Saratoga County Inter-Municipal Stormwater Management Program

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Management Summary

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Executive Summary

In late September 2004 Saratoga County and Cornell Cooperative Extension, acting jointly, created the office of the Saratoga County/Cornell Cooperative Extension Stormwater Management Coordinator. The position is funded through a 2003 Environmental Protection Fund Grant and will remain for a period of at least two years; through September 2006. The creation of this office and the subsequent filling of the position marks the advent of the Saratoga County Intermunicipal Stormwater Management Program (SCI-SWMP).

The SCI-SWMP is a coalition of the fifteen (15) automatically designated "small" Municipal Separate Storm Sewer System (MS4) operators and Saratoga County working cooperatively to implement both the local and County Stormwater Management Programs (SWMP). The purpose of the SCI-SWMP is to create a comprehensive education, outreach, and public participation program serving the needs of all the SCI-SWMP Participants. Additionally, the Coordinator's mission is to facilitate the needs of each of the Participants as they relate to the six minimum control measures of the Phase II Clean Water Act Stormwater Management Regulations.

SCI-SWMP Participating Municipalities & Contacts

Ballston (T) **Joe Whalen**	**Ballston Spa (V)** **John Romano**	**Charlton (T)** **Alan Grattidge**	**Clifton Park (T)** **Mike O'Brien**
Greenfield (T) **Dwayne Wright**	**Halfmoon (T)** **Jeff Williams**	**Malta (T)** **Heather Mallozzi**	**Milton (T)** **Jeff Manning**
Moreau (T) **Joe Patricke**	**Round Lake (V)** **Dixie Lee Sacks**	**Saratoga County** **Tom Speziale**	**Saratoga Springs** **Paul Male**
South Glens Falls **John Benoit**	**Waterford (T)** **Jim Hayes**	**Waterford (V)** **Craig Falcone**	**Wilton (T)** **Keith Manz**

Management Summary
Saratoga County Inter-Municipal Stormwater Management Program
2005

OVERVIEW:

Stormwater Management and Non-point Source Pollution have 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 *at least* 50,000 and not more than 100,000 and an aggregate population density of *at least* 1,000 people per square mile. In addition, these Municipalities must be part of an 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 in the U.S. through implementation of a comprehensive program addressing non-point source (NPS) pollution of surface-and groundwater resources from urban stormwater runoff.

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 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 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, and equipment maintenance.

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 residents of the problems associated with NPS pollution, the daily activities of residents which contribute to NPS pollution, and ways to modify their behavior, attitudes and awareness affecting NPS pollution.

MCM2 is intended to create opportunities for residents, citizen groups, business owners, schools, 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 actively 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 and outfalls into adjacent MS4s. This will aid the efficient management of the MS4. 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.

MCM4, when fully implemented, will create regulatory control of construction activities at the local level as it pertains to erosion and sediment control (E&SC). Municipalities are required to pass a unified Stormwater Law that regulates the E&SC practices of all construction activities disturbing one or more acres of soil within the Municipality. Municipalities must assume this responsibility by issuing permits to construction site operators to control erosion and sediment transport at the site during construction. At a minimum, Municipalities must provide a standard of protection that has been established through the New York State Dept. of Environmental Conservation (DEC) State Pollutant Discharge Elimination System (SPDES) Permit GP-02-01. DEC recommends the use of the Guidelines for Urban Erosion and Sediment Control Manual (the "Blue Book")* as the technical standard for permitees when applying for the local E&SC permit. **Note: The Blue Book is currently out of print and will be replaced with an updated version in the near future. The draft version is available at http://www.monroecountyswcd.org/index_page0060.htm; NY Standards & Specifications for Erosion & Sediment Control.*

MCM5 addresses control of runoff from new and re-development projects, of significant size, post-construction. Although post-construction control has been addressed in the past, Phase II regulations modify traditional runoff control by integrating quantity ***and*** quality stormwater treatment practices. The DEC recommends Municipalities utilize the NYS Stormwater Management and Design Manual as the technical standard for review of stormwater treatment practices, post-construction. Additionally, Municipalities must assess the performance and condition of existing treatment practices, making repairs or replacements (retro-fits) where applicable; for optimum performance.

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 modify 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.

The Phase II program requirements are comprehensive and often complex and will require effort at all levels of government throughout the County and within each regulated Municipality to be successfully executed. Additionally, Phase II must be implemented without the benefit of any direct funding to help defray costs incurred by local governments in creating a Stormwater Management Program and achieving compliance with the NYS DEC GP-02-02 MS4 Permit. Combined, these two facts make the need for innovation, intergovernmental cooperation, and broad public support the primary tools necessary to achieve regulatory compliance, locally, and to successfully implement the Saratoga County Inter-Municipal Stormwater Management Program. We must also look outside the County for opportunities to forge partnerships with adjacent counties and municipalities that have been designated under the Phase II program and are seeking the same solutions. Other agencies

and organizations, both local and national, must be looked to, as well, for partnership opportunities and the resources necessary to create a lasting and effective Stormwater and Non-point Source Pollution Management Program.

Although the focus of the program is stormwater and the attendant pollution generated by runoff that is, in most instances, untreated, the Saratoga County Inter-Municipal Stormwater Management Program has the potential to utilize the Phase II regulation as a tool to more fully incorporate sound and concerted watershed management throughout the County. As growth and development continue to increase, in rate and scope, we must take pro-active control, working to protect our resources, rural character, and future community health and viability, at both the County and local levels.

Section I: Management Objectives
MINIMUM CONTROL MEASURES & PROGRAM MANDATES

The following Section describes the Management Objectives that *must* be met by regulated MS4 Municipalities within Saratoga County to maintain their GP-02-02 Permit. These objectives, however, do not represent the full extent to which the program can be utilized to better protect our water resources. Those aspects and opportunities will be discussed further under Section II: *Program Objectives.*

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?

To satisfy this minimum control measure, the operator of a regulated small MS4 needs to:

- Implement a public education program to distribute educational materials to the community, or conduct equivalent outreach activities about the impacts of Stormwater discharges on local waterbodies and the steps that can be taken to reduce Stormwater Pollution; and

- 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- 2.3 Public Education and Outreach

The NYS-DEC has made the following additional requirements concerning MCM1:

Why: People appreciate their local waterways. They use them for swimming, boating, fishing and shellfishing. Implementing this minimum measure will help them understand what they can do to protect and restore the health of their waterbodies. Well-planned public education and outreach programs will support and help achieve the goals of the other minimum control measures.

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.	A program for this measure might include activities such as: ➢ Speakers to community groups and schools, ➢ Utility bill inserts ➢ News articles or radio spots, ➢ Posters, ➢ Refrigerator magnets, ➢ Displays at events or malls, ➢ Sponsoring an event, and ➢ Providing training

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.

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As evidenced by the generality of the above excerpts local Municipalities 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 a 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.

To procure these and other materials MS4 Municipalities can use the following resources:

The Saratoga County Stormwater Management Program
Cornell Cooperative Extension
Blue R. Neils
Stormwater Management Coordinator
885-8995 ext.224
brn5@cornell.edu

Through an agreement with the DEC Division of Water, the office of the Saratoga County Stormwater Management Coordinator will act as the clearinghouse for all publications available from DEC. Thereby eliminating multiple requests to the DEC for publication orders. This agreement allows us to track the distribution and usage rates within Saratoga County, giving a more direct measure of the relative success of MCM1 (*Public Ed. & Outreach)*.

The office of the Stormwater Management Coordinator has a supply of Stormwater, NPS pollution, and Watershed Management outreach and education materials on hand. The materials address a range of topics and are targeted to a variety of audiences. These materials have been procured for

the express purpose of distribution to and use by the regulated MS4 Municipalities in Saratoga County. MS4 Municipalities are strongly encouraged to utilize the office of the Coordinator as the primary resource in developing and implementing their respective Stormwater Management Programs.

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, commercial/industrial and construction industry 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://cfpub.epa.gov/npdes/stormwater/menuofbmps/menu.cfm.

The Stormwater Phase II Final Rule Fact Sheet Series is valuable background information on the basic needs of a Stormwater Management Program and is useful in explaining the need for such a program, nationally.

ADDITIONAL RESOURCES:

The following organizations also have 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 hosts of 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.

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 storm water 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?

To satisfy this minimum control measure, the operator of a regulated small MS4 must:

- Comply with applicable State, Tribal, and local public notice requirements; and
- Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure. Possible implementation approaches, BMPs (i.e., the program actions and activities).

Excerpt from the EPA Storm Water Phase II Final Rule Fact Sheet Series- 2.4 Public Participation and Involvement

<u>The NYS-DEC has made the following additional requirements concerning MCM2:</u>

Why: MS4s can reap the benefit of a stronger program and higher levels of compliance if they involve people in planning and implementing the SWMP right from the beginning. Important partnerships can be cultivated for planning and implementing the program through the public involvement activities.

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

Table 2: 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 & 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. Make public the agenda of the meeting, the opportunity 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.	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 stakeholders who would like to be apprised of milestones and give input to decisions. ➢ Encouraging citizen volunteer programs for activities like beach cleanups, picking up litter, stream monitoring and field surveys, and storm drain stenciling.

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.

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As is the case with *Public Education and Outreach* Municipalities are given a wide degree of latitude to meet MCM2 requirements. 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(s) 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 meeting a year to review the SWMP. 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 10) and comments should be incorporated into the following year's activities (if possible). This will give each Municipality a window of approximately eighty calendar (80) days to draft an Annual Report (as required by the Permit) and hold a public meeting. The final Annual Report should include Public comments where possible. The Report is due, each year, on or before June 1. It is critical to realize the timing of this annual requirement of the GP-02-02 Permit. The public meeting ***must*** be held ***before*** the June 1 deadline for report submittal. Ample time should remain from the date of the meeting to receive comment and create a Final Report which incorporates public comment. The previous year's meeting and/or comments ***cannot*** be used to fulfill this requirement.

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 hearings. (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.

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

Why Are Illicit Discharge Detection and Elimination Efforts Necessary?

Discharges from MS4s often include wastes and wastewater from non-storm water sources. A study conducted in 1987 in Sacramento, California, found that almost one-half of the water discharged from a local MS4 was not directly attributable to precipitation runoff. A significant portion of these dry weather flows were from illicit and/or inappropriate discharges and connections to the MS4.

What Is Required?

Recognizing the adverse effects illicit discharges can have on receiving waters, the final rule requires an operator of a regulated small MS4 to develop, implement and enforce an illicit discharge detection and elimination program. This program must include the following:

- A storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;
- Through an ordinance, or other regulatory mechanism, a prohibition (to the extent allowable under State, Tribal, or local law) on non-storm water discharges into the MS4, and appropriate enforcement procedures and actions;
- A plan to detect and address non-storm water discharges, including illegal dumping, into the MS4;
- The education of public employees, businesses, and the general public about the hazards associated with illegal discharges and improper disposal of waste; and
- The determination of appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

Table 3: 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.

The NYS-DEC has made the following additional requirements concerning MCM3:

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 NPDES-permitted industrial sources and discharges from fire-fighting activities. 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.

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

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 to either waters of the U.S. or another MS4. Outfalls include pipes,*	A program for this measure might include activities such as the following: ➢ Conduct shoreline surveys ➢ Conduct dye testing ➢ Inspecting storm sewers

ditches, swales and other points of concentrated flow. Prohibit, through an ordinance or other regulatory mechanism, illicit discharges into the storm sewer system and implement appropriate enforcement procedures and actions. 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.	➢ Establishing citizen watchdog groups, and ➢ Developing information brochures for specific audiences.

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.

Table 4 (continued): MCM3 *IDDE* Program Requirements

Requirements	Activities & Practices
Address the following categories of non-stormwater discharge flows as necessary (if 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.	

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.

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The purpose of outfall-mapping is to enable continuous management of the MS4 for illicit discharges. While most Municipalities have a management program in place to maintain the system, most do not do so with the intention of monitoring and mitigating illicit discharges.

GPS units are available through the Saratoga County Stormwater Management Program for Municipalities to use in mapping outfall locations. However, before such a project is undertaken Municipalities should examine all existing maps to prioritize their respective mapping projects. Field location of outfalls and conversion to a GIS format will require dedicated personnel and time. Therefore, the scope of the project should be determined and planned in advance. Often, a large number of the outfalls will already be noted on existing maps and project drawings. Municipalities can save time and money by establishing the level of information needed ahead of time and, therefore, not waste resources re-creating maps and information that already exist. *It is important to note that only those outfalls within the MS4 area need to mapped.*

Understandably, not all the information necessary to meet compliance will exist on the same map or even in the same format (i.e. map size, scale, map quality, precision, site plan v. Municipal map, etc.). Regionally, there are several consulting companies that have the capability (some even specialize in) converting existing, mapped information into a combined and updated digital (GIS) format.

Once all outfalls have been identified and located Municipalities must then implement a monitoring and maintenance program. The purpose is to systematically screen the MS4 for Illicit Discharges and maintain the integrity of that system. A major responsibility of Municipalities is to maintain and improve the MS4, through time, under the GP-02-02 Permit. The parallel responsibility, then, is to actively inspect the MS4 for illicit discharges, thereby minimizing illicit connections/discharges and mitigating the negative impacts to local water quality. Additionally, MS4 outfall maps must be updated periodically. The interval of time between updates is up to the Municipality and would largely depend on the rate of development within the Municipality, the number of new outfalls added annually, and the availability of personnel to accomplish the task.

The other major responsibility of regulated Municipalities is to adopt and enforce a Local Law Prohibiting Illicit connections and discharges into the MS4. This includes definitions of an Illicit connection and/or discharges and fines or other penalties (allowable by State Law under the Home Rule Act) to be levied against individuals or commercial entities that violate said Local Law. This will be most effectively and efficiently accomplished by adopting a *unified* Stormwater Local Law*.

*Regulated Municipalities must adopt Local Laws addressing erosion and sediment control, during construction, and quality and quantity stormwater runoff controls, post-construction for all new projects disturbing one or more acres of soil through clearing and grading (MCM4-5). More will be said regarding this stormwater law in the proceeding sections.

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?

The Phase II Final Rule requires an operator of a regulated small MS4 to develop, implement, and enforce a program to reduce pollutants in storm water runoff to their MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. The small MS4 operator is required to:

- Have an ordinance or other regulatory mechanism requiring the implementation of proper erosion and sediment controls, and controls for other wastes, on applicable construction sites;
- Have procedures for site plan review of construction plans that consider potential water quality impacts;
- Have procedures for site inspection and enforcement of control measures;
- Have sanctions to ensure compliance (established in the ordinance or other regulatory mechanism);
- Establish procedures for the receipt and consideration of information submitted by the public; and
- 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- 2.6 Construction Site Runoff Control

The NYS-DEC has made the following additional requirements concerning MCM4:

Why: Though most communities welcome a certain level of development, construction sites can present a risk to water quality. Proper stormwater management at construction sites will prevent loose soil and other pollution in stormwater runoff from causing significant degradation of our waterbodies.

Construction Activities within a Regulated MS4

According to the federal Phase II stormwater regulations, regulated MS4s must address stormwater runoff from construction activities. Construction activities that disturb greater than one acre are also subject to state requirements and must be covered under an individual or general permit.

MS4s are advised to become familiar with the *SPDES General Permit For Stormwater Discharges from Construction Activity* (GP-02-01) 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 programs.

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.

Table 5: 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 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. The program must include development & implementation of: ➢ An ordinance or other regulatory mechanism to require erosion & sediment controls. ➢ Requirements for construction site operators to implement erosion & sediment control practices. ➢ 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.	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: ➢ Establish an ordinance or other regulatory mechanism. ➢ Develop & implement a training program for construction site operators about State and Local requirements. ➢ Establish procedures for site inspections & enforcement. ➢ Establish a procedure to receive and consider information from the public.

➢ Procedures for receipt and consideration of information submitted by the public. ➢ Procedures for site inspections and enforcement of control measures, and ➢ Education and training measures for construction site operators about (local) requirements. Develop measurable goals and select appropriate management practices to ensure the reduction of all pollutants of concern in construction stormwater discharges tributary to the MS4 to the maximum extent practicable.	

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.

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). 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?

The Phase II Final Rule requires an operator of a regulated small MS4 to develop, implement, and enforce a program to reduce pollutants in post-construction runoff to their MS4 from new development and redevelopment projects that result in the land disturbance of greater than or equal to 1 acre. The small MS4 operator is required to:

- Develop and implement strategies which include a combination of structural and/or nonstructural best management practices (BMPs);

- Have an ordinance or other regulatory mechanism requiring the implementation of post-construction runoff controls to the extent allowable under State, Tribal or local law,

- Ensure adequate long-term operation and maintenance of controls;

- Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

What Is Considered a "Redevelopment" Project?

The term "redevelopment" refers to alterations of a property that change the "footprint" of a site or building in such a way that there is a disturbance equal to or greater than 1 acre of land. The term does not include such activities as exterior remodeling. Because redevelopment projects may have site constraints not found on new development sites, the rule provides flexibility for implementing post-construction controls on redevelopment sites that consider these constraints.

Excerpt from the EPA Storm Water Phase II Final Rule Fact Sheet Series- 2.7 Post-Construction Site Runoff Control

What Are Some Guidelines for Developing and Implementing This Measure?

This section includes some sample non-structural and structural BMPs that could be used to satisfy the requirements of the post-construction runoff control minimum measure. It is important to recognize that many BMPs are climate-specific, and not all BMPs are appropriate in every geographic area. Because the requirements of this measure are closely tied to the requirements of the construction site runoff control minimum measure (see Fact Sheet 2.6), EPA recommends that small MS4 operators develop and implement these two measures in tandem. Sample BMPs follow.

- **Non-Structural BMPs**
    - **Planning and Procedures**. Runoff problems can be addressed efficiently with sound planning procedures. Master Plans, Comprehensive Plans, and zoning ordinances can promote improved water quality by guiding the growth of a community away from sensitive areas and by restricting certain types of growth (industrial, for example) to areas that can support it without compromising water quality.
    - **Site-Based Local Controls**. These controls can include buffer strip and riparian zone preservation, minimization of disturbance and imperviousness, and maximization of open space.
- **Structural BMPs**
    - **Storage Practices**. Storage or detention BMPs control storm water by gathering runoff in wet ponds, dry basins, or multi-chamber catch basins and slowly releasing it to receiving waters or drainage systems. These practices both control storm water volume and settle out particulates for pollutant removal.
    - **Infiltration Practices**. Infiltration BMPs are designed to facilitate the percolation of runoff through the soil to ground water, and, thereby, result in reduced storm water quantity and reduced mobilization of pollutants. Examples include infiltration basins/trenches, dry wells, and porous pavement.
    - **Vegetative Practices**. Vegetative BMPs are landscaping features that, with optimal design and good soil conditions, enhance pollutant removal, maintain/improve natural

site hydrology, promote healthier habitats, and increase aesthetic appeal. Examples include grassy swales, filter strips, artificial wetlands, and rain gardens.

Excerpt from the EPA Storm Water Phase II Final Rule Fact Sheet Series- 2.7 Post-Construction Site Runoff Control

The NYS-DEC has made the following additional requirements concerning MCM5:

Why: As runoff flows over areas altered by development, it picks up pollutants such as oil and grease, pesticides, and heavy metals. Strategies and management practices should be implemented to reduce the amount of pollutants that run off from existing development. Prior planning and design for minimization of pollutants in post-construction stormwater discharges is a cost-effective approach to stormwater quality management for new development and redevelopment.

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.

Table 6: MCM5 *Post-Construction Runoff Control* Program Requirements

Requirements	Activities & Practices
Develop & implement a program that: ➢ Includes a combination of management practices that will reduce the discharge of pollutants to the maximum extent practicable. ➢ Uses an ordinance or other regulatory mechanism to address post-construction runoff from development and re-development, and ➢ Ensures adequate long-term operation and maintenance of management practices, including monitoring. Develop, implement, & enforce a program to address stormwater runoff from new development and re-development projects that disturb one or more acres of land that discharge into the small MS4. Includes projects of less than one acre if: 1) it is part of a larger common plan of development or sale, and 2) it has been designated by the Department to protect water quality and to control water quantities that discharge into the small MS4. Ensure that controls are in place to protect water quality and reduce the discharge of pollutants of	Examples of activities the program for this measure must include are: ➢ Develop and implement structural and non-structural practices to reduce pollutants from existing development. ➢ Develop post-construction strategies that include structural and/or non-structural management practices for new development and re-development. ➢ Develop and/or use zoning ordinances or other kinds of regulatory mechanisms. ➢ Inspect sites.

concern to the maximum extent practicable. Develop, implement, & provide adequate resources for a program to inspect development and re-development sites and to enforce and penalize violations. Develop measurable goals and select appropriate management practices to ensure the reduction of all pollutants of concern in the post-development stormwater discharges to the maximum extent practicable.	

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

Minimum Control Measures 4 & 5 are closely related. Combined, these two aspects of the MS4 Permit manage *all* new construction and re-development projects disturbing one or more acres within regulated Municipalities. These two Measures have, perhaps, the largest degree of importance to Municipalities in Saratoga County. In short these two measures require that regulated Municipalities implement a permit program to regulate and enforce proper erosion and sediment controls, during construction, *and* that proper quantity and quality stormwater control practices be designed into the project to manage stormwater runoff once construction is completed.

At this time *all* regulated Municipalities are expected to pass a unified Stormwater Local Law that incorporates three aspects of regulation and enforcement: **1)** Municipalities must prohibit Illicit connections and discharges into their MS4; **2)** assume permit responsibilities to regulate and enforce erosion and sediment control during project construction; and **3)** regulate the design of new projects to ensure they do not contravene local water quality, effect no net change to project-site hydrology, and effect no net change to the quality of runoff, relative to pre-development conditions, discharged through the MS4 into receiving waters. The deadline for passage of the Law, currently, is the end of the first MS4 Permit cycle; January, 2008.

Municipalities will have to require, review, issue and enforce these permits for all new construction & re-development disturbing one or more acres of soil within their jurisdiction. Currently, the NYS-DEC and the Department of State (DOS) have published a Sample Local Law which can be utilized by Local governments to meet this requirement. Although Municipalities are in no way obligated to adopt the Sample Law, as written, they must provide the same “minimum standard of protection” as the Sample Law.

Not only will Municipalities assume responsibility to issue such permits, they must implement an enforcement mechanism, as well. This will entail delegating 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).

In the interim, regulated Municipalities must work to establish an Education program informing contractors and developers of their responsibilities, under the current, state-wide General

Construction permit (GP-02-01). This is most easily accomplished by asking applicants making proposals before Local Planning Boards if they are aware of and in receipt of the GP-02-01 Permit and by distributing Educational Materials, available through the office of the County Coordinator, that outline the permit and the contractors' responsibilities there in.

Additionally, Local Planning Boards should be fully aware of the fact that Phase II regulations require that all Post-Construction stormwater practices be designed to treat runoff quality as well as manage the quantity of runoff.

A final consideration for Local Planning Boards and Departments is to consider 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. 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.

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?

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.

The NYS-DEC has made the following additional requirements concerning MCM6:

Why: Municipal operation and maintenance activities can become sources of the pollutants that need to be minimized through the SWMP. Good housekeeping measures for municipal operations will reduce or prevent this pollution from entering nearby waterbodies with stormwater runoff.

Table 7: 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.

The *NYS Management Practices Catalogue for Nonpoint Source Pollution Prevention* explains pollution prevention measures for many types of municipal activities such roadway maintenance, marina operations, and hydrologic habitat modification. See the References Section in the back of this booklet for information on obtaining a copy of the *Management Practices Catalogue.*

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 new stormwater treatment practices and the MS4, as a whole.

STATE & LOCAL CONTACTS and RESOURCES

New York State:	
Bill Lupo **Environmental Engineer** DEC Region 5 Warrensburg Office 232 Hudson Street Warrensburg, NY Phone: 623-1228	**Carrie Buetow** **SPDES Phase II Permit Coordinator** DEC Headquarters 402 Broadway Albany, NY Phone: 402-8121
Saratoga County:	
Blue R. Neils **Stormwater Management Coordinator** Saratoga Cornell Cooperative Extension 50 West High Street Ballston Spa, NY 885-8995	**George Hodgson** **Director; Saratoga County Environmental Mgmt Services** 50 West High Street Ballston Spa, NY Phone: 884-4778
John (JEB) Hamilton **Field Manager; Saratoga County Soil & Water Conservation District** 50 West High Street Ballston Spa, NY Phone: 885-6900	**Lawrence Benton** **Director; Saratoga County Planning** 50 West High Street Ballston Spa, NY Phone: 884-4705
Local MS4 Contacts:	
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Charlton (T) **Alan Grattidge; Town Council Member** 784 Charlton Road Charlton, NY 12019 Phone:384-0152	**Clifton Park (T)** **Mike O'Brien; Environmental Specialist** 1 Town Hall Plaza Clifton Park, NY 12065 Phone: 371-6651
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Malta (T) **John Zepko; Building & Planning** 2540 Route 9 Malta, NY 12151 Phone: 899-2685	**Milton (T)** **Jeff Manning; Town Highway Department** 503 Geyser Road Milton, NY 12020 Phone: 885-5655
Moreau (T) **Joe Patricke; Code Enforcement Officer** 61 Hudson Street So. Glens Falls, NY 12803 Phone: 792-4762	**Round Lake (V)** **Dixie Lee Sacks; Mayor** Box 85 Round Lake, NY 12151 Phone: 899-2800
Saratoga County **Tom Speziale; Senior Engineer, DPW** 3654 Galway Road Ballston Spa, NY 12020 Phone: 885-2235	**Saratoga Springs (C)** **Paul Male; City Engineer** 474 Broadway Saratoga Springs, NY 12866 Phone: 587-3550
South Glens Falls (V) **John Benoit; Superintendent, DPW** 46 Saratoga Avenue So. Glens Falls, NY 12803 Phone: 793-1455	**Waterford (T)** **Jim Hayes; Highway Superintendent** 31 South Street Waterford, NY 12188 Phone: 235-3413
Waterford (V) **Craig Falcone; Stormwater Officer** 65 Broad Street Waterford, NY 12188 Phone: 235-9898	**Wilton (T)** **Keith Manz; Town Engineer** 22 Traver Road Wilton, NY 12831 Phone: 587-1939

REFERENCES & RESOURCES

Stormwater Guidance Manual for Local Officials (DEC & DOS Joint Publication)

Background, Overview and Outline of Local Stormwater Management Plans incl. Sample Local Construction/Post-Construction Law.
Hard Copy: Jill Knapp; Div. of Water 518-402-8268; CD: NYS DOS; Div. of Local Government phone: 473-3355

NYS Management Practice Catalogs

- **Construction**
- **Roadway and Right-Of-Way Maintenance**
- **Urban/Stormwater Runoff**

Structural, vegetative or operational practices that can be used as appropriate to control or prevent pollution from runoff
NYSDEC-Division of Water, Thomas Boekeloo; Telephone: (518) 402-8250.
E-mail: thboekel@gw.dec.state.ny.us

NYS Guidelines for Urban Erosion and Sediment Control (Blue Book)*

Catalogue of Erosion and Sediment Control Practices for Construction currently accepted by the Department of Environmental Conservation.
Hard Copy: Saratoga County Soil & Water Conservation District; Doreen Clemens, Office Manager phone: 885-6900 email: saratogaswcd@ny.nacdnet.org
PDF Download: http://www.dec.state.ny.us/website/dow/mainpage.htm
*NOTE: *The revised and updated edition is not currently available.*

NYS Stormwater Design Manual

Catalogue of qualitative and quantitative stormwater treatment practices for Post-Construction runoff control currently accepted by the Department of Environmental Conservation.
Hard Copy: Saratoga County Soil & Water Conservation District; Doreen Clemens, Office Manager phone: 885-6900 email: saratogaswcd@ny.nacdnet.org
PDF Download: http://www.dec.state.ny.us/website/dow/toolbox/techstan.html

Reducing the Impacts of Stormwater Runoff

William Morton, DEC Division of Water; Bureau of Water Quality Management
Overview, siting, sizing, performance criteria for stormwater treatment practices, Post-Construction.
PDF Download: http://www.dec.state.ny.us/website/dow/toolbox/ms4toolbox/ms4_tools.html

Getting In Step: A Guide for Conducting Watershed Outreach Campaigns

U.S. Environmental Protection Agency (EPA), Publication Number EPA 841-B-03-002
How to maximize partnerships and interested stakeholder participation to implement effective outreach & education.
National Service Center for Environmental Publications; phone: 1-800-490-9198 Website: www.epa.gov/ncepihom

NYS Local Government Handbook

Department of State Publication; Covers all aspects of Local Governance, Legal Responsibilities & Rights.
Hard Copy or CD: NYS Department of State 41 State Street Albany, NY 12231-0001 phone: 473-3355
PDF Download: http://www.dos.state.ny.us/lgss/publist.htm

On the Web

DEC: http://www.dec.state.ny.us/website/dow/index.html	**EPA:** http://cfpub.epa.gov/npdes/home.cfm?program_id=6
Center for Watershed Protection: www.cwp.org	**Stormwater Manager's Resource Center:** http://www.stormwatercenter.net/
NEMO: Non-point Education for Municipal Officials http://nemo.uconn.edu/index2.htm	**LEAPE: Locally led Education & Action to Protect the** Environment; http://www.css.cornell.edu/LEAPE/index.html
NYS DOT; Environmental Analysis Bureau: http://www.dot.state.ny.us/eab/eab.html	**Saratoga Intermunicipal Stormwater Management Program:** http://www.saratogastormwater.org