

Town of Caroline



Stormwater Management Program Plan

(Draft 7/15/16; **Approved**)

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LIST OF ACRONYMS/DEFINITIONS

BMP	Best Management Practice: defined by DEC as scheduled activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spillage and leaks, sludge or waste disposal, or drainage from areas that could contribute pollutants to stormwater discharges. BMPs are referred to in EPA's fact sheets and other materials. BMPs are also referred to as 'activities' or 'management practices' throughout the DEC SPDES general permit.
BSD	Better Site Design
CSI	Community Science Institute
DEC	Department of Environmental Conservation
EPA	Environmental Protection Agency
GH	Good Housekeeping
GP	General Permit
IDDE	Illicit Discharge Detection and Elimination
IO	Cayuga Lake Watershed Intermunicipal Organization
LID	Low Impact Development
MCM	Minimum Control Measure
MEP	Maximum Extent Practicable: defined by DEC as a technology-based standard established by Congress in the Clean Water Act §402(p)(3)(B)(iii). Because no precise definition of MEP exists, it allows for maximum flexibility on the part of MS4 operators as they develop their programs.
MS4	Municipal Separate Storm Sewer System
NYS	New York State
POC	Pollutant of Concern
PP	Pollution Prevention
SPDES	State Pollutant Discharge Elimination System
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
TCSWCD	Tompkins County Soil and Water Conservation District

Introduction

This Stormwater Management Program (SWMP) Plan has been developed to comply with the New York State Department of Environmental Conservation General Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4; GP-0-15-003) for a Traditional Non-Land Use Control Municipality. US Environmental Protection Agency Stormwater Phase II Rule, issued in 1999, requires MS4 owners and operators, in US Census-defined urbanized areas and in additionally designated areas, to develop a Stormwater Management Program. There are six program elements designed to reduce the discharge of pollutants to the maximum extent practicable (MEP). The program elements, referred to as Minimum Control Measures (MCMs), include the following:

1. Public Education and Outreach;
2. Public Involvement / Participation;
3. Illicit Discharge Detection and Elimination;
4. Construction Site Runoff Control;
5. Post-Construction Stormwater Management;
6. Pollution Prevention / Good Housekeeping for Municipal Operations.

This document describes each MCM and the Best Management Practices (BMPs) that have been implemented to maintain compliance with the NYSDEC GP-0-15-003. The SWMP Plan will be reviewed on an annual basis and updated as necessary to account for progress made and in order to take into consideration the latest technologies and information while maintaining compliance with the NYSDEC GP-0-15-003.

Minimum Control Measure 1: Public Education and Outreach on Stormwater Impacts

1. Description of Minimum Control Measure

The Public Education and Outreach MCM consists of Best Management Practices (BMPs) that focus on the development of educational materials, demonstration activities and training sessions designed to inform the public about the impacts that stormwater discharges have on local water bodies. The Public Education and Outreach program and BMPs, in combination, are expected to reach all of the constituents within the MS4's permitted boundary.

2. General Permit Requirements

At a minimum, *all* covered entities must:

- a. Identify Pollutants of Concern, waterbodies of concern, geographic areas of concern, target audiences.
 - **Pollutants of Concern**: Include sediment, nutrients, and pathogens. Sources of these pollutants include agricultural activities, stream bank erosion, failing on-site systems, chemicals used on residential lawns, and construction site runoff.
 - **Waterbodies of Concern**: Cayuga Lake plus major tributaries: Six Mile Creek, West Branch Owego Creek
 - **Geographic Area of Concern**: the entire Town is designated as participating in the MS4
 - **Target Audiences**: The Town of Caroline in cooperation with the Stormwater Coalition of Tompkins County and Soil and Water Conservation District target contractors, school students, residents, developers, industries, and municipal officials and staff.
- b. Implement an ongoing public education and outreach program;
- c. Modify measurable goals as needed;
- d. Select and implement appropriate education and outreach activities and measurable goals to ensure the reduction of all POC's in stormwater discharges to MEP.

3. Program Elements

Floating Classroom: The Floating Classroom (FC) offers educational programs to local schools and the general public aboard their boat, the M.V. Haendel. Educational programs

offered include:

- Floating Classroom Trips for area schools - Students receive pre-cruise classroom presentations on watersheds and stormwater, plus 3 hours of programming on the lake.
- Eco-Cruises -the FC offers “Eco-cruises” to the general public on the weekends. The cruise features elements of a narrated tour and optional hands-on activities for all ages. The goal of the cruises is to help everyone develop an understanding of Cayuga Lake and the role it plays in our communities.
- Trout in the Classroom - from late October through May of the following year, FC sets up cold-water trout aquariums in participating classrooms throughout Tompkins County. Over 6 months, the students raise the trout, from eggs to fry, in their classroom. They care for the trout, monitor aquarium water quality and learn about streams. In the spring, the class releases the surviving trout fingerlings into adopted streams in their community.

Coalition Sponsored Trainings: The Stormwater Coalition of Tompkins County provides trainings to municipal members/staff and town/village/county boards on stormwater related topics. The following trainings have been offered: Green Infrastructure training focusing on green infrastructure practices and runoff re-education calculations (target municipal officials, consultants preparing SWPPP with post-construction controls), green infrastructure tour (targeting planning board members), and illicit discharge detection and elimination training.

Contractor Trainings: TCSWCD sponsors multiple NYSDEC endorsed 4-Hour Erosion and Sediment Control Trainings for contractors and municipal staff a year. Tompkins County Highway holds a yearly training for contractors who would like to be added on the County’s list of approved contractors to install driveway culverts on County Roads. This training is mandatory.

TCSWCD newsletter: TCSWCD issues a newsletter once a year. The newsletter contains stormwater related articles, announcements of stormwater trainings, announcements of recycling events/pollution prevention events (tire recycling), and notification of tree/shrub sale.

Coalition Website The Stormwater Coalition of Tompkins County (www.tcstormwater.org) developed a website in 2012 to provide information to the public and contractors in Tompkins County. The website went live in February 2013. The website is being further developed to include all local stormwater laws, procedures for SWPPP review, and actions homeowners can take to reduce stormwater pollution.

Watershed Forums: The Community Science Institute (CSI) holds a “What’s in Your Watershed Forum” once a year highlighting the work of volunteer water monitors and topics of interest or concern in that specific watershed. A forum is held in each watershed that is monitored, the watersheds include Six Mile Creek, Cayuga Inlet, Salmon Creek, Fall Creek, Taughannock Creek, and Trumansburg Creek.

4. Measurable Goals

Overall Goal			
Stormwater education: Provide education to the town residents, contractors, public employees, and school students on stormwater, the importance of stormwater management, what pollutants are carried in stormwater, and how waterbodies are impacted.			
Audience	Activity	Responsible Party	Measurable Goal
Town Residents	Stormwater information on website. Topics include: lawn chemical use; car washing; motor oil handling, care of septic systems	County, TCSWCD	Revisit website on seasonal basis to update information, check links, and determine if additional information should be posted
Town Residents	SW Articles in TCSWCD Newsletters, notices of training opportunities	TCSWCD	Once per year include a stormwater article in the TCSWCD newsletter and mail to County residents
Town Residents	Watershed Education	Community Science Institute (County contributes yearly)	Hold watershed forums at least once a year, and more as CSI funding and staffing allows.
Contractors	Conduct NYSDEC 4-hour contractor training	TCSWCD	Hold 2 trainings a year, more added as needed.
Town Residents	Water Quality monitoring	CSI (Town contributes funding)	Obtain measurements of water quality, trainings, and presentation of results
School students	Trips on Floating Classroom	IO (County is a member)	Continue supporting Floating Classroom. Annual report (when available) as appendix.
Contractors	Conduct training for contractors on County list to install driveway culverts	TC Highway	Hold one training annually
Municipal Staff and Board Members	Coalition Sponsored Trainings	Stormwater Coalition	Hold one training annually



Minimum Control Measure 2: Public Involvement / Participation

1. Description of Minimum Control Measure

The Public Involvement and Participation MCM consists of a set of BMPs that are focused on getting members of the local community involved in the MS4's municipal stormwater management program. Compliance with State and local public notice requirements will be maintained whenever public participation is sought or required.

2. General Permit Requirements

At a minimum, *all* covered entities must:

- a. Comply with State Open Meetings Law and local public notice requirements when implementing a public involvement / participation program;
- b. Implement a public involvement/participation program that (1) identifies key individuals and groups, public and private, who are interested in or affected by the SWMP; (2) identifies types of input the covered entity will seek from the key individuals and groups to support development and implementation of the SWMP program and how the input will be used; (3) describes the public involvement/participation activities the Town will undertake to provide program access to those who want it and to gather the needed input. The activities include a water quality hotline, stewardship activities (stream cleanups), storm drain marking, and volunteer water quality monitoring; and (4) provide the opportunity for the public to participate in the development, implementation, review and revision of the SWMP.
- c. Local Stormwater public contact;
- d. Annual Report Presentation;
- e. Record, periodically assess and modify as needed measurable goals;
- f. Select and implement appropriate public involvement / participation activities to ensure the reduction of all the POC's stormwater discharges to the MEP.

3. Program Elements

Stormwater Annual Report Public Meeting / Water Resources Council: The Stormwater Annual Report is presented to the WRC and interested members of the public in June. The WRC meeting provides a forum for public input and comment on the annual report. The Tompkins County Water Resources Council (WRC) was developed in 2001 to advise the Tompkins County Legislature on matters related to water resources management and planning, and is charged with identifying problems, proposing priorities, and promoting the coordination of activities in the management and protection of the County's water resources. The WRC provides a public forum for local communities and stakeholder groups to address and discuss their water resources concerns, and it is the intent of the group to coordinate the water resources-related efforts of local governments, public and private institutions, and agencies and organizations throughout the County.

Riparian Buffer Plantings: Tompkins County Planning Department organizes riparian buffer plantings with youth (cub scouts, school groups) and other volunteers. Volunteers help with planting of vegetation to create riparian buffers.

Pharmaceutical Collection: The Coalition for Safe Medicine Disposal holds multiple events through the year to collect unwanted medication from households in Tompkins County. The medication is sent for incineration. By incinerating the collected medications, they are removing the pollutant risk to water resources. The Coalition is made up of community volunteers and representative from: Community Coalition for Healthy Youth, Ithaca Area Wastewater Treatment Facility, Lifelong, Tompkins County Administration, Tompkins County Health Department, and Tompkins County Sheriff's Department.

Household Hazardous Waste Collection: The Tompkins County Solid Waste Management Division (TCSWMD) offers a permanent location to accept HHW from Tompkins County residents and qualified businesses and organizations that are Conditionally Exempt Small Quantity Generators (CESQG). Material is accepted at the Recycling and Solid Waste Center's D.E.P.O.T. - Don't Empty Pollutants in Our Trash. Approximately 6 events are held throughout the year.

Floating Classroom: The Floating Classroom (FC) offers educational programs to local schools and the general public aboard their boat, the M.V. Haendel. Educational programs offered include:

- Floating Classroom Trips for area schools - Students receive pre-cruise classroom presentations on watersheds and stormwater, plus 3 hours of programming on the lake.
- Eco-Cruises -the FC offers "Eco-cruises" to the general public on the weekends. The cruise features elements of a narrated tour and optional hands-on activities for all ages. The goal of the cruises is to help everyone develop an understanding of Cayuga Lake and the role it plays in our communities.
- Trout in the Classroom - from late October through May of the following year, FC sets up cold-water trout aquariums in participating classrooms throughout Tompkins County. Over 6 months, the students raise the trout, from eggs to fry, in their classroom. They care for the trout, monitor aquarium water quality and learn about streams. In the spring, the class releases the surviving trout fingerlings into adopted streams in their community.

4. Measurable Goals

Overall Goal			
Public participation: Provide opportunities for public participation and input on stormwater management programs to encourage broad public participation and partnership to improve the water quality of Cayuga Lake and tributary streams.			
Audience	Activity	Responsible Party	Measurable Goal
Town Residents	Stormwater information on website	County, TCSWCD	Revisit website annually to update information, check links and add additional information, if necessary
Town Residents	Water quality monitoring, watershed forums	CSI (County contributes funding yearly)	Conduct 4 monitoring events a year in each watershed. Hold one or more watershed forums a year
Town Residents	Annual report public meeting	TCSWCD/County Water Resources Council	Hold the stormwater annual report meeting at the May Water Resources Council Meeting to obtain input from the WRC and the public
Town Residents	Plant riparian buffers to protect/improve water quality	County Planning	Track riparian buffer planting, as implemented by County Planning
Town Residents	Pharmaceutical Collection	Coalition for Safe Medicine Disposal, which the County is part of	Hold two pharmaceutical collection events annually. Maintain 9 permanent drop boxes for year round medication disposal
Town Residents	Household Hazardous Waste Collection	Tompkins County Solid Waste	Hold six hazardous waste collection events annually
School students	Trips on Floating Classroom	IO (County contributes funding)	Offer "Eco-Cruises" from July - September for the public. Conduct floating classroom charters with local schools

Minimum Control Measure 3: Illicit Discharge Detection and Elimination

1. Description of Minimum Control Measure

The Illicit Discharge Detection and Elimination minimum control measure focuses on the detection and elimination of illicit discharges into the MS4. Federal regulations define illicit discharge as any discharge to an MS4 that is not composed entirely of stormwater. Some exceptions include discharges related to emergencies (firefighting) and clean water releases not associated with storm events.

2. General Permit Requirements

At a minimum, the Town must:

- a. Develop (for newly authorized MS4s), implement and enforce a program to detect and eliminate illicit discharges 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 determined using GIS or other tools, even if they extend outside of the urbanized area (to facilitate trackdown), 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 trackdown, 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 discovered within the urbanized area or additionally designated area;

f. Prohibit illicit discharges into the small MS4 and implement appropriate enforcement procedures and actions below, as applicable:

- effectively prohibit, through a law, ordinance, or other regulatory mechanism, illicit discharges into the small MS4 and implement appropriate enforcement procedures and actions

- the law, ordinance, or other regulatory 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" developed by the State, as determined and certified to be equivalent by the attorney representing the small MS4

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

h. Address the categories of non-stormwater discharges or flows as necessary.

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

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

3. Program Elements

Respond to Illicit Discharge Complaints: Tompkins County Health Department has a system in place to respond to complaints of failed septic systems and conduct complaint investigations related to the County Sanitary Code. Complaints as well as septic system replacements are tracked and the Code Enforcement Officer (CEO) of the particular municipality receives copies of septic replacements and complaint investigations are copied to both the CEO and Town supervisor.

Outfall Mapping: Outfall mapping started in 2007 by the Town of Ithaca. Outfalls in the "urbanized area" of each municipality in the Stormwater Coalition (including outfalls on County roads within these urbanized areas) were mapped. The data has been given to each municipality and TCSWCD. Tompkins County Highway is currently transitioning to asset management software. Once this transition occurs, the Highway Department will incorporate the outfall locations/information into this software, as well as map County-owned culverts.

Public Education: A website is currently under development for the Stormwater Coalition. One of the pages will specifically address illicit discharges and improper disposal of waste. The website will highlight the County programs already in place to prevent illicit discharges such as the household hazardous waste recycling program and the pharmaceutical collection program.

Local Law: The Town is currently getting the drafted "Town of Caroline Ground Water Protection Law" into effect. With this new law, groundwater resources are to be protected through prohibition of activities which pose high risk in contaminating groundwater via hazardous wastes and substances. Tompkins County Department of Health handles illicit discharges, but is limited to only sewer systems. Once the law is in effect, it is enforceable through the Code Enforcement Office. Inspections of any illicit discharge into a waterway will be covered within this law. The law covers chemical spills and discharges of toxic and hazardous substances that threaten water resources that recharges subsurface aquifers, effectively addressing illicit discharges and eliminating them.

4. Measurable Goals

Activity	Responsible Party	Measurable Goal
<p>Respond to IDDE Complaints: Respond to complaints of failed septic systems and assist homeowners with repairing or replacing the septic system.</p>	<p>Tompkins County Health Department</p>	<p>Respond to 100% of failed septic system complaints.</p>
<p>Outfall mapping: Develop and maintain a map showing outfall locations and receiving water body; update map with new or newly discovered outfalls.</p> <p>County is transitioning to asset management software and will be mapping culverts county wide and importing outfall data collected by Town of Ithaca into this system.</p>	<p>TCSWCD/Stormwater Coalition</p> <p>County mapping will occur following transition to asset management software.</p>	<p>Map culverts, catch basins, and ditches in urbanized areas (UA) in 2016 and expand mapping outward from UA. Update map as needed.</p>
<p>Storm sewershed mapping: Determine boundaries of storm sewer-sheds that originate in urbanized area.</p>	<p>TCSWCD/Stormwater Coalition</p>	<p>Map 10% of the sewer-shed boundaries each year</p>
<p>Identify illicit connections during dry weather survey: Conduct an outfall reconnaissance inventory, addressing each outfall at least once every five years.</p>	<p>Tompkins County Highway</p>	<p>Conduct an outfall reconnaissance inventory on 20% of the outfalls each year.</p>
<p>Prohibit illicit discharges into the storm sewer system: Adopt a local law (Storm Sewer System and Surface Waters Protection), update as necessary.</p>	<p>Town of Caroline</p>	<p>Through new “Town of Caroline Ground Water Protection Law”, prevent illicit discharges into stormwater system that would contaminate groundwater supplies.</p>
<p>Public education: Develop a stormwater program website for businesses and County residents that includes information on illegal discharges and improper disposal of waste.</p>	<p>TCSWCD per contract with Stormwater Coalition of Tompkins County is currently developing a website. Will highlight County programs in place to prevent illicit discharges (household hazardous waste recycling, pharmaceutical collection)</p>	<p>Create an IDDE web page on the coalition website.</p> <p>Update the IDDE web page on a yearly basis and add additional information, if necessary.</p>
<p>Assess and update measurable goals.</p>	<p>Annually</p>	

Minimum Control Measure 4: Construction Site Stormwater Runoff Control

1. Description of Minimum Control Measure

The Construction Site Stormwater Runoff MCM consists of BMPs that focus on the reduction of pollutants to the MS4 from construction activities that result in a land disturbance of greater than or equal to one-half acre. Reduction of stormwater discharges from construction activities disturbing less than one acre will be considered if they are part of a larger common plan of development or sale that would disturb one-half acre or more.

2. General Permit Requirements

At a minimum the Town must:

- a. Develop, 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-half acre.
 - 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 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:
- 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.

3. Program Elements

SWPPP Review: Tompkins County Highway staff review SWPPPs for private projects if the project is adjacent to or impacts the County right of way or drainage patterns.

Contractor Education: The Highway Department conducts a yearly training for contractors on driveway culvert installation. The training addresses erosion and sediment control and the SPDES General Permit for Stormwater Discharges from Construction Activity. The training is a requirement for contractors installing driveway culverts on County roads.

Hydroseeding: The County purchased a used hydroseeder from Tompkins County Soil and Water Conservation District (TCSWCD) in order to immediately address cleaned road ditches. Following cleaning of road ditches the County hydro seeds the banks to stabilize the banks and prevent erosion and downstream sedimentation.

Local Law: The Town of Caroline Ground Water Protection Law mandates proper cover for hazardous materials to control stormwater runoff contamination. This law is in the process of undergoing approval and when in effect will allow for the enforcement of construction sites that do not comply with measures to protect runoff. Currently only discharges into private sewer systems can be investigated and regulated by the Department of Health in Tompkins County. This law will allow the town to regulate discharges outside the sewer systems.

4. Measurable Goals

Activity	Timeframe	Measurable Goal
Require SWPPPs for land disturbance >1/2 acre:	Ongoing	Implement Local Law and review on annual basis to make necessary updates/ changes
Review and certify SWPPP: Track the number of SWPPPs reviewed.	Ongoing	Review 100% of SWPPP submitted
Educate contractors: Provide training to contractors installing driveway culverts. The County maintains a list of contractors, which they sub-contract with to install driveway culverts on County Roads. In order to be added to this list, the contractor must attend training provided by the Highway Department. The training covers the requirements set forth in GP-0-15-003.	Yearly	Hold one training annually. Review and modify the training, if necessary the training materials.
Hydroseeding of open road ditches: volume of grass seed (lb), hydroseed material.	Ongoing	Hydroseed 100% of open road ditches after cleaning
Purchase of Hydroseeder: County purchased a used hydroseeder from TCSWCD in order to hydroseed road ditches immediately following cleaning.	Ongoing	
Town Law: Prohibit and enforce runoff with pollutants of concern as described in depth in the law's text from construction sites.	As soon as the law is approved it will be Ongoing	Eliminate any construction site runoff that does not comply with the new town law.

Minimum Control Measure 5: Post-Construction Stormwater Management

1. Description of Minimum Control Measure

The Post Construction Stormwater Management MCM consists of goals that focus on the prevention or minimization of water quality impacts from both new and re-development projects that disturb one-half acre or more. This includes projects less than one-half acre that are part of a larger common plan of development, or sale that discharge into the MS4.

2. General Permit Requirements

At a minimum the Town 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-half acre. Control of stormwater discharges from projects of less than one-half 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 State 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 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.

b. Develop (for newly authorized MS4s), implement, and provide adequate resources for a program to inspect development and re-development 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.

3. Program Elements

1/2 Acre Land Disturbance Cutoff: The Town of Caroline has unique topography in Tompkins as there is great variance in the slope gradient. Taking this into account, the Town of Caroline imposes a stricter land disturbance cutoff of half an acre as opposed to the NYS DEC required one acre (see Local Law 2-2007).

Stream Buffer Policy: Tompkins County implemented a stream buffer policy in 2006 to promote protection of stream banks thereby supporting stream water quality. A model ordinance, easement, buffer agreement, and planting guides were developed in 2009. These tools have been successfully utilized to protect, plant, or enhance 12,185 linear feet of stream edge.

Aquifer Protection Law: As with MCM 4, the Town of Caroline Ground Water Protection Law will mandate that materials that pose stormwater runoff concerns have appropriate cover or containment to comply with the new law, which will cover post-construction zones. The law will grant regulatory agencies within the Town to ensure compliance through penalty and investigation.

4. Measurable Goals

Activity	Timeframe	Measurable Goal
Require post-construction stormwater runoff controls for land disturbance >1/2 acre listed in Table 2 of GP-0-15-003:	Ongoing	Review 100% of SWPPPs requiring post-construction controls.
Inventory post-construction stormwater management practices: Add to spreadsheet as needed.	Update as new practices are added.	Inventory X% of post-construction controls annually.
Inspect post-construction stormwater management practices: Annual inspection of practices	Open channels inspected on a yearly basis	Inspect X% of open channels on a yearly basis
Stream Buffer Policy Implementation: Tompkins County instituted a stream buffer policy in 2006.	This is an ongoing program.	Track conservation/planting efforts on a yearly basis (square feet of buffers planted). Materials are available for municipalities and the public on the Planning website.
Aquifer Protection Law: Prohibit and enforce runoff with pollutants of concern as described in depth in the law's text from construction sites post-construction.	As soon as the law is passed, will be ongoing	Eliminate stormwater polluted runoff from construction zones post-construction.

Minimum Control Measure 6: Pollution Prevention and Good Housekeeping

1. Description of Minimum Control Measure

The Pollution Prevention / Good Housekeeping (PP/GH) minimum control measure consists of Best Management Practices (BMPs) that focus on training and the prevention or reduction of pollutant runoff from municipal operations.

2. General Permit Requirements

At a minimum, the MS4 must:

a. Develop 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, and procedures that will be developed and implemented to reduce or prevent the discharge of (potential) pollutants.

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-0-15-003) 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. 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, 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 impacts to surface water.

3. Program Elements

Training for Highway Department Staff: All highway staff is required to attend “MSDS” and “Right to Know” training on a yearly basis. The MSDS training covers substances that are used and can be found in County facilities and how to appropriately handle these substances and what to do if a spill occurs. The Right to Know training covers the County’s responsibilities in relation to what information needs to be given to employees and where the information is located.

Vehicle Maintenance: The County maintains and repairs all vehicles. An oil/water separator was purchased and is located at the highway facility in the main equipment parking lot, adjacent to the mechanic bays.

Storm Sewer System Cleaning: County Highway Departments cleans the storm sewer system on a yearly basis. Cleaning includes ditches and the piped stormwater conveyance system. The County owns a vacuum truck that is used to clean the pipe storm sewer system.

4. Measurable Goal

Activity	Timeframe	Measurable Goal
Training for Town of Caroline Highway Department Staff:	Ongoing	Training for new hires and as new information becomes available
Vehicle Maintenance	Ongoing	Inspect and maintain oil water separator on an X basis.
Storm sewer system cleaning: Track maintenance of storm sewer system.	Yearly, by County Highway Department	Clean ditches and piped storm sewer system annually.
Develop good housekeeping/pollution prevention plan: Keep plan at Highway Barn and update as necessary. Document self-assessments and annual maintenance procedures.		GH/PP Plan includes; Spill response and prevention; vehicle/equipment maintenance; hazardous and waste materials management; roadway maintenance; road salt storage and application; catch basin and storm drain system cleaning; waste dumping; construction and land disturbance

APPENDICES

Appendix A: Intermunicipal Agreement

MEMORANDUM OF AGREEMENT TO CREATE THE STORMWATER COALITION OF TOMPKINS COUNTY

WHEREAS, the United States (U.S.) Environmental Protection Agency (EPA) promulgated the Phase II stormwater regulations (regulations) in 1999 that require owners and operators of small Municipal Separate Storm Sewer Systems (MS4s) in urbanized areas to obtain a permit to discharge stormwater to the waters of the U.S.; and

WHEREAS, the EPA requires MS4s in New York State to obtain permit coverage under the New York State Pollutant Discharge and Elimination System (SPDES) General Permit for Stormwater Discharges from MS4s (GP-0-15-003); and

WHEREAS, to maintain coverage under GP-0-15-003, regulated MS4s must prepare and implement a stormwater management program that includes the six minimum control measures as described in GP-0-15-003, or demonstrate that the program provides at least equivalent protection; and

WHEREAS, the MS4s in Tompkins County receiving GP-0-15-003 coverage have been meeting since October 2003 to identify common elements and collaborate on the implementation of their stormwater management plans, and

WHEREAS, by working collaboratively and cooperatively to meet the requirements of GP-0-15-003, MS4s can make more efficient use of resources allocated to meet the requirements of GP-0-15-003; and

WHEREAS, Article 5-G of the New York State General Municipal Law authorizes municipal corporations to enter into agreements for the performance of their respective functions, powers and duties on a cooperative basis; and

WHEREAS, this Memorandum of Agreement (Agreement) among the regulated MS4s will create the Stormwater Coalition of Tompkins County (Coalition); and

WHEREAS, the members of the Coalition will work collectively to meet the requirements of the U.S. EPA Phase II stormwater regulations (40 C.F.R. Sections 122 and 123) and the New York State Department of Environmental Conservation's (NYSDEC) SPDES General Permit for Stormwater Discharges from MS4s (GP-0-15-003), and any amendments thereto;

NOW, THEREFORE BE IT RESOLVED, that in consideration of the mutual covenants and agreements hereinafter set forth, members of the Coalition agree as follows:

1. **TERM.** The term of this agreement shall commence on the date of the first signature and terminate on March 31, 2008, so as to coincide with the terms of GP-0-15-003, unless otherwise extended, renewed, or revised by a writing signed by all parties, except nothing herein shall authorize more than a five (5) year term for any initial or renewal term of this agreement.
2. **PURPOSE.** The purpose of the Coalition is to:
 - A. Exchange information and foster cooperation among MS4s to assist MS4s in complying with the EPA Phase II stormwater regulations;

- B. Facilitate the use of resources to assist MS4s in meeting the requirements of the U.S. EPA Phase II stormwater regulations and the permit conditions of GP-0-15-003 issued by the NYSDEC;
- C. Identify funding mechanisms to meet the financial needs of complying with the Phase II Stormwater regulations and GP-0-15-003;
- D. Protect and/or improve local water quality in accordance with Federal, State, County, and local water quality regulations, planning documents and policies; and,
- E. Facilitate consistency of stormwater management and regulations across municipal boundaries.

3. MEMBERSHIP

- A. The members of the Coalition shall be the municipal corporations that are signatories to this agreement.
- B. Each member shall designate a representative and one or more alternates to serve on the Coalition. These representatives will act on behalf of the Coalition members on matters such as facilitating the payment of the annual membership fee, making decisions about financial matters related to the activities of the Coalition within the parameters set out in this agreement, and other administrative matters.
- C. The Coalition may admit non-permitted MS4s and municipalities as members at the discretion of the Coalition so long as these members agree to undertake all rights and responsibilities included in this Agreement and sign this agreement, and further conditioned upon payment of the full annual membership fee for that calendar year.
- D. The Coalition may also approve ex officio non-voting representatives of agencies that provide technical or advisory assistance to the MS4s in meeting these regulations.
- E. The Coalition shall adopt by-laws relating to the conduct of its proceedings and such other administrative matters as it may deem appropriate.

4. FINANCIAL OBLIGATION

- A. Each MS4 Coalition member shall pay an annual membership fee, which will be used to help fulfill the requirements of GP-0-15-003, such as training, grant applications, and other activities consistent with those listed under Section 2 above. The initial fee schedule is detailed in the “Proposal to Fund the Tompkins County Stormwater Working Group in 2006 (approved by the Stormwater Working Group on August 24, 2005)”, which is attached as Exhibit A. Future fee schedules shall be proposed by the Coalition pursuant to the by-laws for the Coalition and shall be approved by the members.
- B. The Coalition shall submit an invoice for the fee to each Coalition member annually.
- C. The Coalition shall designate and authorize the fiscal officer of one of its members to hold and manage separate accounts on behalf of the Coalition, where the annual fees and other funds shall be deposited. These accounts shall be created explicitly for the use of the Coalition. Such designation shall be reviewed and re-authorized on an annual basis.
- D. The Coalition’s budget shall be approved by the members. The fiscal officer of the member with custody of the Coalition’s funds shall be authorized to make expenditures on audit pursuant to the procedures of the member of which he or she is the fiscal officer.
- E. The Coalition shall not incur any financial obligations in excess of the funds available to the Coalition.

- F. Any Coalition member may withdraw from this Agreement upon adoption of a resolution by its legislative body and upon 60 days written notice to the full membership of the Coalition.

5. TERMS AND CONDITIONS

- A. This Agreement may be modified or amended only by a writing duly executed by all Coalition members.
- B. Each Coalition member shall be solely responsible and liable for its own activities under this Agreement, for obtaining and maintaining its permit coverage under the SPDES General Permit for Stormwater Discharges from MS4s (GP-0-15-003), and for the preparation, implementation, operation and maintenance of its own stormwater management program including, but not limited to, the required minimum control measures.

6. MISCELLANEOUS

- A. This Agreement constitutes the entire Agreement among and between the Coalition members and supersedes any and all prior Agreements between the parties hereto for the services herein to be provided. The Agreement shall be governed by and construed in accordance with the laws of New York State.
- B. If any provision, paragraph, sentence, or clause of this agreement shall, for any reason, be held to be invalid or unenforcible, the invalidity or unenforcibility of such shall not affect the remainder of this Agreement and this Agreement shall be construed and enforced, consistent with its expressed purposes, as if such invalid and unenforceable provision, paragraph, sentence, or clause had not been contained herein.
- C. If any member withdraws from the agreement pursuant to Section 4 above, the Agreement remains binding for remaining members.
- D. Each Coalition member represents and warrants to the Coalition, and to the other Coalition members, that it has been fully authorized to execute and to perform this Agreement, and that its execution and performance of this Agreement will not violate any legal duty or restriction.

7. EXECUTION

IN WITNESS WHEREOF, this Agreement is signed by the duly authorized representatives of the regulated MS4s on the date written below.

Tompkins County

Name:
Title:
Signature:
Date:

Town of Caroline

Name:
Title:
Signature:
Date:

Town of Dryden

Name:
Title:
Signature:
Date:

Town of Ithaca

Name:
Title:
Signature:
Date:

Town of Lansing

Name:
Title:
Signature:
Date:

Town of Newfield

Name:
Title:
Signature:
Date:

Town of Ulysses

Name:
Title:
Signature:
Date:

City of Ithaca

Name:
Title:
Signature:
Date:

Village of Cayuga Heights

Name:
Title:
Signature:
Date:

Village of Lansing

Name:
Title:
Signature:
Date:

Appendix B: Procedures

IDDE PROGRAM

The Tompkins County Health Department annually reports illicit discharges in the form of sewage system replacement permits. These are permits where a documented surface discharge is observed, whether by complaint or owner's permit application. Onsite sewage systems are regulated under the sanitary code, the responsibility for both abatement and enforcement lies with the Health Department.

Other illicit discharges to the MS4 would be handled on a complaint basis.

The Highway Department checks mapped outfalls during dry weather to ensure debris is not obstructing pipes. Any questionable flow (indicators include color, odor, or floatables) would be noted and investigated. Under the Town of Caroline Ground Water Protection Law, illicit discharges are able to be investigated and penalties under the law are enforceable by agencies with the town government such as a Code Enforcement Officer.

SWPPP REVIEW

A. Site Plan Review and Major Subdivision

1. Submission to the Zoning Office: Applicants for Site Plan Review or Major Subdivision submit

materials that include a SWPPP.

2. Zoning Office forwards SWPPP to TCSWCD per "Agreement of Services."

3. TCSWCD reviews and provides comments to the Zoning Office and Applicant.

4. Planning Board reviews stormwater components as part of the Site Plan Review and Major Subdivision approval process. The Planning Board provides comments to the applicant at a public meeting.

5. When the SWPPP meets the requirements of the Town's Stormwater Management Law (LL#2 of 2007) and Ground Water Protection Law, the DEC technical standards (or equivalent), and the recommendations from the TCSWCD and the Planning Board, TCSWCD provides an approval letter to the Zoning Office.

6. SMO signs the MS4 Acceptance Form.

B. Construction not part of Site Plan Review or Major Subdivision

1. Submission to the Zoning Office: Applicants for Building Permits with land disturbance activities greater than half-acre are required to submit a SWPPP.

2. Zoning Office forwards SWPPP to TCSWCD per "Agreement of Services."

3. TCSWCD reviews and provides comments to the Zoning Office and Applicant.

4. When the SWPPP meets the requirements of the Town's Stormwater Management Law (LL#2 of 2007) and Ground Water Protection Law, the DEC technical standards (or equivalent), and the recommendations from the TCSWCD and the Planning Board, TCSWCD provides an approval letter to the Zoning Office.

5. SMO signs the MS4 Acceptance Form

PUBLIC COMMENTS ON CONSTRUCTION ACTIVITIES

Permitted projects are advertised through local newspapers and the County website, per permit requirements.

CONSTRUCTION SITE INSPECTIONS

SWPPPs require construction site inspections by a licensed third party, provided by owner. Inspection reports from these evaluations are submitted to the Code Enforcement Officer for review.

The Code Enforcement Officer inspects the site during normal code compliance visits. Notice of violation or stop work orders can be issued at any time if the owner is in non-compliance with the stormwater law.

For new projects starting in 2012, the MS4 Construction Site Inspection Log will be used to document information. Inspection will be conducted by either Town staff (enforcement officer or environmental planner) or per agreement with TCSWCD.

Sites are inspected at a minimum at the following construction stages: start of construction; installation of sediment and erosion control measures; completion of site clearing; completion of rough grading; completion of final grading; close of the construction season; completion of final landscaping; successful establishment of landscaping in public areas.

New construction sites that violate the Town of Caroline Ground Water Protection Law will be subject to immediate response. Sites that pre-existed the passing of the Town of Caroline Ground Water Protection Law will be allowed to continue for a period of twelve (12) months. After this grace period, the activity must desist or abide by the Town of Caroline ground Water Protection Law.

CONSTRUCTION SITE VIOLATION

1. Staff witnesses violation;
2. Verbally discuss with appropriate party (owner/applicant or contractor) as to the nature of the violation and the appropriate time needed to remedy the violation;
3. Re-inspect at agreed-upon time;
4. If the violation continues, issue a written notice of violation, which shall contain the following:
 - a) the name and address of the landowner, developer or applicant;
 - b) the address when available or a description of the building, structure or land upon which the violation is occurring;
 - c) a statement specifying the nature of the violation;
 - d) a description of the remedial measures necessary to bring the land development activity into compliance with this local law and a time schedule for the completion of such remedial action;
 - e) a statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed;
 - f) a statement that the determination of violation may be appealed to the municipality by filing a written notice of appeal within fifteen (15) days of service of notice of violation.
5. Re-inspect per time schedule in notice of violation;
6. If needed, issue stop work order.

If a complaint is received by member of the public, staff must verify the complaint by visiting the site and following the procedures listed above.

Appendix D: Training Documentation

REGULATORY MATRIX* FOR FACILITIES WITH FLOOR DRAINS

Floor Drains connected to:	A. Vehicle Service Bays	B. Vehicle Detergent Wash Bays	C. Wet Vehicle or Plain Water Wash Bays	D. Dry Vehicle Storage Bays
#1 Dry Wells Leach Fields Other SubSurface	DEC cannot Approve <i>Not allowed</i>	DEC cannot Approve	DEC cannot Approve	DEC cannot Approve
#2 Dry Ditches in Non Aquifer Areas	Possible with SPDES Permit but dry option with staging recommended	Possible with SPDES Permit and extensive treatment	Approvable with/SPDES permit and routine treatment	DEC will Strongly Discourage
#3 Dry Ditches in surface aquifer areas	Not approvable. Dry Option with staging recommended	Not approvable. See options 5 & 7	Possible with SPDES permit, routine treatment, and special safeguards	DEC cannot Approve
#4 Perennial Streams	Possible with SPDES permit. Dry option with staging Recommended	Possible with SPDES permit and extensive Treatment	Approvable with SPDES permit and Routine Treatment	DEC will Strongly Discourage
#5 Municipal Sanitary Sewers with local approval	Approvable; dry option with staging Recommended	Should be encouraged if possible	Not Necessary Detergent wash + Dry Storage options better	DEC will Strongly Discourage
#6 Storm Sewers with local Approval	Possible with SPDES Permit; Dry Option with staging Recommended	Possible with SPDES Permit and extensive Treatment	Approvable with SPDES Permit in Routine Treatment	DEC will Strongly Discourage
#7 Hold and Haul Storage Tank	Approvable; Dry Option with staging Recommended	Approvable; May Require Recycle to be Economic	Approvable; Options 2,4,5,6 Better	DEC will Strongly Discourage

*In general, all options involving discharges to dry ditches, storm sewers and plain water wash down of vehicles are more appropriate for correcting problems at existing facilities, rather than for approvals at newly designed/vet to be constructed facilities.