regularly, remove and properly dispose of dead pests.	Frequency – Daily
6.	Minimize pesticide application, use non toxic/lowest toxicity pesticides - (glue boards).	Frequency – As Warranted
7.	Do not apply pesticides immediately before/during rain events.	Frequency – Always

Standard Operating Procedures for:

Septic Holding Tank Management

Purpose: to prevent contamination of stormwater that may contact septic holding tank discharge

1.	Prevent materials that are not readily decomposed (i.e. cigarette butts, plastic items, trash) from entering the system.	Frequency – Always
2.	Inspect the system, looking for evidence of problems, such as sewage odors, tank damage, and leaking.	Frequency – Monthly
3.	Pump out the holding tank as needed.	Frequency – As Warranted
4.	Maintain records of inspections, pump outs. Store information where it is readily available.	Frequency – Always
5.	Document any/all inspection pump-out activities on the proper forms.	Frequency – Always

Standard Operating Procedures for:

Vehicle and Equipment Maintenance

Purpose: to prevent contamination of stormwater by using proper maintenance techniques, proper maintenance locations, and retrofitting infrastructure

1.	Conduct maintenance work indoors – dedicate specific vehicle bays, seal floor drain systems.	Frequency – At time of Construction / Modifications
2.	If work is performed outside, protect stormwater drainage conveyances from spills.	Frequency – Always
3.	Clean up spilled materials immediately, using dry methods (absorbents).	Frequency – Always
4.	Install oil/water separators where necessary.	Frequency – At time of Construction / Modifications
5.	Rinse grass from lawn care equipment over permeable, vegetated areas.	Frequency – Always
6.	Never leave vehicles/equipment unattended while refueling.	Frequency – Always
7.	Document all maintenance activities on the proper forms.	Frequency – Always

Standard Operating Procedures for:

Vehicle and Equipment Washing

Purpose: to prevent contamination of stormwater by using proper washing techniques, proper washing locations, and proper disposal of wash water

1.	Designate a specific vehicle washing bay/facility – the wastewater from the floor drain should flow into an oil/water separator – the treated wastewater should flow to a municipal sanitary sewer line, if possible. If a sanitary sewer is not available, a wastewater permit must be obtained for the floor drain discharges.	Frequency – At time of Construction / Modifications
2.	Close unneeded floor drains.	Frequency – At time of Construction / Modifications
3.	Wash vehicles indoors, using water and limited amounts of detergents for washing – DO NOT OVERUSE DETERGENTS, as they emulsify oils thereby making the oil/water separator less effective.	Frequency – Always
4.	Equip hoses with automatic shutoff devices and spray nozzles.	Frequency – Always
5.	Inspect oil/water separators and floor drain systems periodically to determine maintenance needs.	Frequency – Yearly
6.	Document any/all inspection activities on the proper forms.	Frequency – Always

Standard Operating Procedures for:

Roadway Maintenance

Purpose: to prevent contamination of stormwater as it flows over debris that is deposited on road infrastructure

1.	Pave only in dry weather.	Frequency – Always
2.	Cover manholes and catch basins prior to paving, patching, etc.	Frequency – Always
3.	Clean all fluid leaks immediately.	Frequency – Always
4.	Maintain roadside vegetation – restrict pesticide use.	Frequency – Whenever possible
5.	Sweep/vacuum roadways and shoulders to remove debris, particulate matter.	Frequency – Whenever possible

Standard Operating Procedures for:

Alternative Discharge Options for Chlorinated Water

Purpose: to prevent contamination of stormwater that may come into contact with treated waters from municipal systems

1.	For each source of chlorinated water which will be discharged, determine whether (or not) a sanitary sewer system is available for that discharge.	Frequency – At time of Construction / Modifications
2.	Hydrant flushing shall be performed using a flow diffuser.	Frequency – Whenever possible
3.	If chlorine concentrations are above 2 ppm, discharge water to a sanitary sewer, contact the wastewater treatment plant personnel and obtain their guidelines for this activity. If a sanitary sewer is not available, dechlorination equipment must be used to lower the chlorine concentration to less than 2 ppm.	Frequency – Whenever possible
4.	Water from hydrant flushing must not be directly discharged into surface waters or into stormwater collection systems direct upstream from a surface water.	Frequency – Whenever possible
5.	Discharge from hydrant flushing must not be allowed to cause soil erosion.	Frequency – Always
6.	Discharge from hydrant flushing should be directed to vegetated areas to allow for gradual absorption of the chlorinated water.	Frequency – Whenever possible
7.	Discharge during dry weather conditions only.	Frequency – Whenever possible
8.	Document any/all inspection activities on the proper forms.	Frequency – Always

Standard Operating Procedures for:

Hazardous and Waste Materials Management

Purpose: to prevent contamination of stormwater by properly storing, handling, and disposing of hazardous and waste materials

1.	Store all materials/wastes in closed, labeled containers – if outside storage is necessary, the storage area should be sheltered from the weather.	Frequency – Always
2.	Designate storage areas away from floor drains (if inside) and storm receivers (if outside)	Frequency – Always
3.	Install a pretreatment system (oil/water separator) where a potential exists for petroleum products to enter floor drains. Eliminate floor drains if possible	Frequency – At time of Construction / Modifications
4.	Reduce stocks of materials where viable - use “first in/first out” management techniques	Frequency –As Needed
5.	Use least toxic materials	Frequency – Always
6.	Install secondary containment devices where appropriate	Frequency – At time of Construction / Modifications
7.	Recycle/dispose of materials properly	Frequency – Always
8.	Do not mix dissimilar wastes in the same containers	Frequency – Always
9.	Document any/all inspection activities on the proper forms.	Frequency – Always

Standard Operating Procedures for:

Operational By Products/Wastes

Purpose: to prevent contamination of stormwater by preventing "illegal" disposal, and by properly storing, handling, and disposing of facility generated and wastes

FOR FACILITY GENERATED WASTES:

1.	Develop a list of wastes, with associated procedures for handling/storage/recycling/disposal, and provide to staff. Instruct all staff to adhere to this information, and to inform the facility manager if new wastes are generated.	Frequency – Initially, with annual reviews/updates
2.	Secure the facility to prevent access (fence/lock gates)	Frequency – At close of business

FOR MUNICIPAL AREAS THAT ARE SUSCEPTIBLE TO ILLEGAL DUMPING:

1.	Post/maintain "NO DUMPING" signs, erect barriers to prevent access, illuminate area.	Frequency –As Needed
2.	Patrol areas.	Frequency –As Needed
3.	Maintain areas/remove illegally dumped trash/debris.	Frequency –As Needed
4.	Document any/all inspection activities on the proper forms.	Frequency –As Needed

Standard Operating Procedures for:

Sanitary Sewer System Cleaning / Maintenance

Purpose: to prevent contamination of stormwater via contact with debris which has been deposited in storm drain systems by performing periodic maintenance

1.	To prevent contamination of stormwater resulting from sanitary sewer back-ups, perform regular cleaning and inspection of sanitary sewers.	Frequency – As Needed
2.	During cleaning, identify the need for repair of structures (Pertains to manholes, pump stations, and piping).	Frequency – Always
3.	Dispose of material removed from sanitary sewer at the Niskayuna Waste Water Treatment Plant.	Frequency – Always
4.	During backups in the sanitary sewer resulting from high flows, failed pump stations, and plugged lines pumper trucks must be used to avoid sanitary waste from contaminating stormwater and surface waters. The waste collected must be disposed of in the sanitary sewer at a point not affected by the backup. Sanitary waste must never be pumped into or allowed to drain into storm drains or surface waters.	Frequency – Always

Standard Operating Procedures for:

Road Salt Storage and Application

Purpose: to prevent contamination of stormwater by using proper storage techniques, and improving application techniques of deicing materials

1.	Store road salt, road salt/sand mixtures in properly sized, covered structure.	Frequency – At time of Construction / Modifications
2.	Order/request salt delivery prior to the onset of winter weather to enable immediate storage (i.e. in salt barn, under tarp) to prevent runoff.	Frequency – At time of purchase
3.	Unload salt deliveries directly into barn, or move inside immediately.	Frequency – At time of delivery
4.	Store salt on highest ground possible.	Frequency – Always
5.	Cover salt loading area or “build into” storage shed.	Frequency – At time of Construction / Modifications
6.	Control spreading speeds, use a wetting agent to minimize “bounce”.	Frequency – As needed
7.	Control spread patterns to concentrate material where it is most effective.	Frequency – Always
8.	Inspect salt storage area, salt loading area to ensure that salt is not exposed to weather.	Frequency – Once daily
9.	Minimize salt usage by calibrating salt application equipment periodically.	Frequency – Weekly
10.	Minimize salt spillage by not exceeding capacities of equipment (i.e. front end loader, truck bed) during loading operations.	Frequency – Always
11.	Always plow when de-icing roads.	Frequency – Always
12.	Reference/use Chemical Application Rate Charts.	Frequency – Always
13.	Consider alternative treatments (plow only, erect snow fence) that do not require the application of materials.	Frequency – As applicable
14.	Document any/all inspection activities on the proper forms.	Frequency – Always

Standard Operating Procedures for:

Construction and Land Disturbance

Purpose: to prevent contamination of stormwater runoff by preventing contact with barren soils and/or capturing silt and sediment prior to leaving the site

1.	Install sediment barriers prior to land disturbance, and maintain.	Frequency – Always
2.	Maintain native vegetation, if possible.	Frequency – Always
3.	Install sediment control devices prior to land disturbance, and maintain.	Frequency – Always
4.	Stabilize site.	Frequency – Always
5.	Maximize opportunities for infiltration.	Frequency – Always
6.	Minimize compaction of soils, limit grading to small areas.	Frequency – Whenever possible
7.	Divert stormwater away from barren slopes.	Frequency – Whenever possible
8.	Refer to the New York Standards and Specifications for Erosion and Sediment Control for further guidance pertaining the proper selection and use of erosion and sediment control practices.	Frequency – As applicable