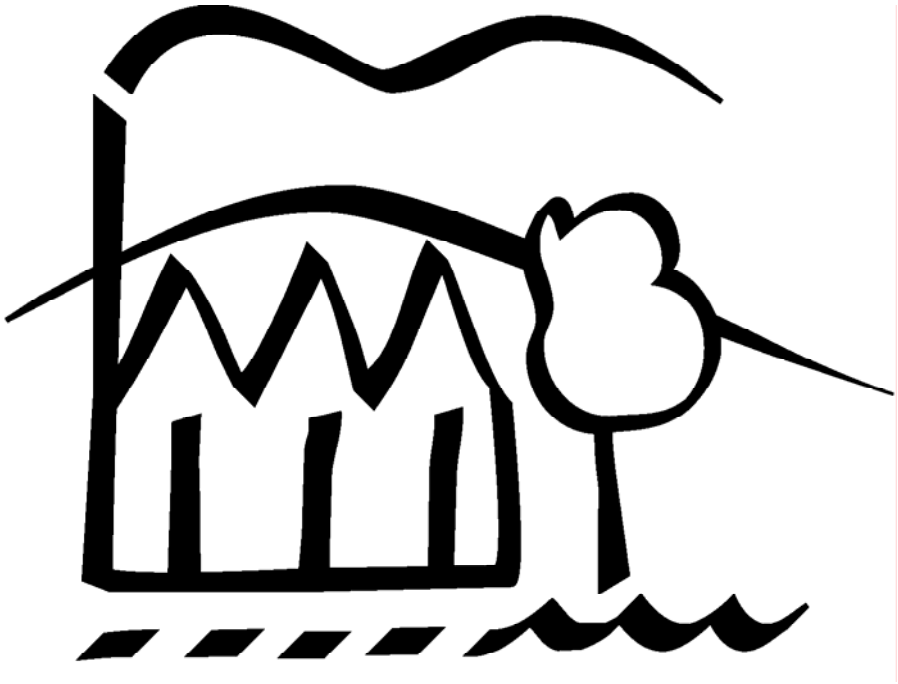
Gap Analysis of Local and State Stormwater Management Requirements

For Municipalities of Seneca County, New York State



Genesee/Finger Lakes Regional Planning Council

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This report is available for download at the following web address:
http://www.gflrpc.org/Publications/GapAnalysis/Seneca/Index.htm

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A report submitted to the Seneca County Water Quality Coordinating Committee as partial fulfillment of the requirements of the New York State Soil and Water Conservation Committee 2004 Level 2 Mini-grant.

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GENESEE/FINGER LAKES
Regional Planning Council

Mission Statement

The Genesee/Finger Lakes Regional Planning Council (G/FLRPC) will identify, define, and inform its member counties of issues and opportunities critical to the physical, economic, and social health of the region. G/FLRPC provides forums for discussion, debate, and consensus building, and develops and implements a focused action plan with clearly defined outcomes, which include programs, personnel, and funding.

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I. EXECUTIVE SUMMARY

This report has been prepared for the Seneca County Water Quality Coordinating Committee (WQCC) in order to partially fulfill the requirements of the 2004 New York State Soil and Water Conservation Committee (SWCC) Level 2 mini-grant. This award was designed by the State SWCC in an effort to promote consistency between local land use laws and practices and those of the Statewide Phase II Construction Permit. In order to advance this goal, this report seeks to fulfill the following Level 2 mini-grant requirements:

- Carry out a gap analysis of local land use regulations on a county-wide basis using the NYS Department of Environmental Conservation's "Local Codes Assessment Worksheet"
- In examining these regulations, outline the ways, if present, that local laws begin to meet or exceed the requirements of the State Construction Permit (GP 02-01)
- Summarize the findings of the gap analysis in a report for distribution and presentation to local officials and relevant local decision-makers. The report should include summaries for each community, as well as information on floodplain management, road ditch development and maintenance and the connection of local laws and the code enforcement officer.

The purpose of this report is to identify changes that can be made to local laws based on relevant local water quality needs. An overall goal is to provide municipalities with practical information so that they may devise a pragmatic local strategy for addressing the issues outlined above. Relevance to effective implementation is another important goal that this report should assist the Seneca County SWCD and WQCC in meeting. Conveying the relevance of regulations and procedures to various departments, such as highway, public works, and code enforcement, is therefore an important overall component to this mini-grant project.

II. INTRODUCTION

This report is designed to assist local government officials, elected leaders, municipal staff – such as highway and department of public works officials – and boards – such as Planning Boards and Zoning Boards of Appeal. It is intended to help them recognize the roles that municipalities can play in the protection of water resources, in assessing local capacity and effectiveness of controlling nonpoint source pollution, and outline the consistency with which their current local laws reflect those of GP 02-01, the SPDES General Permit for Stormwater Discharges from Construction Activity, one of two components which are commonly referred to together as "Stormwater Phase II Regulations." GP 02-02, the SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s), is the other component of Phase II Stormwater regulations and will not be dealt with directly in this report. Both General Permits are administered by the New York State Department of Environmental Conservation.

The report has been structured in the following manner:

Chapter III of the report, *Water and Land: A Background*, provides a summary of the major concepts associated with water degradation and protection.

Chapter IV, *Overview of the Regulatory Framework for the Protection of Water Resources*, provides a comprehensive summary of the various local, state and federal entities that are involved in regulating and managing natural resources. The chapter concludes with a brief overview of several pertinent New York State Environmental Conservation Laws which local officials should be familiar with.

Chapter V of the report, *What Can Be Done at the Local Level: Tools You Can Use*, provides a synopsis of issues that municipalities should consider when reviewing their local laws for relevance to water resource protection.

Finally, **Chapter VI**, *Assessment and Gap Analysis of Local Laws*, presents the findings of a gap analysis which was conducted using the NYS Department of Environmental Conservation's "Preliminary Local Codes Assessment Worksheet." Each worksheet begins with a short explanation of findings for the respective municipality.

Final reports distributed to the Seneca County WQCC and the NYS SWCC will be unabridged and contain the worksheets for all 12 municipalities in the county; municipalities will receive an abridged version of this report which will contain only the worksheet for their respective municipality.

MAP 2.1: OVERVIEW OF SENECA COUNTY

III. WATER AND LAND: A BACKGROUND

Abundant clean water is one of New York State's greatest resources. Every citizen of New York benefits from clean water and every citizen has a responsibility to protect this resource. Protecting water quality involves many types of actions from many organizations and individuals. Local governments can play a key role in watershed protection, having day-to-day contact with residents, businesses, and visitors, and a clear view of the progression of activities on the ground. Local governments recognize that efforts such as public education, municipal road de-icing techniques, stormwater management improvements, sediment and erosion control regulations, and enforcement of existing local development controls can all contribute to the protection of water resources.

A. WATER POLLUTION

Water is one of the most important of all natural resources. Biological processes necessary for all living organisms require water. Although we have recognized the importance of water to both the environment and society, we have often disregarded its value by polluting rivers, lakes, oceans, and groundwater. By our actions, we have altered natural processes to the point where many organisms can no longer exist, once-reliable sources of drinking water can no longer be used, and our ability to use water for recreational purposes has been impaired. To combat pollution, we must understand the nature of the problem and select and implement practices that reduce our impact upon this natural resource.

Thankfully, our understanding of the problem has grown over the past several hundred years. From the construction of the first public water systems in the early 1800s that brought pure water to cities such as New York and Philadelphia, to early 20th century sewer and waste disposal systems, to landmark federal legislation, such as the Clean Water Act of 1972, our understanding of the necessity and desirability of clean water has increased.

As direct (or "point source") pollution from sewage and industry has decreased, thanks in large part to State and Federal environmental regulations, attention has turned to other sources of water pollution. Rainwater and melting snow flowing off of roofs, parking lots, streets, lawn, agricultural land, and construction sites remains a primary source of pollution. This type of diffuse pollution is known as "nonpoint source" pollution. While regulations such as the State Pollution Discharge Elimination System (SPDES) Phase II are meant to address these types of pollution, there is much that municipalities can do to protect water resources. Much of the pollution described above comes from buildings, streets, and development sites, all of which are activities that municipalities, especially in New York State, have a great deal of control over.

B. CAUSES OF WATER POLLUTION: POINT AND NONPOINT SOURCES

Water resource pollution can be defined as the introduction of substances into a body of water that adversely affects its intended use. In general, two types of water pollution exist, defined according to the pathway of contamination.

Point sources of pollution occur when harmful substances are introduced directly into a body of water, such as from sewage treatment plants, industrial facilities, or an accidental spill. Point sources are often thought of as "end-of-pipe" sources of pollution.

Nonpoint sources deliver pollutants indirectly through environmental processes, such as runoff flowing over surfaces such as pavement, roofs, agricultural land, and construction sites. Nonpoint sources are often thought of as "diffuse" sources of pollution.

Point sources of pollution can be more easily monitored and regulated using existing technologies because pollutants enter the environment at a specific location. Nonpoint sources are more difficult to evaluate and regulate because pollutants enter the environment over a broad area. With nonpoint source pollution, the underlying sources and systems that contribute to the pollution must be controlled, rather than just the "end of the pipe." The United States Environmental Protection Agency has proclaimed nonpoint source pollution to be the greatest cause of water quality degradation in the United States, thereby highlighting the importance of its abatement.

Water pollution occurs from a variety of activities. Human practices are often responsible for the contamination of water bodies. Rain water flowing over land, for example, picks up a wide array of contaminants ranging from salt used for de-icing roads, to leaked motor oil and gasoline on driveways and parking lots, to agricultural and lawn chemicals, to large amounts of silt from open construction sites. The streams, ponds, and wetlands that are polluted by runoff can subsequently suffer from salinization (abnormally high levels of dissolved salts), eutrophication (excessive nutrient levels), and siltation (large deposits of silt). Eutrophication results from water that has received high levels of phosphorus and nitrogen, often from animal wastes in agricultural areas or untreated sewage in urban areas. Higher nutrient levels induce the prolific growth of aquatic plants and algae. When these plants die and are consumed by bacteria, oxygen is used, resulting in lower levels of dissolved oxygen in the water. The depletion of oxygen kills the small aquatic invertebrates consumed by fish.

C. CLASSIFYING POLLUTANTS

Regardless of the manner in which they enter the water, pollutants can be classified according to their properties:

- ***Toxic***
- ***Nutrient***
- ***Sediment***
- ***Bacterial***

Toxic pollution includes chemicals that poison and kill organisms in and near streams, rivers, and lakes. When a body of water has a high level of toxic pollution taken up by fish and accumulating in fish tissue, fishing for the purpose of human consumption is banned to protect human health. Even low levels of toxicity can be lethal over time when the chemicals accumulate in predators that consume large amounts of slightly poisoned organisms. This build up is known as "bio-accumulation." Examples of toxic pollutants include pesticides and herbicides; gasoline, oil, and other automotive products; household cleaning products; paints and solvents; battery acid; industrial waste chemicals; and some substances in car exhaust and solid waste incinerator smoke.

Sediment pollution includes soil, sand, silt, clay, and minerals eroded from the land surface and washed into water. Sediment is typically derived from areas with exposed soils. Without a cover of vegetation, rainwater flows quickly off the land surface, picking up particles of soil, rather than slowly soaking into the ground. In addition, hard surfaces (also known as impervious surfaces) such as roofs, streets, parking lots, prevent rainwater from slowly soaking ("infiltrating") into the ground. In many cases, the rain is channeled through gutters and drains to a nearby stream or ditch. Unless appropriate practices are put in place to slow the flow and dissipate the energy, this sudden increase in quantity and speed of water can erode the banks of a previously healthy watercourse.

Sediment overload causes a number of problems for aquatic organisms. Because fine sediment particulates are suspended in water, the resulting cloudiness decreases the amount of sunlight that can reach aquatic plants that provide food and oxygen for aquatic animals. As sediment settles, it fills the

voids between rocks, destroying habitat used by many invertebrates. Sediment also clogs the gills of fish, crayfish, and other underwater organisms. Sediment can bury fish and insect eggs, and prevent them from hatching. Sediment particles also often pick up other forms of pollution such as toxic substances, nutrients, or bacteria. These pollutants are washed with the sediment into a water bodies.

Nutrient pollution results from an overabundance of elements in water, such as nitrogen and phosphorus. All organisms require nutrients to survive, but high levels can be detrimental by stimulating excessive aquatic plant growth, particularly algae and vascular plants. A water surface that has been clouded by "algal blooms" blocks sunlight from reaching deeper levels of the water column, effectively retarding plant growth in these zones. When large quantities of algae die, bacterial decomposition uses dissolved oxygen, depriving aquatic organisms of oxygen needed for survival. This "feeding" or fertilizing of surface vegetation also makes water related recreation, such as swimming or fishing difficult. Sources of nutrient pollution can include effluent from sewage treatment plants, leakage from improperly maintained onsite wastewater treatment (septic) systems, industrial discharges, and agricultural and home lawn-care fertilizers.

Bacterial pollution occurs when an excess of harmful bacteria is present in a water body. Although there are several species of benign and beneficial bacteria in water, larger concentrations of certain types can be lethal to animals (including humans) that drink or accidentally ingest contaminated water. Sources of bacterial pollution include sewage treatment effluent, leakage from improperly maintained septic systems, animal wastes (including excessive and invasive waterfowl), and discharge from watercraft toilets.

D. The Watershed Approach to Planning

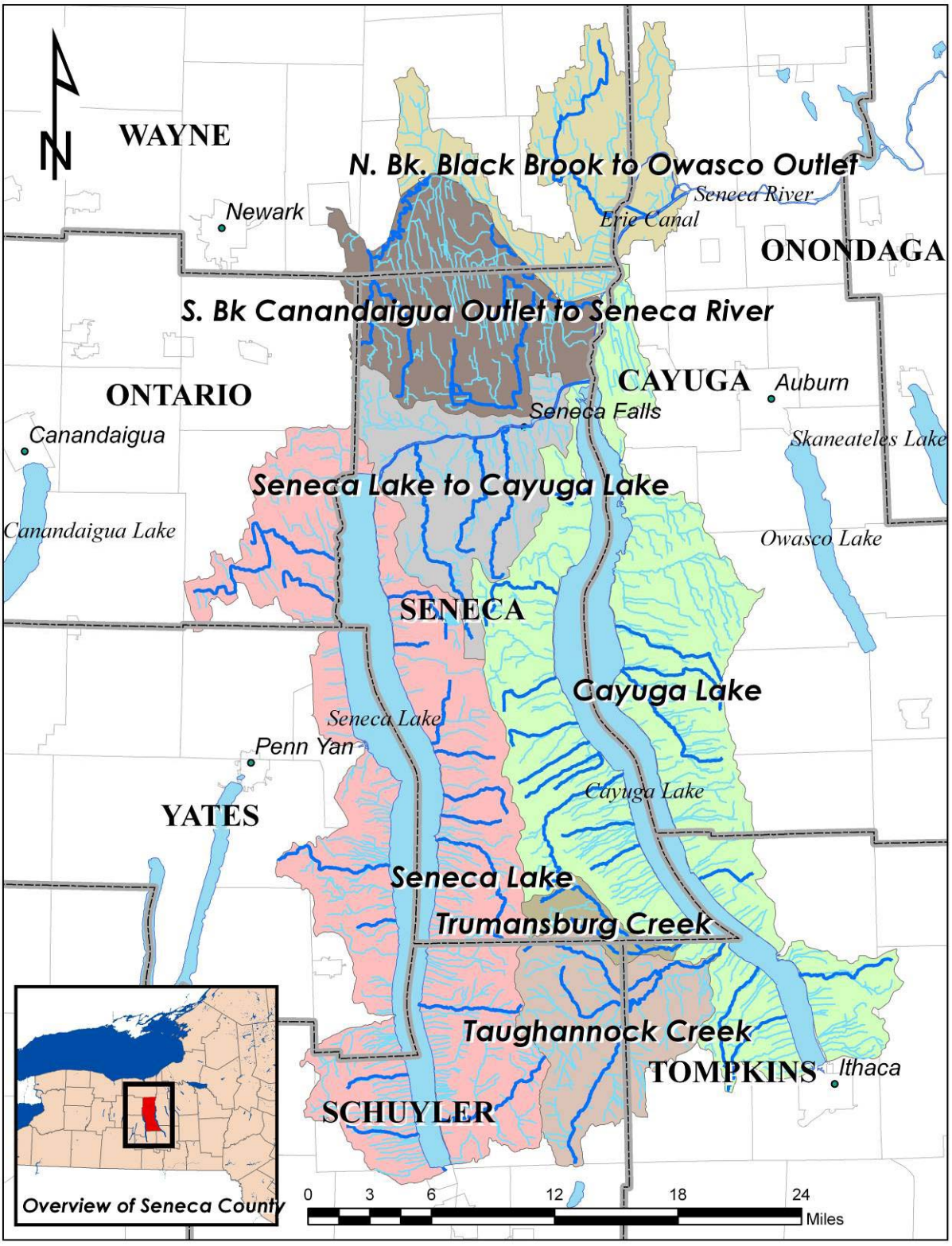
There is a growing emphasis to plan for and manage surface and ground waters on a watershed basis, rather than the traditional administrative political unit. The use of political boundaries in natural resource management has worked effectively when dealing with remediation of point source pollution, since easily-identified discharge points (i.e. the outfall pipe) usually fall exclusively within an administrative boundary, such as a city, town, or village.

However, combating nonpoint source pollution within the framework of the individual municipality is considerably less efficient as a result of:

- Multiple diffuse origins of the pollution;
- Multiple points-of-entry of the pollution; and
- Considerable distances between the pollution source and the affected water bodies.

Because water does not recognize political boundaries, a watershed-level, inter-municipal effort can be most effective to successfully manage nonpoint source pollution. Their key role in regulating activities that affect water resources (land and water use and development patterns) makes local governments a critical part of this cooperative effort. In New York State, with its tradition of "home rule," municipalities have a great deal of control over development. With this authority, however, comes responsibility. In order to protect the water resources of the State, municipalities need to follow good planning processes and adopt and enforce responsible land use regulations. Local governments can also protect water quality by establishing guidance and oversight that ensures the implementation of best management practices (BMPs) for municipal activities, such as road maintenance and de-icing, and municipal construction activities.

MAP 3.1: OVERVIEW OF MAJOR WATERSHEDS INTERSECTING SENECA COUNTY



IV. OVERVIEW OF THE REGULATORY FRAMEWORK FOR THE PROTECTION OF WATER RESOURCES

A. LOCAL, STATE, AND FEDERAL ENTITIES INVOLVED IN WATER RESOURCE PROTECTION

1. LOCAL AGENCIES

1. Local Government Programs: In New York State, municipalities have significant land use powers that can be used to effectively address a wide variety of environmental issues. The comprehensive plan, zoning, and a host of tools such as site plan review, subdivision regulation, erosion and sediment control ordinances, and special use permits can be used separately or in combination to produce the desired environmental outcomes of a community.

2. County Planning Departments/County Planning Boards: Counties also affect land use regulation on a more limited basis through the review of certain municipal zoning and development actions. These reviews, conducted pursuant to Section 239 of New York State General Municipal Law, are often referred to as "239 reviews." County planning departments also assist local governments with land use issues.

3. County Water Quality Coordinating Committee (WQCC)***:*** Water Quality Coordinating Committees represent municipalities, agencies and organizations that conduct planning, education, regulation or operations that affect water quality. The WQCC identifies water quality problems, prioritizes needed actions, seeks funding for projects, coordinates programming and recommends policy to protect and improve water resources in the County and its watersheds.

4. Soil and Water Conservation Districts (SWCDs)***:*** County Soil and Water Conservation Districts (SWCD) are created through an act by the county governing body. SWCDs play a pivotal role in watershed, recreation and conservation planning, management, stewardship and education and outreach activities across New York State. SWCDs often work with the agricultural community on voluntary programs, such as Agricultural Environmental Management (AEM).

5. County Health Departments: County health departments manage and regulate county sanitary codes and are responsible for onsite sewage disposal systems.

6. Regional Planning Boards: Also called "Regional Planning and Development Boards," or "Regional Planning Councils," these are voluntary public entities formed by groups of counties to address regional issues and assist with local planning efforts. Water resource protection, especially at the watershed-level, is a key regional issue that many Regional Planning Boards address.

2. STATE AGENCIES

1. New York State Department of State (NYSDOS)***, Division of Coastal Resources:*** The Division of Coastal Resources helps protect and enhance coastal and inland water resources and encourage appropriate land use. The Division also works in partnership with local governments in preparation of Local Waterfront Revitalization Programs, which serve as comprehensive land and water use plans, as well as intermunicipal watershed management plans which identify problems and threats and opportunities for achieving long lasting improvements in water quality and establish priorities for action. Financial assistance for the preparation and implementation of such programs and plans is available through the Environmental Protection Fund (EPF).

2. New York State Department of Environmental Conservation (NYSDEC)**:** The DEC works to reduce water pollution through technical assistance for prevention, education, and monitoring; provides financial

assistance for demonstration programs, existing facilities improvement, and construction of new facilities. The Department has extensive regulatory authority through its administration of the New York State Environmental Conservation Law (ECL).

3. New York State Department of Agriculture and Markets: NYS Dept. of Ag and Markets provides administrative support to the State Soil and Water Conservation Committee (SWCC), which in turn provides guidance to the county Soil and Water Conservation Districts (SWCD); in addition the Department of Agriculture and Markets oversees many aspects of farming that cannot be regulated by municipalities.

4. New York State Department of Health (NYSDOH)**:** The DOH monitors impacts of nonpoint source pollution through water quality monitoring and reporting programs. New York Public Health Law contains statutes regulating the protection of public water supplies from contamination due to source and nonpoint source pollution.

3. FEDERAL AGENCIES

1. US Environmental Protection Agency: The mission of the EPA is to protect human health and the environment. Developing and enforcing environmental regulations, providing financial assistance, performing environmental research, sponsoring and promoting partnerships and programs, and monitoring hazardous materials and reporting related information to the public are several of the duties of the EPA. The EPA provides funding to be used by the responsible state agencies for enforcement and implementation of policies outlined in the federal laws and regulations.

2. Natural Resource Conservation Service: The Natural Resource Conservation Service (NRCS) is a U.S. Department of Agriculture (USDA) agency that assists private land owners with conserving soil, water and other natural resources.

3. Army Corps of Engineers (US Department of Defense)**:** The US Army Corps of Engineers (USACE) is responsible for flood control, navigation, shore protection, environmental restoration, hazardous, toxic and radiological waste site management, and water resource management and regulation.

4. Fish and Wildlife Service (US Department of the Interior)**:** The US Fish and Wildlife Service (USFWS) mission is to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people.

5. United States Geologic Survey (USGS): The USGS offers an array of services and data related to hydrologic research and development, wildlife and fisheries management, invasive species, geographic information systems, mapping, costal management and watershed planning.

6. National Oceanic and Atmospheric Administration (NOAA): NOAA has several roles directly related to watershed protection including its role in the stewardship of coastal waters.

B. Synopsis of Relevant Laws with Regard to Erosion and Sediment Control and NPS Pollution, with Specific Relevance to Local Municipalities

1. Article 15, Title 5 – Environmental Conservation Law: Protection of Waters:[1] The Protection of Waters Regulatory Program was created by the DEC in order to protect the ecological balance of lakes, streams and ponds of New York State. The program is designed to prevent undesirable activities on waterbodies by establishing and enforcing regulations that:

1. Are compatible with the preservation, protection and enhancement of the present and potential values of the water resources;
2. Will protect the public health and welfare; and
3. Will be consistent with the reasonable economic and social development of the state.

The Program establishes a Classification of Waters system based on existing or expected best usage of each waterbody or stream segment. Waterbodies are classified A through D; those classified as A and AA are considered to be of the highest level of water quality, suitable to be used as a source of drinking water. All classification levels can also be appended with the designations "T," indicating that the waterbody may support a trout population, or "TS," indicating that the waterbody may support trout spawning. A waterbody designated as AA(TS) may therefore be considered to be of the highest quality.

Certain waters of the state are protected on the basis of their classification. Streams and small water bodies located in the course of a stream that are designated as C(T) or higher are collectively referred to as "protected streams," and are subject to the stream protection provisions of the Protection of Waters regulations.

The Program regulates categories of activities under the following permit designations:

1. Disturbance of the bed or banks of a Protected Stream or other watercourse;
2. Construction, reconstruction or repair of dams and other impoundment structures;
3. Construction, reconstruction or expansion of docking and mooring facilities;
4. Excavation or placement of fill in navigable waters and their adjacent and contiguous wetlands; and
5. Water quality certification for placing fill or undertaking activities resulting in a discharge to waters of the United States.

The Program regulates several particular activities that may occur on or around the bed and banks of protected streams, whether temporary or permanent in nature. These include (but are not limited to):

- Placement of structures in or across a stream, such as a bridge or culvert;
- Fill placement for bank stabilization or to isolate a work area (i.e. rip-rap or coffer dams);
- Excavations for gravel removal or as part of a construction activity;
- Lowering stream banks to establish a stream crossing
- Utilization of equipment in a stream to remove debris or to assist in-stream construction.

Certain activities are exempt from Article 15 procedures, such as agricultural activities or those specifically agreed upon between the DEC and a municipality. Material such as fallen trees or debris can also be removed from a stream if the banks are not disturbed and no in-stream use occurs.

[1] NYSDEC, "Protection of Waters: Introduction." Website last viewed 7/5/06. Visit http://www.dec.state.ny.us/website/dcs/streamprotection/index.html for a complete summary of Article 15 permits and procedures.

2. Article 23, Title 27 – Environmental Conservation Law: Mined-Land Reclamation:[2] The Mined-Land Reclamation Program is intended to assure that the economic development of the mining and minerals industry be compatible with sound environmental management practices. Through this program, the Department has established and will enforce regulations that will:

1. Foster and encourage the development of an economically sound and stable mining and minerals industry;
2. Provide for the wise and efficient use of the resources available for mining;
3. Assure the reclamation of mined lands (This involves conditioning the affected land to make it suitable for productive use including, but not limited to, the planting of grass, trees, or crops, and the protection of wildlife or aquatic resources.);
4. Prevent pollution associated with mining activity; and
5. Protect the health, safety, and general welfare, of the public as well as the aesthetic values of the affected land.

The Program applies to all extraction activities from which 1,000 tons or more of a mineral(s) are removed during twelve successive months.

See page 16 of this report for more information on how to deal with extraction activities in your municipality or visit the website referenced at the bottom of this page.

3. Article 24 – Freshwater Wetlands:[3] Freshwater wetlands are those which are submerged lands (otherwise known as swamps or bogs) which possess unique vegetative characteristics. These areas provide an area of benefits, such as surface and ground water protection, flood control, and wildlife habitat. The Freshwater Wetlands Regulatory Program is designed to prevent the despoliation and destruction of freshwater wetlands by establishing and enforcing regulations that:

1. Are compatible with the preservation, protection, and enhancement of the present and potential values of wetlands;
2. Will protect the public health and welfare; and
3. Will be consistent with the reasonable economic and social development of the state.

Wetlands which are protected under Article 24 must be 12.4 acres or larger in area. Wetlands that are smaller than this but possessing unusual or unique value may also be protected by special order. All protected wetlands in New York State are delineated on official maps maintained by the DEC (or, in the case of the Adirondack Park, the Adirondack Park Agency).

Almost any activity which may adversely impact the natural value of the wetlands or their adjacent areas is regulated. Examples of such activities include (but are not limited to):

- Construction of buildings, roadways, septic systems, bulkheads, dikes, or dams;
- Placement of fill, excavation, or grading;
- Modification, expansion, or extensive restoration of existing structures;
- Drainage, except for agriculture;
- Application of pesticides.

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[2] NYSDEC, "NYS Mined Land Reclamation Program." Website last viewed 7/5/06. Visit http://www.dec.state.ny.us/website/dmn/minedland01.html for a complete summary of Article 23 permits and procedures.

[3] NYSDEC, "Wetland Mapping." Website last viewed 7/5/06. Visit http://www.dec.state.ny.us/website/dfwmr/habitat/wetmap/index.html for a complete summary of Article 24 permits and procedures.

Certain activities are exempt from Article 24 regulations and do not require a permit. Most agriculture activities as well as other routine or low-impact uses of the land (hiking, hunting, trapping, fishing, selective tree removal or routine property maintenance, such as dock repair or painting) generally do not require a permit.

See page 13 of this report for more information on managing and protecting freshwater wetlands in your municipality or visit the website referenced at the bottom of page 10.

4. Article 17 – GP 02-01: SPDES General Permit for Stormwater Discharges from Construction Activity:[4] On January 8, 2003, the Department of Environmental Conservation finalized new permits for stormwater discharges. A federal regulation, commonly known as Stormwater Phase II, requires permits for stormwater discharges from Municipal Separate Storm Sewer Systems (MS4s) in urbanized areas and for construction activities disturbing one or more acres. To implement the law, the New York State Department of Environmental Conservation has issued two general permits, one for MS4s in urbanized areas and one for construction activities. The permits are part of the State Pollutant Discharge Elimination System (SPDES).

Operators of regulated MS4s must apply for permit coverage by March 10, 2003. In addition, operators of regulated MS4s must pass a local law addressing pre and post construction site stabilization (Minimum Measures 4 and 5). Operators of construction activities that exist on or after March 10, 2003 and that involve one acre or more of land disturbance must obtain SPDES permit coverage through either an individual permit or the new General Construction Permit.

The new SPDES general permits for stormwater runoff, the Designation Criteria and other pertinent data are posted on the website cited in the footnote below.

[4]NYSDEC, "Stormwater Phase II Permits." Website last viewed 7/5/06. Visit http://www.dec.state.ny.us/website/dow/PhaseII.html for a complete summary of Article 17 permits and procedures.

V. WHAT CAN BE DONE AT THE LOCAL LEVEL: TOOLS YOU CAN USE

Assessing a municipality's existing laws and practices and any gaps that exist is one step towards protecting water quality. Determining how to fill the gaps is another step.

A. MUNICIPAL LAND USE TOOLS THAT CAN ADDRESS WATER RELATED ISSUES

Comprehensive plans, zoning laws, and subdivision regulations establish a community's overall vision and means for its implementation. These tools can address a multitude of issues, and since they all deal with land use and development, the tools also affect with water quality.

Comprehensive Plans, Zoning Laws, and Subdivision Regulations are considered the "building blocks" of municipal land use regulation in New York State, and are the basis for many other activities that a municipality carries out. While common in many areas of New York State, it should not be assumed that these building blocks exist in every community, or are always as up-to-date or as well-crafted as they should be. In terms of developing local laws to protect water quality, determining whether these three building blocks are present and current is the first task.

1. Comprehensive Plan: Comprehensive plans set out the broad goals and vision of a community. They should be developed with widespread citizen input, and used by the land use decision makers in a community (planning board, zoning board of appeals, conservation board, code enforcement officer, planner, municipal board, and elected officials). The plan should reflect current conditions and issues of the municipality, where the community would like to be, and how to reach those goals. Specifically, it should identify the type and intensity of development to be accommodated. A Comprehensive plan which is too generalized may not serve to effective guide future development future development.

The Comprehensive Plan is often best thought of as a strategic document that contains actions and notes responsible entities to implement actions. According to a 2003 survey by the New York State Legislative Commission on Rural Resources, 90% of cities, 64% of towns and 62% of villages in New York had adopted written Comprehensive Plans. The information in the Comprehensive Plan should inform the community's zoning law.

2. Zoning: Zoning is the most commonly and extensively used local technique for regulating land use and development. Zoning also serves as an important means for implementing the Comprehensive Plan. According to a 2003 survey by the New York State Legislative Commission on Rural Resources, 100% of cities, 79% of towns and 88% of villages in New York had adopted zoning laws or ordinances.

Ideally, the Zoning Law should be based on the community's Comprehensive Plan. By using various concepts within zoning, such as density and use regulations, a community can implement the goals and vision of the Comprehensive Plan. Certainly, this is easier said than done and many Comprehensive Plans contain goals and objectives that fail to make it into the binding legal language of the Zoning Code.

To help make the leap from Comprehensive Plan to Zoning to implementation and enforcement, the Zoning Law should be written in a way that is concise and easy to understand. Including graphics to illustrate concepts, and simple things such as page numbers and tables of contents help make Zoning easier to use and understand.

There are two important sub-sections that are usually (but not always) included in zoning that merit further discussion. These are site plan review and environmental protection overlay districts (EPODs).

a. Site Plan Review: Site Plan Review addresses the layout and design of development on a single parcel of land. The site plan review process is one of several means of plan implementation that communities may use. Site Plan review is a process of greater municipal scrutiny and review for certain uses and/or structures. It is commonly considered supplemental to other land development guidance controls and is usually included within a community's zoning law. It may, however, be a stand alone law, as some communities without zoning are using.

b. Environmental Protection Overlay Districts (EPODs): An overlay zoning district can be delineated by a municipality for a geographic area to provide additional regulations to address a topic of particular concern, such as an environmentally sensitive area, a floodplain, or an historic district. An overlay zone, as the name suggests, overlaps other, underlying zoning districts, and does not affect the uses allowed within such underlying zones. With respect to water quality, an Environmental Protection Overlay District (EPOD) can be an effective control. Many communities have adopted overlay zoning districts to protect natural resources and water quality. One example is the Town of Irondequoit in Monroe County. Another example is the Town of Ulysses, in Tompkins County, which has an overlay district pending adoption.

3. Subdivision Regulation (this includes allowing or mandating conservation subdivision or clustered development): One of the most common land use activities is the subdivision of land. The subdivision process controls the manner by which land is divided into smaller tracts of land. Subdivision regulations ensure that when development occurs, streets, lots, open space and infrastructure are adequately designed and the municipality's land use objectives are met. Aspects of Subdivision Regulation that many municipalities find useful include: distinction between major and minor subdivision, timeline for subdivision of land, a three stage process (conceptual plan, preliminary plan, final plan) for review, and the ability for the municipality to charge the applicant for expenses incurred as a result of retaining outside consultants. These and other features should be integrated into a concise, easy-to-understand subdivision law. Used correctly, the subdivision law is a key tool used to implement the objectives of the comprehensive plan.

4. Stand Alone or Targeted Laws: In addition to the three "building blocks" of land use control, municipalities can also adopt stand alone local laws to address issues that impact quality. There are many different laws of this type; a few examples include timber harvesting laws, sediment and erosion control laws, and junk storage laws. Stand alone laws are explained in greater detail in the following sections.

B. WATER RELATED ISSUES: *WHY AND HOW THEY CAN BE ADDRESSED BY MUNICIPALITIES*

1. Open Space Preservation
2. Sewer and Water Infrastructure
3. Onsite Wastewater
4. Flood Plain Management
5. Environmentally Sensitive Areas: Wetlands and Riparian Areas
6. Erosion and Sediment Control
7. Stormwater Management and Drainage
8. Road Maintenance
9. Junkyards
10. Waste Storage
11. Mining, Drilling (wells)
12. Agriculture
13. Forest Management
14. Boating/Marinas

1. Open Space Preservation: Open space is often valued by community residents for its aesthetic qualities. In addition, open space can serve important water quality and natural resource goals by limiting development on sensitive areas. Public accessible open space adjacent to lakes and streams is an important community amenity and tourism benefit, as well as an indirect water quality "outreach" tool. If the public has access to the water, they are more apt to develop connections to the water and care about water quality issues. Waterways are then seen more as a community amenity and not just an amenity for those who own property along it. Of any level of government, municipalities are often in the best position to protect open space since development activities that reduce open space are regulated locally.

A municipality should develop an open space plan or an assessment of open space resources included as part of the comprehensive plan. This plan/assessment should categorize open space resources, examine their use and function within the community, set priorities for their protection, and consider the best options for the use and protection of open spaces.

Purchase of development rights (PDR) is a technique whereby the municipality pays a landowner for the "development rights" of a parcel. In return for that monetary payment, an easement is placed on that property, ensuring that it remains as agriculture land or open space. Although PDR has been used to preserve farmland, it can also protect ecologically important lands or scenic parcels essential to the character of the community. While PDR is a form of open space preservation without the municipality having purchase the property outright.

The 'transfer' of development rights (TDR) is similar to the 'purchase' of development rights (PDR). Under the New York State zoning enabling statutes, areas of the municipality which have been identified through the planning process as in need of preservation (e.g. agricultural land) or in which development should be avoided (e.g. municipal drinking water supply protection areas) are established as "sending districts." Development of land in such districts may be heavily restricted, but owners are granted rights under the TDR regulations to sell the rights to develop their lands. Those development rights may thereby be transferred to lands located in designated "receiving districts." Transferable development rights usually take the form of a number of units per acre, or gross square footage of floor space, or an increase in height. The rights are used to increase the density of development in a receiving district.

A municipality can preserve open space through several ways. It is important to ensure that the open space policies of the open space plan or comprehensive plan are implemented through the municipality's land use controls such as zoning, the site plan review process, and subdivision regulations. Local coordination with the Department of Environmental Conservation's State Open Space Plan is also important. In addition, nonprofit organizations such as various Land Trusts and the Nature Conservancy can offer assistance with open space preservation techniques that have worked in communities across New York State.

2. Sewer and Water Infrastructure: Sewer and water infrastructure is usually approved by and/or built by the municipality. Careful planning and review of all such infrastructure is very important since new sewers can significantly improve water quality in an area with failing septic systems. However, new sewer and water infrastructure can also lead to increased development, more impervious surfaces and the potential water quality problems that are associated with development.

The municipality should have regular and active dialogue/planning with regional entities on sewer and water provision such as water authorities and watershed councils. Also, the municipality should clearly and specifically state in comprehensive plans where the community would like to see such infrastructure and areas where it should be limited.

3. On-site Wastewater: On-site wastewater systems are the number one source of nonpoint source pollution within New York State. The reasonable lifespan of a septic system is 25-40 years – a "biomat" will slowly accumulate and eventually overwhelm the bacteria's ability to digest; then a new leach field is needed and is the only real solution – additives and/or pumping will not solve the problem at that point. Only 10% of NYS soils are considered to be truly ideal for septic systems. A high percentage of private wells are contaminated by improperly functioning septic systems. This poses not only a threat to water quality but also an immediate public health hazard. Through the local regulatory process and the issuance of building permits and certificates of occupancy, a municipality can have significant control over on-site wastewater systems.

Onsite wastewater (septic) systems are regulated by county and state health laws, but localities can offer an additional level of regulation. Proper design and functioning of on-site systems is as important as the proper design and functioning of a public sewer system. Collectively, on-site wastewater systems are pieces of the community's infrastructure. A properly-functioning septic system is both complex and fragile, further underscoring the need for regular inspection, maintenance and homeowner education/outreach.

A municipality can amend their existing laws to include the provisions of an on-site waste water system model ordinance. They can also customize a model ordinance to address situations that may be unique to their community. County Health Departments, Soil and Water Conservation Districts, and the Cornell Cooperation Extension can be valuable partners on this issue. Using overlay zoning and the site plan review process to more closely scrutinize development in sensitive areas are also techniques that can be utilized in conjunction with stand-alone onsite ordinances.

Additional information on the management of septic systems, including inspections, can be obtained through the New York Onsite Wastewater Treatment Training Network (OTN).

4. Flood Plain Management: Flood plains are very often environmentally sensitive areas located near streams and lakes. Usually a portion of the flood plain is wetland area. Good flood plain management not only improves public safety, but can lead to less development on sensitive areas near water bodies and therefore can contribute to water quality protection. With participation in the National Flood Insurance Program's Community Rating System, a good flood plain management program can reduce flood insurance premiums for property owners. Most municipalities have their floodplains mapped.

Most municipalities *do not* have a detailed base flood elevation mapped. Therefore, all communities should be mapped so that there is a defined base flood elevation (known as the "A Zone" on Flood Insurance Rate Maps). If there is no defined base flood elevation a licensed engineer should be used, along with design standards, for the siting and construction of every new development in the floodplain.

How to implement?

- Flood Prevention Ordinance model (New York State Department of Environmental Conservation model). *Almost all municipalities in New York have adopted some form of this ordinance; knowledge of it, and the regular appointment of a Flood Plain Administrator, and rigorous enforcement is less widespread;*
- Integration of flood prevention concepts into zoning laws and site plan review processes;
- Designation of, and public outreach regarding, a Flood Plain Administrator (as required by the Flood Prevention Ordinance);
- Attendance at New York State Department of Environmental Conservation and Federal Emergency Management Agency training sessions by the Flood Plain Administrator.

5. Environmentally Sensitive Areas: Wetlands, Riparian, and Lakeshore Areas: Construction of new buildings, roads and parking lots are activities that are typically regulated by the municipality. Such development often impacts environmentally sensitive areas such as wetlands, stream corridors, and lakeshore areas. And although some wetlands are regulated by State and Federal agencies, municipalities can incorporate a greater level of oversight. Wetlands, including temporary wetlands known as 'vernal pools,' contribute an important natural habitat, are often a scenic amenity, and act as a natural stormwater retention system. Preserving and utilizing natural wetlands as stormwater retention facilities can lessen the need for costly manmade systems.

Retaining natural vegetation is an important factor in limiting erosion and sedimentation, especially during construction activities. Municipalities have the ability to control the disturbance of vegetation through the local regulatory and permitting process for development.

Riparian areas are lands located adjacent to streams or rivers, and lacustrine areas are lands located adjacent to lakes. Establishing buffers along streams, rivers, and lakes provides protection from development. Naturally vegetated buffer areas provide not only habitat but water quality benefits as well, by stabilizing soils that could be eroded by overland flow and enter surface waters, facilitating infiltration of through leaf litter into the soil, where natural biological and chemical processes take place, and trapping sediment, all of which together can maintain the integrity of waters, and supported uses. Municipalities are in the best position to establish effective vegetated buffers along waterway since development activities that impact water bodies are regulated locally.

Wetlands are often in flood plains or riparian areas, so limiting flood plain and stream-side development has the added benefit of protecting wetlands. Local knowledge of appropriate state and federal regulations (especially on the part of the Code Enforcement Officer) is very important. They are the "first line of defense" in protecting water resources and can inform property developers to file for all appropriate permits with the Army Corps of Engineers and the New York State Department of Environmental Conservation.

Much like the regulation of setbacks from roads and adjacent properties through zoning language, a municipality can regulate development near streams and wetlands with appropriate zoning language. Once adopted as part of zoning, it is important to allocate adequate resources for fair and consistent enforcement. There is also the possibility of adopting a Water Protection Overlay district, which covers all zoning areas but more strictly regulates activities near streams, lakes, and wetlands.

A municipality can protect sensitive areas through several means. These include adoption of environmental protection overlay districts (EPODS) as part of their zoning law. Riparian protection can be implemented through setbacks in the zoning code, and the site plan review process (for individual sites) and subdivision regulations (for larger developments). Alternatively, some municipalities have chosen to protect wetlands and riparian areas through their sediment and erosion control laws. Finally, careful administration of a flood prevention ordinance (which many municipalities have), can restrict development on flood prone, which are also often environmentally sensitive and/or riparian areas.

6. Erosion and Sediment Control: Construction of new buildings, roads and parking lots are activities that are typically regulated by the municipality. Activities involving land clearance can create erosion, which leads to sedimentation of waterways. Not only a significant cause of nonpoint source pollution, sedimentation can increase costs for municipalities in terms of ditch and storm drain cleaning. Development in areas with steep slopes is of particular concern, as the potential for more damaging erosion and sedimentation is greater.

Adoption of a well-crafted sediment and erosion control law or incorporating standards within zoning, subdivision, and site plan review controls are recommended techniques. Integration of New York State's Phase II Stormwater Regulations at the municipal level would greatly assist in controlling erosion and sedimentation from construction activities. To help implement stormwater controls, the Department of Environmental Conservation and the Department of State teamed up to produce the *Stormwater Management Gap Analysis Workbook for Local Officials* (SWMGAW). This assessment tool focuses on stormwater issues, and lists code language that *should* be present somewhere in municipal law and asks the municipality to identify it. It is available through the NYS Department of Environmental Conservation.

Areas of a municipality such as steep slopes, areas with very erodable soils, or areas adjacent to water bodies, face particular challenges when it comes to erosion. Adoption of effective zoning, subdivision, and site-plan regulations that specifically regulate the impacts that development in these can have on the water resources of the municipality is important. Adoption of an Environmental Protection Overlay District (EPOD), which can place more stringent regulations on these particularly sensitive areas, can also be very effective.

7. Stormwater Management and Drainage: Impervious surfaces such as roofs (building areas), roads, driveways, and parking lots are regulated by the municipality through its zoning laws, subdivision laws, and site plan review processes. Once water runs off of private property, it tends to become the problem of the municipality. Poorly designed or maintained public drainage infrastructure, such as ditches, can cause erosion, which leads to sedimentation of waterways. Not only a significant cause of nonpoint source pollution, sedimentation can increase costs for municipalities in terms of ditch and storm drain cleaning. There are many ways the municipality can improve the construction, operation and maintenance of this drainage infrastructure, which in turn leads to less damage to both private and public (roads, bridges, etc) property and improved water quality.

Adoption of a well-crafted sediment and erosion control law or incorporating standards within zoning, subdivision, and site plan review controls are recommended techniques. Integration of New York State's Phase II Stormwater Regulations at the municipal level would greatly assist in controlling erosion and sedimentation from construction activities. To help implement stormwater controls, the Department of Environmental Conservation and the Department of State teamed up to produce the *Stormwater Management Gap Analysis Workbook for Local Officials* (SWMGAW). This is the same assessment tool used in this report; it is used to compare the language currently present in municipal codes against the model code language that the DOS and DEC believes *should* be present in order to provide comprehensiveness. Regulated MS4 communities are currently the only municipalities subject to mandatory compliance with the standards set under Phase II Stormwater Regulations. As such, they are required by federal and state law to revise their local laws to meet said standards by January 1, 2008.

There is also the option of adopting an Environmental Protection Overlay District (EPOD), which can encompass particularly environmentally sensitive areas of the municipality (such as lakeshore or stream-side areas) with more stringent regulations. Finally, it is necessary for a municipality to allocate adequate resources for fair and consistent enforcement of any law once it is adopted.

Municipalities should also ensure that municipal highway/public works departments are trained in, and follow best management practices, such as establishing vegetation in newly cleaned ditches. The Highway Superintendent Road and Water Quality Handbook, Edition II, the Cornell Local Roads Program, and training opportunities with county and state transportation departments are resources. A municipality should regulate new road ditches through Subdivision Regulations and Site Plan Review.

Municipalities also have the option of forming a special district, known as a 'drainage district." Drainage districts are becoming more and more important as municipalities seek stable funding sources for the improvement, construction, operation, and maintenance of drainage structures, retention ponds, basins, ditches, and culverts. Developers, property owners, or homeowner's associations cannot always be depended upon to maintain stormwater facilities on a long term basis. Drainage districts are similar to special taxing districts used for schools, libraries, fire protection, sewers, sidewalks, and lighting.

8. Road and Bridge Maintenance: Municipalities are often responsible for dozens of miles of roads and roadside drainage-ways and ditches. Roadside ditches are part of the publicly-owned drainage infrastructure that collects water from a public road and adjacent development. Poorly designed or maintained ditches can lead to sedimentation of waterways. Not only a significant cause of nonpoint source pollution, sedimentation can increase costs for municipalities in terms of ditch and storm drain cleaning. Winter road maintenance, de-icing practices, and de-icing material storage practices can also negatively impact water quality.

There are many ways the municipality can improve the construction, operation and maintenance of this drainage infrastructure, which in turn leads to less damage to both private and public (roads, bridges, etc) property and improved water quality. Regular maintenance of existing infrastructure and establishing vegetative cover following maintenance using hydro-seeding are some examples; ensuring the consistent use of these practices is the greatest challenge. Municipalities should ensure that municipal highway/public works departments are trained in and follow best management practices. The Highway Superintendent Road and Water Quality Handbook, Edition II, the Cornell Local Roads Program, and training opportunities with county and state transportation departments are resources. A municipality should regulate new road ditches through Subdivision Regulations and Site Plan Review. Municipalities also have the option of forming a special district, known as a 'drainage district." See number *7. Stormwater Management and Drainage* above.

9. Junk: In addition to State environmental permitting, junkyards often undergo regulatory processes through local zoning. Junkyards can have significant impacts on water quality as old vehicles and appliances might leak oil or other hazardous and toxic liquids into the soil. After first contaminating the soil, liquid waste will eventually reach the groundwater and pollute local water resources.

A municipality can revise its zoning to limit junk yards to less environmentally sensitive areas or prohibit junkyards altogether. If they are permitted or mentioned in zoning or other regulations, a municipality should ensure that the definition of "junk" encompasses such things as old appliances, household waste, or uninhabitable mobile homes. Such an action helps to regulate aspects of junk not covered by state law and ensures greater compatibility with surrounding land-uses.

10. Waste Storage: Storing of waste (hazardous waste, garbage, etc.) can have water quality impacts when rainwater runs off such materials and into local water bodies. Whether dealing with their own facilities or regulating private property, municipalities can enforce waste storage regulations.

One of the best things a municipality can do to address waste storage is to simply maintain an inventory of old municipal and private waste sites (particularly on farms). There is also the potential for local laws that are more stringent than federal and state regulations. Appropriate Code Enforcement Officer training is also important.

11. Mining and Drilling: Mining operations can have significant impacts on surface and groundwater resources. Large mines can alter drainage patterns and affect water tables. Even smaller operations can, like any land disturbance, cause erosion, leading to sedimentation of waterways. Not only a significant

cause of nonpoint source pollution, sedimentation can increase costs for municipalities in terms of ditch and storm drain cleaning. The siting and drilling of gas, oil, brine, and other types of wells can impact water quality. Local knowledge of state regulations in this matter is important.

A municipality can use traditional zoning powers, such as limiting mining to particular zoning districts as a regulated land use. It can also apply local laws – such as a steep slope environmental protection overlay district – to mining, provided the law is written in such as way as to cover many uses/activities and does not single out mining. A municipality can also participate in the DEC permitting process through the Mined Land Reclamation Law (MLRL) (New York State Environmental Conservation Law, Article 23, Title 27) and regulate small scale mines that fall under the threshold of the MLRL. Finally, a municipality has the option of completely prohibiting mines from the entire municipality.

Knowledge and enforcement of State and Federal regulations is important. Oil, gas and solution mining is regulated by New York State under NYCRR Parts 550-559. The Department of Environmental Conservation has the basic responsibility for administering and regulating activities relative to the natural resources of oil and gas within the State.

12. Agriculture: Agricultural activities can have significant impacts on water quality. Runoff from farms carries higher levels of phosphorus and nitrates, leading to algae growth and oxygen depletion in nearby water bodies. Sediment washed from plowed field can choke public drainage ditches and streams. However, well-managed farmland can help protect water quality. Although many agricultural issues are regulated at the State level by the Department of Agriculture and Markets and the Department of Environmental Conservation, local municipal knowledge and encouragement of good agricultural practices can greatly assist water quality efforts. Local government is the level of government that the agricultural community is closest too, and often feels the most comfortable with, so a municipality's position on good farming practice can help further water quality efforts.

Local right-to-farm laws document the importance of farming to a community and put non-farm rural residents on notice that generally accepted agricultural practices are to be expected in farming areas. In small, rural municipalities, personal connections are often very important and many municipal administrations have close relationships with the farming community. Therefore, municipalities can actively encourage farms to participate in voluntary programs of the Natural Resources Conservation Service (NRCS) and the Soil and Water Conservation District (SWCD) such as the Agriculture Environmental Management (AEM) I Program and the Conservation Reserve Enrollment Program (CREP). AEM helps farms manage the environmental impacts from manure and agricultural chemicals, and CREP helps maintain natural vegetation, especially along streams.

A well-developed Agriculture Preservation Plan (either stand alone or as part of a municipal Comprehensive Plan) helps a municipality prioritize its agricultural assets. Encouraging, acknowledging, and rewarding farm participation in environmentally friendly practices such as AEM, CREP, and other programs is something that can be done at the municipal level. The 'Lake Friendly Farmer' program in Ontario County and the 'Lake Friendly Farm' program of the Cayuga Lake Watershed Network are two such models.

Finally, the American Farmland Trust published a *Guide to Local Planning for Agriculture* in New York in 2005. This concise, easy-to-use document is a very valuable resource for municipalities in New York State.

13. Forest Management: Municipalities can and do regulate timber harvesting. As with any land disturbance, timber harvesting can increase erosion and sedimentation. Sediment entering waterways is

not only a significant cause of nonpoint source pollution, but can also increase costs for municipalities in terms of ditch and storm drain cleaning. There are several ways to address this issue, from property owner education and outreach through County Soil and Water Conservation Districts and/or Cornell Cooperative Extensions, to municipal registration of large timber harvests, to enforcement of existing public highway laws (public highway laws often prohibit the deposition of mud and dirt on public roads). The most comprehensive method would be the adoption of a well-crafted Timber Harvesting Law.

14. Boating/Marinas: For municipalities with navigable waterways, recreational boating can have significant impacts on water quality, such as waste disposal and boat maintenance. The infrastructure necessary for boating, such as launches and marinas undergo the local zoning and permitting processes, so a municipality can have significant oversight on where and how these facilities are built.

Adoption of an effective zoning law or Dockings and Moorings Law which addresses vessel waste and other sources of pollution related to boating. The addition of a vessel pump-out facility at marinas and boating areas is a key provision in this regard. Grants are avail able for pump-out facilities at public and private marinas from the New York State Environmental Facilities Corporation through the Federal Clean Vessel Act.

VI. ASSESSMENT AND GAP ANALYSIS OF LOCAL LAWS

A. EXPLANATION OF WORKSHEET METHOD

The assessment and gap analysis of local laws and practices evolved from the recognition for a need to strengthen local controls regarding stormwater management and erosion and sediment control. While many communities across New York State recognize that water resources are important, and nonpoint water pollution remains a huge threat to those resources, it can be a daunting task to review local laws and practices to evaluate their ability to protect water quality. The Preliminary Local Codes Assessment Worksheets that follow sets the course for accomplishing this goal.

The Worksheets assess the degree to which local code addresses New York State GP 02-01 – SPDES General Permit for Stormwater Discharges from Construction Activity.[5] This law represents the most comprehensive regulatory procedure to date addressing environmental degradation associated with stormwater and erosion and sedimentation stemming from new construction activities that disturb an area of one acre or more. While municipalities in Seneca County are not required to pass a law relative to GP 02-01 at this point in time, the regulation nonetheless serves as a useful benchmark that municipalities across New York State can use to compare and contrast their own local laws.

As explained in detail in Appendix A, the New York State Department of State and Department of Environmental Conservation prepared a Sample Stormwater Management Local Law. This model law contains all the provisions needed to comply with GP 02-01. It is designed to be used with any existing configuration of local land use regulatory provisions. The adoption and enforcement of this model law would provide the municipalities with a tool for comprehensive protection from erosion and sedimentation caused by new construction activities that disturb one acre or more of land. The law would also require, however, a commitment of resources from the municipality for the provision of a designated official (sometimes referred to as a "drainage officer") for the purposes of reviewing and enforcing Stormwater Pollution Prevention Plans (SWPPPs), site inspection and record keeping. This official would preferably be trained in erosion and sediment control in order to perform these duties properly and efficiently.

If this law were adopted, the local code enforcement officer, in most instances, would be called upon to perform these duties. This situation can produce a considerable workload, however, when attempting to balance routine code enforcement duties with those required of a drainage officer. However, this depends on local rates of development, individual staff workloads and available supporting staff, such as administrative professionals, consulting engineers or legal council. In some instances, local municipalities find it beneficial to utilize the services and staff of Soil and Water Conservation Districts to perform some of these functions on behalf of the municipality.

Local board members (typically Zoning Board of Appeals and Planning Boards) would also require routine training in the regulations and procedures of GP 02-01. This can be satisfied by semi-annual training sessions which generally last between 3 to 6 hours.

Some municipalities may ask, *"Why doesn't the county simply adopt a Stormwater Management and Erosion Control Law on its own?"* The answer is that such a law regulates land use and most land use regulation (aside from agriculture) is the responsibility of local government in New York State.

[5] See page 11 for further explanation of GP 02-01.

Furthermore, some municipalities may ask, *"Why adopt a local Stormwater Management and Erosion Control Law if there are State regulations already in place?"* The answer is that some municipalities, particularly those that are seeing development pressure in sensitive areas (such as along lakeshores), want

Whether a municipality should adopt a local erosion and sediment control law depends, in large part, upon local conditions, especially the rate and type of new development. In some cases, the primary sources of erosion and sedimentation in a municipality may be caused by activities that local government has little or no control over (i.e. agricultural activities). In such cases, it may be more beneficial to develop solutions with local landowners rather than enact local laws.

B. Preliminary Local Codes Assessment: Explanation of Findings

The following section provides short explanations of the findings garnered from the Preliminary Local Codes Assessment Worksheet(s) in Appendix A of this report.

1. Town of Covert

A thorough review of the Town of Covert's applicable local laws (Land Subdivision Regulations (1981), Land Management Ordinance, Mobile Home Ordinance, et al.) revealed that few sections of local law meet equivalency with the *NYS Sample Stormwater Management and Erosion and Sediment Control Local Law*. Several components of the Town's current Subdivision Regulations do mirror the general framework of the Sample Local Law; however, a number of key components are absent.

Given that there is currently little to no reference to stormwater and erosion and sediment control procedures in the Town of Covert, adopting the *NYS Sample Stormwater Management Local Law*, or portions thereof, may be a prudent course of action. This law can be adopted with little alteration to the current laws that are in place. If a municipality adopts this local law, it enhances the level of enforcement through its local code enforcement staff. If municipalities find that they lack the resources to enforce the various components of this law, there are several ways that it can still maximize the law's potential and success. Municipalities can benefit by simply referencing the importance of and requirements associated with the Statewide Phase II Construction Permit within their local zoning, site plan review and subdivision regulations, thereby requiring developers to provide proof of compliance with the Phase II Construction Permit.

2. Town of Fayette

A thorough review of the Town of Fayette's applicable local laws (Zoning (1976), Subdivision Regulations (1977)) revealed that few sections of local law meet equivalency with the *NYS Sample Stormwater Management and Erosion and Sediment Control Local Law*. While Article V of the Town's Subdivision Regulations cite several necessary components which are similar to those required in the *NYS Sample Local Law*, most of the key components are absent. The only section where equivalency was found was under Sample Local Law, Article 6, which deals with inspection, enforcement and penalty procedures. Current procedures cited in the Town of Fayette's Zoning and Subdivision Ordinance would likely meet equivalency in this area.

Given that there is currently little to no reference to stormwater and erosion and sediment control procedures in the Town of Fayette, adopting the *NYS Sample Stormwater Management Local Law*, or portions thereof, may be a prudent course of action. This law can be adopted with little alteration to the current laws that are in place. If a municipality adopts this local law, it enhances the level of enforcement through its local code enforcement staff. If municipalities find that they lack the resources to enforce the

various components of this law, there are several ways that it can still maximize the law's potential and success. Municipalities can benefit by simply referencing the importance of and requirements associated with the Statewide Phase II Construction Permit within their local zoning, site plan review and subdivision regulations, thereby requiring developers to provide proof of compliance with the Phase II Construction Permit.

3. Village of Interlaken
No local laws were found to be present.

4. Town of Junius
No local laws were found to be present.

5. Town of Lodi
No local laws were found to be present.

6. Village of Lodi
No local laws were found to be present.

7. Town of Ovid
No local laws were found to be present.

8. Village of Ovid
No local laws were found to be present.

9. Town of Seneca Falls
A thorough review of the Town of Seneca Falls' applicable local laws (Zoning (1998), Subdivision Regulations, Joint Town/Village Comprehensive Plan (1969)) revealed that few sections of local law meet equivalency with the *NYS Sample Stormwater Management and Erosion and Sediment Control Local Law*. While Article II §86-6 and §86-7 of the Town's Subdivision Regulations cite several necessary documents which are similar to those required in the *NYS Sample Local Law*, most of the key components are absent. The only section where equivalency was found was under Sample Local Law, Article 6, which deals with inspection, enforcement and penalty procedures. Current procedures cited in the Town of Seneca Falls Zoning and Subdivision Ordinance would likely meet equivalency in this area.

Given that there is currently little to no reference to stormwater and erosion and sediment control procedures in the Town of Seneca Falls, adopting the *NYS Sample Stormwater Management Local Law,* or portions thereof, may be a prudent course of action. This law can be adopted with little alteration to the current laws that are in place. If a municipality adopts this local law, it enhances the level of enforcement through its local code enforcement staff. If municipalities find that they lack the resources to enforce the various components of this law, there are several ways that it can still maximize the law's potential and success. Municipalities can benefit by simply referencing the importance of and requirements associated with the Statewide Phase II Construction Permit within their local zoning, site plan review and subdivision regulations, thereby requiring developers to provide proof of compliance with the Phase II Construction Permit.

10. Village of Seneca Falls
A thorough review of the Village of Seneca Falls' applicable local laws (Zoning (1984), Subdivision Regulations (1969), Site Plan Review, Flood Damage Prevention (1987), Joint Village/Village Comprehensive Plan (1969) et al.) revealed that few sections of local law meet equivalency with the *NYS Sample Stormwater Management and Erosion and Sediment Control Local Law*. While §207.10-E of the

Village's Subdivision Regulations cite several necessary documents that are similar to those required in the *NYS Sample Local Law*, most of the key components are absent. The only section where equivalency was found was under Sample Local Law, Article 6, which deals with inspection, enforcement and penalty procedures. Current procedures cited in the Village of Seneca Falls Zoning and Subdivision Ordinance would likely meet equivalency in this area.

Given that there is currently little to no reference to stormwater and erosion and sediment control procedures in the Village of Seneca Falls, adopting the *NYS Sample Stormwater Management Local Law*, or portions thereof, may be a prudent course of action. This law can be adopted with little alteration to the current laws that are in place. If a municipality adopts this local law, it enhances the level of enforcement through its local code enforcement staff. If municipalities find that they lack the resources to enforce the various components of this law, there are several ways that it can still maximize the law's potential and success. Municipalities can benefit by simply referencing the importance of and requirements associated with the Statewide Phase II Construction Permit within their local zoning, site plan review and subdivision regulations, thereby requiring developers to provide proof of compliance with the Phase II Construction Permit.

11. Town of Tyre

A thorough review of the Town of Tyre's applicable local laws (Zoning (1991), Comprehensive Plan (draft)) revealed that few sections of local law meet equivalency with the *NYS Sample Stormwater Management and Erosion and Sediment Control Local Law*. While §207.10-E of the Village's Subdivision Regulations cite several necessary documents which are similar to those required in the *NYS Sample Local Law*, most of the key components are absent. The only section where equivalency was found was under Sample Local Law, Article 6, which deals with inspection, enforcement and penalty procedures. Current procedures cited in the Town of Tyre Zoning would likely meet equivalency in this area.

Given that there is currently little to no reference to stormwater and erosion and sediment control procedures in the Town of Tyre, adopting the *NYS Sample Stormwater Management Local Law*, or portions thereof, may be a prudent course of action. This law can be adopted with little alteration to the current laws that are in place. If a municipality adopts this local law, it enhances the level of enforcement through its local code enforcement staff. If municipalities find that they lack the resources to enforce the various components of this law, there are several ways that it can still maximize the law's potential and success. Municipalities can benefit by simply referencing the importance of and requirements associated with the Statewide Phase II Construction Permit within their local zoning, site plan review and subdivision regulations, thereby requiring developers to provide proof of compliance with the Phase II Construction Permit.

12. Town of Waterloo

A thorough review of the Town of Waterloo's applicable local laws (Zoning (2000), Subdivision (draft) Site Plan Review (part of Zoning) and Comprehensive Plan (2000)) revealed that few sections of local law meet equivalency with the *NYS Sample Stormwater Management and Erosion and Sediment Control Local Law*. This is not to imply, however, that the Town did not have adequate provisions written into local law to account for erosion and sediment control. Notably §79-6 and §79-7 of the Town's Zoning – Site Plan Review puts forth specific standards relevant to drainage, erosion, impermeable surfaces, flood zones and pre/post construction stabilization practices. Measures for inspection and penalties are clearly in place and also meet equivalency with the NYS Sample Local Law.

Therefore, while the Town of Waterloo's current local laws do not meet full equivalency with the NYS Sample Local Law, if applications are provided strict scrutiny by applicable boards and plans are being

properly enforced by the Code Enforcement Officer, baseline protection from erosion and sedimentation stemming from construction activities appears to be in place.

In the future, the Town of Waterloo may want to do a full assessment of its local laws in order to evaluate their effectiveness and comprehensiveness in comparison to the state model. In doing so, the Town will be given a better indication of whether the current specifications listed within the local code are adequate and satisfactory in comparison to the state model. The Town may also want to consider referencing the importance of and requirements associated with the Statewide Phase II Construction Permit within their local zoning, site plan review and subdivision regulations, thereby requiring developers to provide proof of compliance with the Phase II Construction Permit.

13. Village of Waterloo

A thorough review of the Village of Waterloo's applicable local laws (Zoning (1996), Site Plan Review (part of Zoning) and Flood Ordinance (1987)) revealed that few sections of local law meet equivalency with the *NYS Sample Stormwater Management and Erosion and Sediment Control Local Law*. The only section where equivalency was found was under Sample Local Law, Article 6, which deals with inspection, enforcement and penalty procedures. Current procedures cited in the Village of Waterloo's Zoning would likely meet equivalency in this area.

Given that there is currently little to no reference to stormwater and erosion and sediment control procedures in the Village of Waterloo, adopting the *NYS Sample Stormwater Management Local Law*, or portions thereof, may be a prudent course of action. This law can be adopted with little alteration to the current laws that are in place. If a municipality adopts this local law, it enhances the level of enforcement through its local code enforcement staff. If municipalities find that they lack the resources to enforce the various components of this law, there are several ways that it can still maximize the law's potential and success. Municipalities can benefit by simply referencing the importance of and requirements associated with the Statewide Phase II Construction Permit within their local zoning, site plan review and subdivision regulations, thereby requiring developers to provide proof of compliance with the Phase II Construction Permit.

14. Town of Varick

A thorough review of the Town of Varick's applicable local laws (Zoning (2003), Subdivision (1997)) revealed that few sections of local law meet equivalency with the *NYS Sample Stormwater Management and Erosion and Sediment Control Local Law*. The only section where equivalency was found was under Sample Local Law, Article 6, which deals with inspection, enforcement and penalty procedures. Current procedures cited in the Town of Varick's Zoning would likely meet equivalency in this area.

Given that there is currently little to no reference to stormwater and erosion and sediment control procedures in the Town of Varick, adopting the *NYS Sample Stormwater Management Local Law*, or portions thereof, may be a prudent course of action. This law can be adopted with little alteration to the current laws that are in place. If a municipality adopts this local law, it enhances the level of enforcement through its local code enforcement staff. If municipalities find that they lack the resources to enforce the various components of this law, there are several ways that it can still maximize the law's potential and success. Municipalities can benefit by simply referencing the importance of and requirements associated with the Statewide Phase II Construction Permit within their local zoning, site plan review and subdivision regulations, thereby requiring developers to provide proof of compliance with the Phase II Construction Permit.

APPENDICES

A. Preliminary Local Codes Assessment Worksheets

The following text has been taken from the *Stormwater Management Gap Analysis Workbook for Local Officials*, a publication of the NYS DEC. The tables that follow are also within this workbook, but data entered has been researched and compiled by G/FLRPC staff.

Complying with Minimum Control Measures 4 and 5 through a Stormwater Management Local Law

The easiest way for a regulated MS4 municipality to ensure that it satisfies Minimum Measures 4 and 5 is to adopt the Sample Stormwater Management Local Law as amendments to existing local land use laws (see *Stormwater Guide for Local Officials***, Chapter 3 and Appendix 1).**

In New York State, local land use law is the framework for carrying out the construction/post-construction stormwater management program. The Sample Stormwater Management Local Law, which was prepared by the New York State Department of State and Department of Environmental Conservation (DOS and DEC), contains all the provisions needed to comply with Minimum Measures 4 and 5. It is designed to be used with any existing configuration of local land use regulatory provisions.

Because New York State expects that local stormwater management programs will be integrated with other local regulatory programs, the Sample Local Law is set up as amendments to local land use laws that are already in existence in most regulated MS4 communities. Localities that adopt the sample law as amendments to their existing land use laws will not need to conduct Gap Analysis.

Using the Gap Analysis Workbook to Assess Compliance

The MS4 permit stipulates that regulated MS4 municipalities can comply with Minimum Measures 4 and 5 by developing programs that are equivalent to GP 02-01. This Gap Analysis Workbook is designed to evaluate the equivalence of local laws that are not identical to the *Sample Stormwater Management Local Law*, and will be used by New York State in reviewing local programs for compliance.

What Local Governments Will Get From Using the Workbook

Assessment of the municipality's current stormwater management compliance status
A way to document the equivalence of existing provisions to Minimum Control Measures 4 and 5
A list of changes needed to bring local laws into compliance with stormwater management requirements
A framework for annual reports of the community's progress in building the local stormwater management program

Determining Equivalence of Local Regulatory Mechanisms

To meet the equivalence standard, a local law should accomplish the same thing as the requirements under Minimum Control Measures 4 and 5 of GP 02-01. Of course, some localities prefer to exceed these requirements, and will design provisions of their local laws to do so.

The *Sample Stormwater Management Local Law* is designed to amend local land use laws and regulations so that they will accomplish the intent of GP 02-01. If the locality prefers legislative language that is different from the Sample Local Law, the resulting local code must still meet the full intent of the Sample

Law. The municipality must demonstrate that its local code contains all the technical and land use requirements outlined in the two General Permits and detailed in New York State's technical standards.

Basic Provisions That Must be Present in Local Law

To comply with state and federal law, local law must contain all of the following provisions:

- Apply to all construction activities disturbing one acre or more
- Require construction site operators to prepare Stormwater Pollution Prevention Plans (SWPPPs) before construction begins
- Require stormwater controls consistent with state technical standards (adopt the state technical standards for stormwater management facilities and practices or equivalent)
- Provide for local review and approval of SW PPPs by the planning board, code enforcement officer or other designated officials, for local land use decisions including (but not limited to) subdivisions, site plans and special permits
- Require management of waste on construction sites
- Establish responsibility for ongoing maintenance of stormwater management facilities
- Provide technical standards and access for ongoing maintenance
- Specify requirements for inspections, penalties and enforcement that apply to the stormwater management program

Technical Standards Required in Local Law

As a general principle, to be equivalent to the *Sample Storm waler Management Local Law,* a municipality's local laws or ordinances must require at a minimum technical standards as described in *New York Standards and Specifications for Erosion and Sediment Control* (updated in *2005)* and the *New York State Storm water Management Design Manual* (updated in 2003). Key provisions include:

- **Updated sizing and material specifications** for erosion and sediment control practices used during construction, maintenance criteria and requirements for preparing and implementing Stormwater Pollution Prevention Plans (SWPPPs), as detailed in the 2005 *NY Standards and SpecficationsJbr Erosion & Sediment Control.*
- **Design oi stormwnter management practices** based on the criteria contained in the 2003 *Storm water Design Manual* for water quality volume, channel protection volume, overbank flood control, and extreme storm flood control.

The New York State technical guidance documents may be obtained from DEC or DOS. An order form and downloadable files are available on the Internet at http://www.dec.state.ny.us/website/dow/Workbookbox/escstandards/index.html and http://www.dos.state.ny.us/lgss/stormwaterpub/index.html

Applicability Requirements
The local law must apply the technical standards to the following C P-02-0 1 categories:

- **All projects disturbing more than one acre of soil** must prepare an erosion and sediment control plan
- **For multi-family, commercial, industrial, institutional and highway projects of more than one acre of soil disturbance, single family home subdivisions of more than five acres of soil disturbance, and projects draining to a 303(4) listed waterbody or located in a TMDL watershed,** the SWPPP must also include water quantity and water quality controls (post-construction stormwater management controls).

Preliminary Local Codes Assessment Worksheet
Compliance with Stormwater Management Minimum Control Measures 4 and 5

Town of Covert

Sample Local Law Provision ***See the referenced section of the full Sample Local Law for complete legislative language.***	***Local Code Where Provision is Found (Enter Citation)*** ***To determine whether local code matches a provision of the sample law, consult the Demonstration of Equivalence worksheet for that article and section of the sample law.-***					***Notes***
	Zoning Law	***Subdivision Regulation***	***Site Plan Review***	***E&SC Law***	***Other***	
Sample Local Law, Article 1						
Section 4.1 Applicability. Applicable to all construction activity ... that results in land disturbance equal to or greater than one acre, or activities disturbing less than one acre...that is part of a larger common plan of development or sale....	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**No Equivalency** Land Management Ordinance, Sec.3-3: Minimum lot area for each dwelling unit to be 1 acre. [Note: to be equivalent, the local law must include provisions that apply to activities that ***disturb*** one acre or more of soil]	

Sample Local Law Provision ***See the referenced section of the full Sample Local Law for complete legislative language.***	***Local Code Where Provision is Found (Enter Citation)*** ***To determine whether local code matches a provision of the sample law, consult the Demonstration of Equivalence worksheet for that article and section of the sample law.-***					***Notes***
	Zoning Law	***Subdivision Regulation***	***Site Plan Review***	***E&SC Law***	***Other***	
4.2 SWPPP Review Procedure. The municipality ... shall accept and review all stormwater pollution prevention plans (SWPPPs). [The stormwater management local law must define the procedure by which the SWPPP is distributed to all land use review boards.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
4.3 SWPPP Review Requirement. All land development activities subject to review and approval by the (applicable board) under (subdivision, site plan, and/or special permit) regulations shall be reviewed subject to the standards contained in this local law	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
4.4 SWPPP Review Requirement. All land development activities not subject to review as stated in section 4.3 shall be required to submit a Stormwater Pollution Prevention Plan (SWPPP)...	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Sample Local Law, Article 2						
Section 2.1 Stormwater Pollution Prevention Plan (SWPPP) Requirement. No application for approval of a land development activity shall be reviewed until the appropriate board has received a SWPPP prepared in accordance with the specifications in this local law.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
2.2.2.1 Contents of Stormwater Pollution Prevention Plans. [To comply, the local law must require all 16 items in the SWPPP, 2.2.1.1-16: Project scope; site map/construction drawings; soils description; construction phasing plan; pollution prevention measures; waste controls; soil stabilization, runoff control and sedimentation control measures location and size; specifications; temporary practices to be converted to permanent control measures; implementation schedule; maintenance schedule; receiving waters; implementation responsibilities; description of structural practices; existing runoff data.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**No Equivalency** Land Management Ordinance, Sec.2: Application for building permit to include sewage and stormwater drainage, location of water supply [Note: while similar in aim, this section of local law does not meet equivalency]	
2.2.2 Definition of Land Development Activities Requiring Post-construction Stormwater Controls, must be as stated in sample local law.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

2.2.3 Constituents of SWPPP when post-construction stormwater management practices are required. [To comply, the local law must require items 1-7 in the SWPPP, 2.2.3.1-7: The 16 E&SC information requirements, plus description of post-construction practices; site map/construction drawings; hydrologic and hydraulic analysis; comparison of pre- and post-development runoff; post-construction practice specifications; maintenance schedule.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
Section 3.1, Technical Standards. Stormwater management practices that are designed and constructed in accordance with these technical documents shall be presumed to meet the standards imposed by this law: 3.11 The New York State Stormwater Management Design Manual and 3.12 New York Standards and Specifications for Erosion and Sediment Control.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
Section 4. Maintenance and Repair of Stormwater Facilities During Construction 4.1.1 The applicant or developer of the land development activity shall at all times properly operate and maintain all facilities and systems of treatment and control. 4.1.2 Inspection reports shall be completed every 7 days and within 24 hours of any storm event producing 0.5 inches of precipitation or more.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Sample Local Law, Articles 3, 4 and 5 *To be in compliance with the Stormwater Management General Permit for MS4s (GP-02-02), localities that have Subdivision Regulations, Site Plan Review Regulations or Erosion and Sediment Control Laws must amend these laws.*						
Article 3. Subdivision Regulation Amendment - Requires Stormwater Pollution Prevention Plans for subdivision approval per requirements in Articles 1 and 2 of the Sample Local Law.		**Not Present**				
Article 4. Site Plan Review Regulation Amendment - Requires Stormwater Pollution Prevention Plans for site plan approval per requirements in Articles 1and 2.			**Not Present**			
Article 5. Erosion and Sediment Control (E&SC) Law Amendment - Updates an existing law to require Stormwater Pollution Prevention Plans per requirements in Article 2. (Alternatively the E&SC law may be repealed and all stormwater management provisions placed in Zoning and other local land use controls.)				**Not Present**		
Sample Local Law, Article 6						
Section 1. Construction Inspection 1.1 Erosion and Sediment Control Inspection. [The MS4 permit requires localities to have procedures for inspecting control measures. Indicate where these procedures are found in local law.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Section 3.1, 3.2, 3.3 Enforcement Procedures. [The MS4 permit requires localities to have procedures for enforcing control measures. Indicate where these procedures are found in local law.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
3.4, 3.5, 3.6 Penalties. [The MS4 permit requires municipalities to enact sanctions (penalties) to ensure compliance to the extent allowed by state or local law. Indicate where these penalties are found in local law.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

How to Use the Preliminary Local Codes Assessment

The left-hand column lists key provisions of the Sample Stormwater Management Local Law. In the column headed by the type of ordinance where the provision appears in the local code, write the section of your law or regulation that contains the required provision.

How to Interpret the Preliminary Local Codes Assessment

If none of the provisions listed in the Preliminary Assessment worksheet appears in the local code, the municipality will need to make extensive amendments to existing laws and should consider amending local land use laws as given in the Sample Stormwater Management Local Law. ***If a regulated MS4 municipality adopts the Sample Local Law, Gap Analysis will not be needed.***

If a few of the provisions in the worksheet appear in local code, significant amendments will be necessary and adopting the Sample Local Law may be an attractive alternative. Gap Analysis will identify which amendments the MS4 must make and how they should be worded.

If most of the provisions in the worksheet appear in local code, minor amendments will probably bring the code into compliance. Gap Analysis will identify required revisions.

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No Equivalency: *the cited local law was found to be similar in structure or spirit to the Sample Stormwater Management Local Law. However, the law does not meet the requirements for equivalency*

✓ **Equivalency:** *the cited portion of local law is equivalent to the Sample Stormwater Management Local Law*

Town of Covert Documents

Land Subdivision Regulations, 1981

Land Management Ordinance

Mobile Home Ordinance

Swimming Pool Ordinance

Preliminary Local Codes Assessment Worksheet
Compliance with Stormwater Management Minimum Control Measures 4 and 5

Town of Fayette

Sample Local Law Provision ***See the referenced section of the full Sample Local Law for complete legislative language.***	***Local Code Where Provision is Found (Enter Citation)*** ***To determine whether local code matches a provision of the sample law, consult the Demonstration of Equivalence worksheet for that article and section of the sample law.-***					***Notes***
	Zoning Law	***Subdivision Regulation***	***Site Plan Review***	***E&SC Law***	***Other***	
Sample Local Law, Article 1						
Section 4.1 Applicability. Applicable to all construction activity ... that results in land disturbance equal to or greater than one acre, or activities disturbing less than one acre...that is part of a larger common plan of development or sale....	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
4.2 SWPPP Review Procedure. The municipality ... shall accept and review all stormwater pollution prevention plans (SWPPPs). [The stormwater management local law must define the procedure by which the SWPPP is distributed to all land use review boards.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Sample Local Law Provision ***See the referenced section of the full Sample Local Law for complete legislative language.***	***Local Code Where Provision is Found (Enter Citation)*** ***To determine whether local code matches a provision of the sample law, consult the Demonstration of Equivalence worksheet for that article and section of the sample law.-***					***Notes***
	Zoning Law	***Subdivision Regulation***	***Site Plan Review***	***E&SC Law***	***Other***	
4.3 SWPPP Review Requirement. All land development activities subject to review and approval by the (applicable board) under (subdivision, site plan, and/or special permit) regulations shall be reviewed subject to the standards contained in this local law	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
4.4 SWPPP Review Requirement. All land development activities not subject to review as stated in section 4.3 shall be required to submit a Stormwater Pollution Prevention Plan (SWPPP)...	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Sample Local Law, Article 2						
Section 2.1 Stormwater Pollution Prevention Plan (SWPPP) Requirement. No application for approval of a land development activity shall be reviewed until the appropriate board has received a SWPPP prepared in accordance with the specifications in this local law.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
2.2.2.1 Contents of Stormwater Pollution Prevention Plans. [To comply, the local law must require all 16 items in the SWPPP, 2.2.1.1-16: Project scope; site map/construction drawings; soils description; construction phasing plan; pollution prevention measures; waste controls; soil stabilization, runoff control and sedimentation control measures location and size; specifications; temporary practices to be converted to permanent control measures; implementation schedule; maintenance schedule; receiving waters; implementation responsibilities; description of structural practices; existing runoff data.]	**Not Present**	**No Equivalency** Article V Documents to be submitted Sections 1, 2 & 3 Plat (minor and major) and accompanying data [Note: While several documents required in the law cited above are similar to 2.2.2.1, in order to meet equivalency, all 16 minimum requirements for Part 1 of a SWPPP must be included in the local law]	**Not Present**	**Not Present**	**Not Present**	

2.2.2 Definition of Land Development Activities Requiring Post-construction Stormwater Controls, must be as stated in sample local law.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
2.2.3 Constituents of SWPPP when post-construction stormwater management practices are required. [To comply, the local law must require items 1-7 in the SWPPP, 2.2.3.1-7: The 16 E&SC information requirements, plus description of post-construction practices; site map/construction drawings; hydrologic and hydraulic analysis; comparison of pre- and post-development runoff; post-construction practice specifications; maintenance schedule.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
Section 3.1, Technical Standards. Stormwater management practices that are designed and constructed in accordance with these technical documents shall be presumed to meet the standards imposed by this law: 3.11 The New York State Stormwater Management Design Manual and 3.12 New York Standards and Specifications for Erosion and Sediment Control.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Section 4. Maintenance and Repair of Stormwater Facilities During Construction 4.1.1 The applicant or developer of the land development activity shall at all times properly operate and maintain all facilities and systems of treatment and control. 4.1.2 Inspection reports shall be completed every 7 days and within 24 hours of any storm event producing 0.5 inches of precipitation or more.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
Sample Local Law, Articles 3, 4 and 5 *To be in compliance with the Stormwater Management General Permit for MS4s (GP-02-02), localities that have Subdivision Regulations, Site Plan Review Regulations or Erosion and Sediment Control Laws must amend these laws.*						
Article 3. Subdivision Regulation Amendment - Requires Stormwater Pollution Prevention Plans for subdivision approval per requirements in Articles 1 and 2 of the Sample Local Law.		**Not Present**				
Article 4. Site Plan Review Regulation Amendment - Requires Stormwater Pollution Prevention Plans for site plan approval per requirements in Articles 1and 2.			**Not Present**			

Article 5. Erosion and Sediment Control (E&SC) Law Amendment - Updates an existing law to require Stormwater Pollution Prevention Plans per requirements in Article 2. (Alternatively the E&SC law may be repealed and all stormwater management provisions placed in Zoning and other local land use controls.)				**Not Present**		
Sample Local Law, Article 6						
Section 1. Construction Inspection 1.1 Erosion and Sediment Control Inspection. [The MS4 permit requires localities to have procedures for inspecting control measures. Indicate where these procedures are found in local law.]	✓ **Equivalency** **:** Article IV Enforcement § 402.1 Duties of the Building Inspector	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
Section 3.1, 3.2, 3.3 Enforcement Procedures. [The MS4 permit requires localities to have procedures for enforcing control measures. Indicate where these procedures are found in local law.]	✓ **Equivalency** **:** Article IV Enforcement § 401.1 and Article VIII Violations §801.1 Enforcement	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
3.4, 3.5, 3.6 Penalties. [The MS4 permit requires municipalities to enact sanctions (penalties) to ensure compliance to the extent allowed by state or local law. Indicate where these penalties are found in local law.]	✓ **Equivalency** **:** Article VIII Violations §802.1 Penalties	✓ **Equivalency** Article VII Violations, Penalties and Injunctions, Section 1	**Not Present**	**Not Present**	**Not Present**	

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Town of Fayette Documents:

Zoning Ordinance, 1977

Subdivision Regulations, 1977

Preliminary Local Codes Assessment Worksheet
Compliance with Stormwater Management Minimum Control Measures 4 and 5

Village of Interlaken (Note: Village has no local laws on file with G/FLRPC)

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Section 2.1 Stormwater Pollution Prevention Plan (SWPPP) Requirement. No application for approval of a land development activity shall be reviewed until the appropriate board has received a SWPPP prepared in accordance with the specifications in this local law.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
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Article 5. Erosion and Sediment Control (E&SC) Law Amendment - Updates an existing law to require Stormwater Pollution Prevention Plans per requirements in Article 2. (Alternatively the E&SC law may be repealed and all stormwater management provisions placed in Zoning and other local land use controls.)				**Not Present**		
Sample Local Law, Article 6						
Section 1. Construction Inspection 1.1 Erosion and Sediment Control Inspection. [The MS4 permit requires localities to have procedures for inspecting control measures. Indicate where these procedures are found in local law.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Section 3.1, 3.2, 3.3 Enforcement Procedures. [The MS4 permit requires localities to have procedures for enforcing control measures. Indicate where these procedures are found in local law.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
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✓ **Equivalency:** *the cited portion of local law is equivalent to the Sample Stormwater Management Local Law*

NO LOCAL LAWS FOR THE VILLAGE OF INTERLAKEN ON FILE WITH G/FLRPC

Preliminary Local Codes Assessment Worksheet
Compliance with Stormwater Management Minimum Control Measures 4 and 5

Town of Junius (Note: Town has no local laws on file with G/FLRPC)

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Sample Local Law, Article 1						
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4.2 SWPPP Review Procedure. The municipality ... shall accept and review all stormwater pollution prevention plans (SWPPPs). [The stormwater management local law must define the procedure by which the SWPPP is distributed to all land use review boards.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

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NO LOCAL LAWS FOR THE TOWN OF JUNIUS ON FILE WITH G/FLRPC

Preliminary Local Codes Assessment Worksheet
Compliance with Stormwater Management Minimum Control Measures 4 and 5

Town of Lodi (Note: Town has no local laws on file with G/FLRPC)

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NO LOCAL LAWS FOR THE TOWN OF LODI ON FILE WITH G/FLRPC

Preliminary Local Codes Assessment Worksheet
Compliance with Stormwater Management Minimum Control Measures 4 and 5

Village of Lodi (Note: Village has no local laws on file with G/FLRPC)

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Compliance with Stormwater Management Minimum Control Measures 4 and 5

Village of Ovid (Note: Village has no local laws on file with G/FLRPC)

Sample Local Law Provision ***See the referenced section of the full Sample Local Law for complete legislative language.***	***Local Code Where Provision is Found (Enter Citation)*** ***To determine whether local code matches a provision of the sample law, consult the Demonstration of Equivalence worksheet for that article and section of the sample law.-***					***Notes***
	Zoning Law	***Subdivision Regulation***	***Site Plan Review***	***E&SC Law***	***Other***	
Sample Local Law, Article 1						
Section 4.1 Applicability. Applicable to all construction activity ... that results in land disturbance equal to or greater than one acre, or activities disturbing less than one acre...that is part of a larger common plan of development or sale....	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
4.2 SWPPP Review Procedure. The municipality ... shall accept and review all stormwater pollution prevention plans (SWPPPs). [The stormwater management local law must define the procedure by which the SWPPP is distributed to all land use review boards.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Sample Local Law Provision ***See the referenced section of the full Sample Local Law for complete legislative language.***	***Local Code Where Provision is Found (Enter Citation)*** ***To determine whether local code matches a provision of the sample law, consult the Demonstration of Equivalence worksheet for that article and section of the sample law.-***					***Notes***
	Zoning Law	***Subdivision Regulation***	***Site Plan Review***	***E&SC Law***	***Other***	
4.3 SWPPP Review Requirement. All land development activities subject to review and approval by the (applicable board) under (subdivision, site plan, and/or special permit) regulations shall be reviewed subject to the standards contained in this local law	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
4.4 SWPPP Review Requirement. All land development activities not subject to review as stated in section 4.3 shall be required to submit a Stormwater Pollution Prevention Plan (SWPPP)...	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Sample Local Law, Article 2						
Section 2.1 Stormwater Pollution Prevention Plan (SWPPP) Requirement. No application for approval of a land development activity shall be reviewed until the appropriate board has received a SWPPP prepared in accordance with the specifications in this local law.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
2.2.2.1 Contents of Stormwater Pollution Prevention Plans. [To comply, the local law must require all 16 items in the SWPPP, 2.2.1.1-16: Project scope; site map/construction drawings; soils description; construction phasing plan; pollution prevention measures; waste controls; soil stabilization, runoff control and sedimentation control measures location and size; specifications; temporary practices to be converted to permanent control measures; implementation schedule; maintenance schedule; receiving waters; implementation responsibilities; description of structural practices; existing runoff data.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
2.2.2 Definition of Land Development Activities Requiring Post-construction Stormwater Controls, must be as stated in sample local law.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

2.2.3 Constituents of SWPPP when post-construction stormwater management practices are required. [To comply, the local law must require items 1-7 in the SWPPP, 2.2.3.1-7: The 16 E&SC information requirements, plus description of post-construction practices; site map/construction drawings; hydrologic and hydraulic analysis; comparison of pre- and post-development runoff; post-construction practice specifications; maintenance schedule.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
Section 3.1, Technical Standards. Stormwater management practices that are designed and constructed in accordance with these technical documents shall be presumed to meet the standards imposed by this law: 3.11 The New York State Stormwater Management Design Manual and 3.12 New York Standards and Specifications for Erosion and Sediment Control.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
Section 4. Maintenance and Repair of Stormwater Facilities During Construction 4.1.1 The applicant or developer of the land development activity shall at all times properly operate and maintain all facilities and systems of treatment and control. 4.1.2 Inspection reports shall be completed every 7 days and within 24 hours of any storm event producing 0.5 inches of precipitation or more.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Sample Local Law, Articles 3, 4 and 5 *To be in compliance with the Stormwater Management General Permit for MS4s (GP-02-02), localities that have Subdivision Regulations, Site Plan Review Regulations or Erosion and Sediment Control Laws must amend these laws.*						
Article 3. Subdivision Regulation Amendment - Requires Stormwater Pollution Prevention Plans for subdivision approval per requirements in Articles 1 and 2 of the Sample Local Law.		**Not Present**				
Article 4. Site Plan Review Regulation Amendment - Requires Stormwater Pollution Prevention Plans for site plan approval per requirements in Articles 1and 2.			**Not Present**			
Article 5. Erosion and Sediment Control (E&SC) Law Amendment - Updates an existing law to require Stormwater Pollution Prevention Plans per requirements in Article 2. (Alternatively the E&SC law may be repealed and all stormwater management provisions placed in Zoning and other local land use controls.)				**Not Present**		
Sample Local Law, Article 6						
Section 1. Construction Inspection 1.1 Erosion and Sediment Control Inspection. [The MS4 permit requires localities to have procedures for inspecting control measures. Indicate where these procedures are found in local law.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Section 3.1, 3.2, 3.3 Enforcement Procedures. [The MS4 permit requires localities to have procedures for enforcing control measures. Indicate where these procedures are found in local law.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
3.4, 3.5, 3.6 Penalties. [The MS4 permit requires municipalities to enact sanctions (penalties) to ensure compliance to the extent allowed by state or local law. Indicate where these penalties are found in local law.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

How to Use the Preliminary Local Codes Assessment

The left-hand column lists key provisions of the Sample Stormwater Management Local Law. In the column headed by the type of ordinance where the provision appears in the local code, write the section of your law or regulation that contains the required provision.

How to Interpret the Preliminary Local Codes Assessment

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Entry Headings Prepared by G/FLRPC

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✓ **Equivalency:** *the cited portion of local law is equivalent to the Sample Stormwater Management Local Law*

NO LOCAL LAWS FOR THE VILLAGE OF OVID ON FILE WITH G/FLRPC

Preliminary Local Codes Assessment Worksheet
Compliance with Stormwater Management Minimum Control Measures 4 and 5

Town of Seneca Falls

Sample Local Law Provision ***See the referenced section of the full Sample Local Law for complete legislative language.***	***Local Code Where Provision is Found (Enter Citation)*** ***To determine whether local code matches a provision of the sample law, consult the Demonstration of Equivalence worksheet for that article and section of the sample law.-***					***Notes***
	Zoning Law	***Subdivision Regulation***	***Site Plan Review***	***E&SC Law***	***Other***	
Sample Local Law, Article 1						
Section 4.1 Applicability. Applicable to all construction activity ... that results in land disturbance equal to or greater than one acre, or activities disturbing less than one acre...that is part of a larger common plan of development or sale....	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
4.2 SWPPP Review Procedure. The municipality ... shall accept and review all stormwater pollution prevention plans (SWPPPs). [The stormwater management local law must define the procedure by which the SWPPP is distributed to all land use review boards.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Sample Local Law Provision ***See the referenced section of the full Sample Local Law for complete legislative language.***	***Local Code Where Provision is Found (Enter Citation)*** ***To determine whether local code matches a provision of the sample law, consult the Demonstration of Equivalence worksheet for that article and section of the sample law.-***					***Notes***
	Zoning Law	***Subdivision Regulation***	***Site Plan Review***	***E&SC Law***	***Other***	
4.3 SWPPP Review Requirement. All land development activities subject to review and approval by the (applicable board) under (subdivision, site plan, and/or special permit) regulations shall be reviewed subject to the standards contained in this local law	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
4.4 SWPPP Review Requirement. All land development activities not subject to review as stated in section 4.3 shall be required to submit a Stormwater Pollution Prevention Plan (SWPPP)...	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Sample Local Law, Article 2						
Section 2.1 Stormwater Pollution Prevention Plan (SWPPP) Requirement. No application for approval of a land development activity shall be reviewed until the appropriate board has received a SWPPP prepared in accordance with the specifications in this local law.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

2.2.2.1 Contents of Stormwater Pollution Prevention Plans. [To comply, the local law must require all 16 items in the SWPPP, 2.2.1.1-16: Project scope; site map/construction drawings; soils description; construction phasing plan; pollution prevention measures; waste controls; soil stabilization, runoff control and sedimentation control measures location and size; specifications; temporary practices to be converted to permanent control measures; implementation schedule; maintenance schedule; receiving waters; implementation responsibilities; description of structural practices; existing runoff data.]	**No Equivalency** Sec.103-50-16: Storm drainage to be provided for PUD to protect from runoff.	**No Equivalency** Article II, Sec.86-4-Sketch plan. Sec.86-6-10, 11: Major subdivision preliminary plat to include storm drainage plan, location of storm drains, water mains, sanitary sewers. Sec.86-7-C: Construction drawings including plans, profiles to show storm drains, sanitary sewers, water mains……. Sec.86-23: Drainage design based on runoff from ten-year storm.	**Not Present**	**Not Present**	**Not Present**	
2.2.2 Definition of Land Development Activities Requiring Post-construction Stormwater Controls, must be as stated in sample local law.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

2.2.3 Constituents of SWPPP when post-construction stormwater management practices are required. [To comply, the local law must require items 1-7 in the SWPPP, 2.2.3.1-7: The 16 E&SC information requirements, plus description of post-construction practices; site map/construction drawings; hydrologic and hydraulic analysis; comparison of pre- and post-development runoff; post-construction practice specifications; maintenance schedule.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
Section 3.1, Technical Standards. Stormwater management practices that are designed and constructed in accordance with these technical documents shall be presumed to meet the standards imposed by this law: 3.11 The New York State Stormwater Management Design Manual and 3.12 New York Standards and Specifications for Erosion and Sediment Control.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
Section 4. Maintenance and Repair of Stormwater Facilities During Construction 4.1.1 The applicant or developer of the land development activity shall at all times properly operate and maintain all facilities and systems of treatment and control. 4.1.2 Inspection reports shall be completed every 7 days and within 24 hours of any storm event producing 0.5 inches of precipitation or more.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Sample Local Law, Articles 3, 4 and 5 *To be in compliance with the Stormwater Management General Permit for MS4s (GP-02-02), localities that have Subdivision Regulations, Site Plan Review Regulations or Erosion and Sediment Control Laws must amend these laws.*						
Article 3. Subdivision Regulation Amendment - Requires Stormwater Pollution Prevention Plans for subdivision approval per requirements in Articles 1 and 2 of the Sample Local Law.		**Not Present**				
Article 4. Site Plan Review Regulation Amendment - Requires Stormwater Pollution Prevention Plans for site plan approval per requirements in Articles 1and 2.			**Not Present**			
Article 5. Erosion and Sediment Control (E&SC) Law Amendment - Updates an existing law to require Stormwater Pollution Prevention Plans per requirements in Article 2. (Alternatively the E&SC law may be repealed and all stormwater management provisions placed in Zoning and other local land use controls.)				**Not Present**		
Sample Local Law, Article 6						
Section 1. Construction Inspection 1.1 Erosion and Sediment Control Inspection. [The MS4 permit requires localities to have procedures for inspecting control measures. Indicate where these procedures are found in local law.]	**Not Present**	✓ **Equivalency** See, Sec. 86-12A(2)-C: Construction inspection by Town Engineer.	**Not Present**	**Not Present**	**Not Present**	

Section 3.1, 3.2, 3.3 Enforcement Procedures. [The MS4 permit requires localities to have procedures for enforcing control measures. Indicate where these procedures are found in local law.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
3.4, 3.5, 3.6 Penalties. [The MS4 permit requires municipalities to enact sanctions (penalties) to ensure compliance to the extent allowed by state or local law. Indicate where these penalties are found in local law.]	✓ **Equivalency** Article VIII §103-65 Violation of Town Zoning Local Law; penalties for offenses	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

How to Use the Preliminary Local Codes Assessment

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How to Interpret the Preliminary Local Codes Assessment

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Town of Seneca Falls Documents

Zoning, 1998

Subdivision of Land

Comprehensive Plan for the Town and Village of Seneca Falls, 1969

Preliminary Local Codes Assessment Worksheet

Compliance with Stormwater Management Minimum Control Measures 4 and 5

Village of Seneca Falls

Sample Local Law Provision ***See the referenced section of the full Sample Local Law for complete legislative language.***	***Local Code Where Provision is Found (Enter Citation)*** ***To determine whether local code matches a provision of the sample law, consult the Demonstration of Equivalence worksheet for that article and section of the sample law.-***					***Notes***
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Sample Local Law, Article 1						
Section 4.1 Applicability. Applicable to all construction activity ... that results in land disturbance equal to or greater than one acre, or activities disturbing less than one acre...that is part of a larger common plan of development or sale....	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
4.2 SWPPP Review Procedure. The municipality ... shall accept and review all stormwater pollution prevention plans (SWPPPs). [The stormwater management local law must define the procedure by which the SWPPP is distributed to all land use review boards.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

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	Zoning Law	***Subdivision Regulation***	***Site Plan Review***	***E&SC Law***	***Other***	
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Sample Local Law, Article 2						
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2.2.2 Definition of Land Development Activities Requiring Post-construction Stormwater Controls, must be as stated in sample local law.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

2.2.3 Constituents of SWPPP when post-construction stormwater management practices are required. [To comply, the local law must require items 1-7 in the SWPPP, 2.2.3.1-7: The 16 E&SC information requirements, plus description of post-construction practices; site map/construction drawings; hydrologic and hydraulic analysis; comparison of pre- and post-development runoff; post-construction practice specifications; maintenance schedule.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
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Article 3. Subdivision Regulation Amendment - Requires Stormwater Pollution Prevention Plans for subdivision approval per requirements in Articles 1 and 2 of the Sample Local Law.		**Not Present**				
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Sample Local Law, Article 6						
Section 1. Construction Inspection 1.1 Erosion and Sediment Control Inspection. [The MS4 permit requires localities to have procedures for inspecting control measures. Indicate where these procedures are found in local law.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Section 3.1, 3.2, 3.3 Enforcement Procedures. [The MS4 permit requires localities to have procedures for enforcing control measures. Indicate where these procedures are found in local law.]	✓ **Equivalency** Article VII, §250-49. General Procedures	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
3.4, 3.5, 3.6 Penalties. [The MS4 permit requires municipalities to enact sanctions (penalties) to ensure compliance to the extent allowed by state or local law. Indicate where these penalties are found in local law.]	✓ **Equivalency** Article VII, §250-55 Penalties for Offenses	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

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Village of Seneca Falls Documents

Zoning (Adopted 1984; Updated periodically)

Subdivision, 1969

Site Plan Review and Approval (Part of Zoning, Article V)

Comprehensive Plan for the Town and Village of Seneca Falls, 1969

Flood Damage Prevention (Adopted 1987; Updated periodically)

Sewers, 1982

Historic and/or Agricultural Districts, 1997

Preliminary Local Codes Assessment Worksheet
Compliance with Stormwater Management Minimum Control Measures 4 and 5

Town of Tyre

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	Zoning Law	***Subdivision Regulation***	***Site Plan Review***	***E&SC Law***	***Other***	
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Section 4.1 Applicability. Applicable to all construction activity ... that results in land disturbance equal to or greater than one acre, or activities disturbing less than one acre...that is part of a larger common plan of development or sale....	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
4.2 SWPPP Review Procedure. The municipality ... shall accept and review all stormwater pollution prevention plans (SWPPPs). [The stormwater management local law must define the procedure by which the SWPPP is distributed to all land use review boards.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

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Sample Local Law, Article 2						
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2.2.2 Definition of Land Development Activities Requiring Post-construction Stormwater Controls, must be as stated in sample local law.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

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Article 4. Site Plan Review Regulation Amendment - Requires Stormwater Pollution Prevention Plans for site plan approval per requirements in Articles 1and 2.			**Not Present**			
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Section 1. Construction Inspection 1.1 Erosion and Sediment Control Inspection. [The MS4 permit requires localities to have procedures for inspecting control measures. Indicate where these procedures are found in local law.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Section 3.1, 3.2, 3.3 Enforcement Procedures. [The MS4 permit requires localities to have procedures for enforcing control measures. Indicate where these procedures are found in local law.]	✓ **Equivalency** Article X §10.1001 Enforcement	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
3.4, 3.5, 3.6 Penalties. [The MS4 permit requires municipalities to enact sanctions (penalties) to ensure compliance to the extent allowed by state or local law. Indicate where these penalties are found in local law.]	✓ **Equivalency** Article X §10.1008 Penalties	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

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If a few of the provisions in the worksheet appear in local code, significant amendments will be necessary and adopting the Sample Local Law may be an attractive alternative. Gap Analysis will identify which amendments the MS4 must make and how they should be worded.

If most of the provisions in the worksheet appear in local code, minor amendments will probably bring the code into compliance. Gap Analysis will identify required revisions.

Entry Headings Prepared by G/FLRPC

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No Equivalency: *the cited local law was found to be similar in structure or spirit to the Sample Stormwater Management Local Law. However, the law does not meet the requirements for equivalency*

✓ **Equivalency:** *the cited portion of local law is equivalent to the Sample Stormwater Management Local Law*

Town of Tyre Documents

Zoning Ordinance, 1991 (Amendments for some regulations like Sign Regulations and Telecommunication)

Comprehensive Plan (Under Development)

Preliminary Local Codes Assessment Worksheet
Compliance with Stormwater Management Minimum Control Measures 4 and 5

Town of Waterloo

Sample Local Law Provision ***See the referenced section of the full Sample Local Law for complete legislative language.***	***Local Code Where Provision is Found (Enter Citation)*** ***To determine whether local code matches a provision of the sample law, consult the Demonstration of Equivalence worksheet for that article and section of the sample law.-***					***Notes***
	Zoning Law	***Subdivision Regulation***	***Site Plan Review***	***E&SC Law***	***Other***	
Sample Local Law, Article 1						
Section 4.1 Applicability. Applicable to all construction activity ... that results in land disturbance equal to or greater than one acre, or activities disturbing less than one acre...that is part of a larger common plan of development or sale....	**Not Present**	**Not Present**	**No Equivalency** §79-5 Applicability [Note: while the law very likely applies to most, if not all, land disturbing activities over 1 acre within the Town, this specific language is required in order to meet equivalency with the Sample Local Law]	**Not Present**	**Not Present**	

Sample Local Law Provision ***See the referenced section of the full Sample Local Law for complete legislative language.***	***Local Code Where Provision is Found (Enter Citation)*** ***To determine whether local code matches a provision of the sample law, consult the Demonstration of Equivalence worksheet for that article and section of the sample law.-***					***Notes***
	Zoning Law	***Subdivision Regulation***	***Site Plan Review***	***E&SC Law***	***Other***	
4.2 SWPPP Review Procedure. The municipality ... shall accept and review all stormwater pollution prevention plans (SWPPPs). [The stormwater management local law must define the procedure by which the SWPPP is distributed to all land use review boards.]	**Not Present**	**Not Present**	**No Equivalency** §79-7 Site Plan Review Procedure [Note: Town must request a SWPPP in order to meet equivalency; §79-7B.1.i and j, however, are important requirements that seem to meet the Sample Law in spirit.]	**Not Present**	**Not Present**	

Sample Local Law Provision ***See the referenced section of the full Sample Local Law for complete legislative language.***	***Local Code Where Provision is Found (Enter Citation)*** ***To determine whether local code matches a provision of the sample law, consult the Demonstration of Equivalence worksheet for that article and section of the sample law.-***					***Notes***
	Zoning Law	***Subdivision Regulation***	***Site Plan Review***	***E&SC Law***	***Other***	
4.3 SWPPP Review Requirement. All land development activities subject to review and approval by the (applicable board) under (subdivision, site plan, and/or special permit) regulations shall be reviewed subject to the standards contained in this local law	**Not Present**	**Not Present**	**No Equivalency** §79-6 Standards for site plan review [Note: Town must request a SWPPP in order to meet equivalency; the fact that drainage, erosion, impermeable surfaces and flood zones are considered as part of the application, however, is commendable.]	**Not Present**	**Not Present**	
4.4 SWPPP Review Requirement. All land development activities not subject to review as stated in section 4.3 shall be required to submit a Stormwater Pollution Prevention Plan (SWPPP)...	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Sample Local Law, Article 2						
Section 2.1 Stormwater Pollution Prevention Plan (SWPPP) Requirement. No application for approval of a land development activity shall be reviewed until the appropriate board has received a SWPPP prepared in accordance with the specifications in this local law.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
2.2.2.1 Contents of Stormwater Pollution Prevention Plans. [To comply, the local law must require all 16 items in the SWPPP, 2.2.1.1-16: Project scope; site map/construction drawings; soils description; construction phasing plan; pollution prevention measures; waste controls; soil stabilization, runoff control and sedimentation control measures location and size; specifications; temporary practices to be converted to permanent control measures; implementation schedule; maintenance schedule; receiving waters; implementation responsibilities; description of structural practices; existing runoff data.]	**Not Present**	**Not Present**	**No Equivalency** Sec.79-6-B, C: Measures to control run off stormwater from affecting neighboring land…. Measures to minimize erosion during construction and after construction. Sec.79-7: Map. Indication of drainage. Sec 79-7-B-j: Site plan requires proposed water source and sewage disposal system.	**Not Present**	**Not Present**	

2.2.2 Definition of Land Development Activities Requiring Post-construction Stormwater Controls, must be as stated in sample local law.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
2.2.3 Constituents of SWPPP when post-construction stormwater management practices are required. [To comply, the local law must require items 1-7 in the SWPPP, 2.2.3.1-7: The 16 E&SC information requirements, plus description of post-construction practices; site map/construction drawings; hydrologic and hydraulic analysis; comparison of pre- and post-development runoff; post-construction practice specifications; maintenance schedule.]	**Not Present**	**Not Present**	**No Equivalency** Sec.79-6-C: Measures to minimize erosion during construction and after construction. Sec.79-7—B-i: Pre and post-development stormwater runoff calculation may be required.	**Not Present**	**Not Present**	
Section 3.1, Technical Standards. Stormwater management practices that are designed and constructed in accordance with these technical documents shall be presumed to meet the standards imposed by this law: 3.11 The New York State Stormwater Management Design Manual and 3.12 New York Standards and Specifications for Erosion and Sediment Control.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Section 4. Maintenance and Repair of Stormwater Facilities During Construction 4.1.1 The applicant or developer of the land development activity shall at all times properly operate and maintain all facilities and systems of treatment and control. 4.1.2 Inspection reports shall be completed every 7 days and within 24 hours of any storm event producing 0.5 inches of precipitation or more.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
Sample Local Law, Articles 3, 4 and 5 *To be in compliance with the Stormwater Management General Permit for MS4s (GP-02-02), localities that have Subdivision Regulations, Site Plan Review Regulations or Erosion and Sediment Control Laws must amend these laws.*						
Article 3. Subdivision Regulation Amendment - Requires Stormwater Pollution Prevention Plans for subdivision approval per requirements in Articles 1 and 2 of the Sample Local Law.		**Not Present**				
Article 4. Site Plan Review Regulation Amendment - Requires Stormwater Pollution Prevention Plans for site plan approval per requirements in Articles 1and 2.			**Not Present**			

Article 5. Erosion and Sediment Control (E&SC) Law Amendment - Updates an existing law to require Stormwater Pollution Prevention Plans per requirements in Article 2. (Alternatively the E&SC law may be repealed and all stormwater management provisions placed in Zoning and other local land use controls.)				**Not Present**		
Sample Local Law, Article 6						
Section 1. Construction Inspection 1.1 Erosion and Sediment Control Inspection. [The MS4 permit requires localities to have procedures for inspecting control measures. Indicate where these procedures are found in local law.]	**Not Present**	**Not Present**	**✓ Equivalency** Sec. 79-7-G: Code Enforcement Officer ensures compliance to Site Plan Review.	**Not Present**	**Not Present**	
Section 3.1, 3.2, 3.3 Enforcement Procedures. [The MS4 permit requires localities to have procedures for enforcing control measures. Indicate where these procedures are found in local law.]	**✓ Equivalency** § 135.11 Administration (Enforcement)	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
3.4, 3.5, 3.6 Penalties. [The MS4 permit requires municipalities to enact sanctions (penalties) to ensure compliance to the extent allowed by state or local law. Indicate where these penalties are found in local law.]	**✓ Equivalency** **§ 135.14 Violations and Penalties**	**Not Present**	**✓ Equivalency** Sec.79-8-A: Fine up to $250 for failure to comply.	**Not Present**	**Not Present**	

How to Use the Preliminary Local Codes Assessment

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How to Interpret the Preliminary Local Codes Assessment

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Town of Waterloo Documents

Zoning, 2000
Subdivision Regulation (Under Development)
Site Plan Review (Part of Zoning)
Comprehensive Plan, 2000

Preliminary Local Codes Assessment Worksheet
Compliance with Stormwater Management Minimum Control Measures 4 and 5

Village of Waterloo

Sample Local Law Provision ***See the referenced section of the full Sample Local Law for complete legislative language.***	***Local Code Where Provision is Found (Enter Citation)*** ***To determine whether local code matches a provision of the sample law, consult the Demonstration of Equivalence worksheet for that article and section of the sample law.-***					***Notes***
	Zoning Law	***Subdivision Regulation***	***Site Plan Review***	***E&SC Law***	***Other***	
Sample Local Law, Article 1						
Section 4.1 Applicability. Applicable to all construction activity ... that results in land disturbance equal to or greater than one acre, or activities disturbing less than one acre...that is part of a larger common plan of development or sale....	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
4.2 SWPPP Review Procedure. The municipality ... shall accept and review all stormwater pollution prevention plans (SWPPPs). [The stormwater management local law must define the procedure by which the SWPPP is distributed to all land use review boards.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Sample Local Law Provision ***See the referenced section of the full Sample Local Law for complete legislative language.***	***Local Code Where Provision is Found (Enter Citation)*** ***To determine whether local code matches a provision of the sample law, consult the Demonstration of Equivalence worksheet for that article and section of the sample law.-***					***Notes***
	Zoning Law	***Subdivision Regulation***	***Site Plan Review***	***E&SC Law***	***Other***	
4.3 SWPPP Review Requirement. All land development activities subject to review and approval by the (applicable board) under (subdivision, site plan, and/or special permit) regulations shall be reviewed subject to the standards contained in this local law	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
4.4 SWPPP Review Requirement. All land development activities not subject to review as stated in section 4.3 shall be required to submit a Stormwater Pollution Prevention Plan (SWPPP)...	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Sample Local Law, Article 2						
Section 2.1 Stormwater Pollution Prevention Plan (SWPPP) Requirement. No application for approval of a land development activity shall be reviewed until the appropriate board has received a SWPPP prepared in accordance with the specifications in this local law.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
2.2.2.1 Contents of Stormwater Pollution Prevention Plans. [To comply, the local law must require all 16 items in the SWPPP, 2.2.1.1-16: Project scope; site map/construction drawings; soils description; construction phasing plan; pollution prevention measures; waste controls; soil stabilization, runoff control and sedimentation control measures location and size; specifications; temporary practices to be converted to permanent control measures; implementation schedule; maintenance schedule; receiving waters; implementation responsibilities; description of structural practices; existing runoff data.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
2.2.2 Definition of Land Development Activities Requiring Post-construction Stormwater Controls, must be as stated in sample local law.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

2.2.3 Constituents of SWPPP when post-construction stormwater management practices are required. [To comply, the local law must require items 1-7 in the SWPPP, 2.2.3.1-7: The 16 E&SC information requirements, plus description of post-construction practices; site map/construction drawings; hydrologic and hydraulic analysis; comparison of pre- and post-development runoff; post-construction practice specifications; maintenance schedule.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
Section 3.1, Technical Standards. Stormwater management practices that are designed and constructed in accordance with these technical documents shall be presumed to meet the standards imposed by this law: 3.11 The New York State Stormwater Management Design Manual and 3.12 New York Standards and Specifications for Erosion and Sediment Control.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
Section 4. Maintenance and Repair of Stormwater Facilities During Construction 4.1.1 The applicant or developer of the land development activity shall at all times properly operate and maintain all facilities and systems of treatment and control. 4.1.2 Inspection reports shall be completed every 7 days and within 24 hours of any storm event producing 0.5 inches of precipitation or more.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Sample Local Law, Articles 3, 4 and 5 *To be in compliance with the Stormwater Management General Permit for MS4s (GP-02-02), localities that have Subdivision Regulations, Site Plan Review Regulations or Erosion and Sediment Control Laws must amend these laws.*						
Article 3. Subdivision Regulation Amendment - Requires Stormwater Pollution Prevention Plans for subdivision approval per requirements in Articles 1 and 2 of the Sample Local Law.		**Not Present**				
Article 4. Site Plan Review Regulation Amendment - Requires Stormwater Pollution Prevention Plans for site plan approval per requirements in Articles 1and 2.			**Not Present**			
Article 5. Erosion and Sediment Control (E&SC) Law Amendment - Updates an existing law to require Stormwater Pollution Prevention Plans per requirements in Article 2. (Alternatively the E&SC law may be repealed and all stormwater management provisions placed in Zoning and other local land use controls.)				**Not Present**		
Sample Local Law, Article 6						
Section 1. Construction Inspection 1.1 Erosion and Sediment Control Inspection. [The MS4 permit requires localities to have procedures for inspecting control measures. Indicate where these procedures are found in local law.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	Flood Damage Prevention, Sec.124-12-G: Local Administrator/Engineer/Architect to make periodic inspection to ensure compliance. [Note: not specific about Sediment and Erosion Control]

Section 3.1, 3.2, 3.3 Enforcement Procedures. [The MS4 permit requires localities to have procedures for enforcing control measures. Indicate where these procedures are found in local law.]	✓ **Equivalency** Article IX Administration and Enforcement §245-63 Code Enforcement Officer	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
3.4, 3.5, 3.6 Penalties. [The MS4 permit requires municipalities to enact sanctions (penalties) to ensure compliance to the extent allowed by state or local law. Indicate where these penalties are found in local law.]	✓ **Equivalency** Article IX Administration and Enforcement §245-56 Penalties for offenses	**Not Present**	**Not Present**	**Not Present**	**Not Present**	Flood Damage Prevention, Sec.124-12-F: Penalties for non compliance. [Note: not specific about Sediment and Erosion Control].

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Village of Waterloo Documents:

Zoning, 1996

Site Plan Review (Part of Zoning)

Flood Ordinance, 1987

Preliminary Local Codes Assessment Worksheet
Compliance with Stormwater Management Minimum Control Measures 4 and 5

Town of Varick

Sample Local Law Provision ***See the referenced section of the full Sample Local Law for complete legislative language.***	***Local Code Where Provision is Found (Enter Citation)*** ***To determine whether local code matches a provision of the sample law, consult the Demonstration of Equivalence worksheet for that article and section of the sample law.-***					***Notes***
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Sample Local Law, Article 1						
Section 4.1 Applicability. Applicable to all construction activity ... that results in land disturbance equal to or greater than one acre, or activities disturbing less than one acre...that is part of a larger common plan of development or sale....	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
4.2 SWPPP Review Procedure. The municipality ... shall accept and review all stormwater pollution prevention plans (SWPPPs). [The stormwater management local law must define the procedure by which the SWPPP is distributed to all land use review boards.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Sample Local Law Provision ***See the referenced section of the full Sample Local Law for complete legislative language.***	***Local Code Where Provision is Found (Enter Citation)*** ***To determine whether local code matches a provision of the sample law, consult the Demonstration of Equivalence worksheet for that article and section of the sample law.-***					***Notes***
	Zoning Law	***Subdivision Regulation***	***Site Plan Review***	***E&SC Law***	***Other***	
4.3 SWPPP Review Requirement. All land development activities subject to review and approval by the (applicable board) under (subdivision, site plan, and/or special permit) regulations shall be reviewed subject to the standards contained in this local law	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
4.4 SWPPP Review Requirement. All land development activities not subject to review as stated in section 4.3 shall be required to submit a Stormwater Pollution Prevention Plan (SWPPP)...	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Sample Local Law, Article 2						
Section 2.1 Stormwater Pollution Prevention Plan (SWPPP) Requirement. No application for approval of a land development activity shall be reviewed until the appropriate board has received a SWPPP prepared in accordance with the specifications in this local law.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
2.2.2.1 Contents of Stormwater Pollution Prevention Plans. [To comply, the local law must require all 16 items in the SWPPP, 2.2.1.1-16: Project scope; site map/construction drawings; soils description; construction phasing plan; pollution prevention measures; waste controls; soil stabilization, runoff control and sedimentation control measures location and size; specifications; temporary practices to be converted to permanent control measures; implementation schedule; maintenance schedule; receiving waters; implementation responsibilities; description of structural practices; existing runoff data.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
2.2.2 Definition of Land Development Activities Requiring Post-construction Stormwater Controls, must be as stated in sample local law.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

2.2.3 Constituents of SWPPP when post-construction stormwater management practices are required. [To comply, the local law must require items 1-7 in the SWPPP, 2.2.3.1-7: The 16 E&SC information requirements, plus description of post-construction practices; site map/construction drawings; hydrologic and hydraulic analysis; comparison of pre- and post-development runoff; post-construction practice specifications; maintenance schedule.]	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
Section 3.1, Technical Standards. Stormwater management practices that are designed and constructed in accordance with these technical documents shall be presumed to meet the standards imposed by this law: 3.11 The New York State Stormwater Management Design Manual and 3.12 New York Standards and Specifications for Erosion and Sediment Control.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
Section 4. Maintenance and Repair of Stormwater Facilities During Construction 4.1.1 The applicant or developer of the land development activity shall at all times properly operate and maintain all facilities and systems of treatment and control. 4.1.2 Inspection reports shall be completed every 7 days and within 24 hours of any storm event producing 0.5 inches of precipitation or more.	**Not Present**	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Sample Local Law, Articles 3, 4 and 5 *To be in compliance with the Stormwater Management General Permit for MS4s (GP-02-02), localities that have Subdivision Regulations, Site Plan Review Regulations or Erosion and Sediment Control Laws must amend these laws.*						
Article 3. Subdivision Regulation Amendment - Requires Stormwater Pollution Prevention Plans for subdivision approval per requirements in Articles 1 and 2 of the Sample Local Law.		**Not Present**				
Article 4. Site Plan Review Regulation Amendment - Requires Stormwater Pollution Prevention Plans for site plan approval per requirements in Articles 1and 2.			**Not Present**			
Article 5. Erosion and Sediment Control (E&SC) Law Amendment - Updates an existing law to require Stormwater Pollution Prevention Plans per requirements in Article 2. (Alternatively the E&SC law may be repealed and all stormwater management provisions placed in Zoning and other local land use controls.)				**Not Present**		
Sample Local Law, Article 6						
Section 1. Construction Inspection 1.1 Erosion and Sediment Control Inspection. [The MS4 permit requires localities to have procedures for inspecting control measures. Indicate where these procedures are found in local law.]	✓ **Equivalency** Article IV §402 Duties of the Building Inspector	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

Section 3.1, 3.2, 3.3 Enforcement Procedures. [The MS4 permit requires localities to have procedures for enforcing control measures. Indicate where these procedures are found in local law.]	✓ **Equivalency** Article IV §401 Enforcement Article VIII Violations, Section 801 Enforcement	**Not Present**	**Not Present**	**Not Present**	**Not Present**	
3.4, 3.5, 3.6 Penalties. [The MS4 permit requires municipalities to enact sanctions (penalties) to ensure compliance to the extent allowed by state or local law. Indicate where these penalties are found in local law.]	✓ **Equivalency** Article VIII Violations, Section 802 Penalties	**Not Present**	**Not Present**	**Not Present**	**Not Present**	

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Town of Varick Documents:

Zoning Ordinance (Update 2003)

Subdivision Regulation (1977)

APPENDIX B: MODEL LOCAL LAW FOR STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL

Developed by the New York State Department of State and the New York State Department of Environmental Conservation
to assist local municipalities in complying with Phase II Stormwater Regulations of the Clean Water Act

A local law to amend the (Zoning Law/Subdivision Law/Site Plan Review Law/Erosion and Sediment Control Law) of the ((City/Town/Village) of _____), Local law Number _____of the Year _____.

> *[Article 1 and Article 2 must be adopted for proper implementation. The municipality and its legal counsel, after reviewing their local codes and this model language, should pick additional provisions from Articles 3, 4, 5 and 6 to ensure review and enforcement of stormwater pollution prevention plans at the local level.]*

Be it enacted by the (City Council/Town Board/Village Board of Trustees) of the ((City/Town/Village) of _____) as follows:

Article 1. General Provisions

Section 1. Findings of Fact

It is hereby determined that:

1.1 Land development activities and associated increases in site impervious cover often alter the hydrologic response of local watersheds and increase stormwater runoff rates and volumes, flooding, stream channel erosion, or sediment transport and deposition;

1.2 This stormwater runoff contributes to increased quantities of water-borne pollutants, including siltation of aquatic habitat for fish and other desirable species;

1.3 Clearing and grading during construction tends to increase soil erosion and add to the loss of native vegetation necessary for terrestrial and aquatic habitat;

1.4 Improper design and construction of stormwater management practices can increase the velocity of stormwater runoff thereby increasing stream bank erosion and sedimentation;

1.5 Impervious surfaces allow less water to percolate into the soil, thereby decreasing groundwater recharge and stream baseflow;

1.6 Substantial economic losses can result from these adverse impacts on the waters of the municipality;

1.7 Stormwater runoff, soil erosion and nonpoint source pollution can be controlled and minimized through the regulation of stormwater runoff from land development activities;

1.8 The regulation of stormwater runoff discharges from land development activities in order to control and minimize increases in stormwater runoff rates and volumes, soil erosion, stream channel erosion, and nonpoint source pollution associated with stormwater runoff is in the public interest and will minimize threats to public health and safety.

1.9 Regulation of land development activities by means of performance standards governing stormwater management and site design will produce development compatible with the natural functions of a particular site or an entire watershed and thereby mitigate the adverse effects of erosion and sedimentation from development.

Section 2. Purpose

The purpose of this local law is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing within this

jurisdiction and to address the findings of fact in Section 1 hereof. This local law seeks to meet those purposes by achieving the following objectives:

2.1 Meet the requirements of minimum measures 4 and 5 of the SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s), Permit no. GP-02-02 or as amended or revised;

2.2 Require land development activities to conform to the substantive requirements of the NYS Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities GP-02-01 or as amended or revised;

2.3 Minimize increases in stormwater runoff from land development activities in order to reduce flooding, siltation, increases in stream temperature, and streambank erosion and maintain the integrity of stream channels;

2.4 Minimize increases in pollution caused by stormwater runoff from land development activities which would otherwise degrade local water quality;

2.5 Minimize the total annual volume of stormwater runoff which flows from any specific site during and following development to the maximum extent practicable; and

2.6 Reduce stormwater runoff rates and volumes, soil erosion and nonpoint source pollution, wherever possible, through stormwater management practices and to ensure that these management practices are properly maintained and eliminate threats to public safety.

[The above list is a general set of objectives to reduce the impact of stormwater on receiving waters. Section 2.1 applies to regulated MS4s; a municipality not currently under this program may wish to leave this objective out, although the community may become regulated in the future. The advantage to adopting a local law for all municipalities is that the local government then has control over review and approval of Stormwater Pollution Prevention Plans (SWPPPs) during subdivision and site plan review. The local government may also wish to set some more specific objectives, based on priority water quality (refer to New York State 303 (d) list of priority waters at www.dec.state.ny.us/website/dow/303dcalm.html) and habitat problems (e.g., to reduce phosphorus loads being delivered to recreational lakes, to sustain a Class TS trout fishery).]

Section 3. Statutory Authority

In accordance with Article 10 of the Municipal Home Rule Law of the State of New York, the (City Council/Town Board/Village Board of Trustees of _____) has the authority to enact local laws and amend local laws and for the purpose of promoting the health, safety or general welfare of the ((City/Town/Village) of _____) and for the protection and enhancement of its physical environment. The (City Council/Town Board/Village Board of Trustees of _____) may include in any such local law provisions for the appointment of any municipal officer, employees, or independent contractor to effectuate, administer and enforce such local law.

Section 4. Applicability

4.1 This local law shall be applicable to all land development activities as defined in this local law.

4.2 The municipality shall designate a Stormwater Management Officer who shall accept and review all stormwater pollution prevention plans and forward such plans to the applicable municipal board. The Stormwater Management Officer may (1) review the plans, (2) upon approval by the ((City Council/Town Board/Village Board of Trustees) of the (Town/Village/City) of _____), engage the services of a registered professional engineer to review the plans, specifications and related documents at a cost not to exceed a fee schedule established by said governing board, or (3) accept the certification of a licensed professional that the plans conform to the requirements of this law.

4.3 All land development activities subject to review and approval by the (applicable board of the (City/Town Village) of _____) under (subdivision, site plan, and/or special permit) regulations shall be reviewed subject to the standards contained in this local law
4.4 All land development activities not subject to review as stated in section 4.3 shall be required to submit a Stormwater Pollution Prevention Plan (SWPPP) to the Stormwater Management Officer who shall approve the SWPPP if it complies with the requirements of this law.

Section 5. Exemptions

The following activities may be exempt from review under this law.

[The municipality may elect to include some or all of the exemptions in Section 5]

5.1 Agricultural activity as defined in this local law.
5.2 Logging activity undertaken pursuant to an approved timber management plan prepared or approved by the County Soil & Water Conservation District or the New York State Department of Environmental Conservation, except that landing areas and log haul roads are subject to this law.
5.3 Routine maintenance activities that disturb less than five acres and are performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility.
5.4 Repairs to any stormwater management practice or facility deemed necessary by the Stormwater Management Officer.
5.5 Any part of a subdivision if a plat for the subdivision has been approved by the ((City/Town/Village) of _____) on or before the effective date of this law.
5.6 Land development activities for which a building permit has been approved on or before the effective date of this law.
5.7 Cemetery graves.
5.8 Installation of fence, sign, telephone, and electric poles and other kinds of posts or poles.
5.9 Emergency activity immediately necessary to protect life, property or natural resources.
5.10 Activities of an individual engaging in home gardening by growing flowers, vegetable and other plants primarily for use by that person and his or her family.
5.11 Landscaping and horticultural activities in connection with an existing structure.

Article 2. Zoning Law Amendment

[Municipalities that do not have zoning should add the language in Article 2 to Article 3 (Site Plan Review Law Amendment) or Article 4 (Subdivision Regulation Amendment) as applicable for their municipality.]

The Zoning Law is hereby amended to include Article ___, a new supplemental regulation titled Stormwater Control.

Section 1. Definitions

The terms used in this local law or in documents prepared or reviewed under this local law shall have the meaning as set forth in Schedule A of this Local Law.

[Definitions should be incorporated into the appropriate section of the municipality's zoning law which contains definitions.]

Section 2. Stormwater Pollution Prevention Plans

2.1. Stormwater Pollution Prevention Plan Requirement
No application for approval of a land development activity shall be reviewed until the appropriate board has received a Stormwater Pollution Prevention Plan (SWPPP) prepared in accordance with the specifications in this local law.

2.2 Contents of Stormwater Pollution Prevention Plans

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

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

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

[Site map should be at a scale no smaller than 1"=100' (e.g. 1"=500" is smaller than 1"=100")]

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

4. Construction phasing plan describing the intended sequence of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance. Consistent with the New York Standards and Specifications for Erosion and Sediment Control (Erosion Control Manual), not more than five (5) acres shall be disturbed at any one time unless pursuant to an approved SWPPP.

[A municipality may choose to reduce the amount of land that may be exposed at any one time.]

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

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

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

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

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

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

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

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

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

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

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

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

2.2.2 Land development activities meeting Condition "A", "B" or "C" below shall also include water quantity and water quality controls (post-construction stormwater runoff controls) as set forth in Section 2.2.3 below as applicable:

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

2. Condition B - Stormwater runoff from land development activities disturbing five (5) or more acres.

3. Condition C - Stormwater runoff from construction activity disturbing between one (1) and five (5) acres of land during the course of the project, exclusive of the construction of single family residences and construction activities at agricultural properties.

2.2.3 SWPPP Requirements for Condition A, B and C:

1. All information in Section 2.2 .1 of this local law

2. Description of each post-construction stormwater management practice;

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

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

5. Comparison of post-development stormwater runoff conditions with pre-development conditions

6. Dimensions, material specifications and installation details for each post-construction stormwater management practice;

7. Maintenance schedule to ensure continuous and effective operation of each post-construction stormwater management practice.

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

9. Inspection and maintenance agreement binding on all subsequent landowners served by the on-site stormwater management measures in accordance with Article 2, Section 4 of this local law.

2.3 Plan Certification
The SWPPP shall be prepared by a landscape architect, certified professional or professional engineer and must be signed by a the professional preparing the plan, who shall certify that the design of all stormwater management practices meet the requirements in this local law.

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

2.5 Contractor Certification

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

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

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

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

Section 3. Performance and Design Criteria for Stormwater Management and Erosion and Sediment Control

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

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

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

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

3.2 Water Quality Standards

3.2.1 Any land development activity shall not cause an increase in turbidity that will result in substantial visible contrast to natural conditions in surface waters of the state of New York.

[The New York State technical guidance documents may be ordered from The Department. An order form as well as downloadable versions of the Manuals are available on the Internet at; http://www.dec.state.ny.us/website/dow/toolbox/escstandards/index.html http://www.dos.state.ny.us/lgss/stormwaterpub/index.html]

Section 4. Maintenance and Repair of Stormwater Facilities

4.1 Maintenance During Construction

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

4.1.2 The applicant or developer or their representative shall be on site at all times when construction or grading activity takes place and shall inspect and document the effectiveness of all erosion and sediment control practices. Inspection reports shall be completed every 7 days and within 24 hours of any storm event producing 0.5 inches of precipitation or more. The reports shall be delivered to the Stormwater Management Officer and also copied to the site log book.

4.2 Maintenance Easement(s)
Prior to the issuance of any approval that has a stormwater management facility as one of the requirements, the applicant or developer must execute a maintenance easement agreement that shall be binding on all subsequent landowners served by the stormwater management facility. The easement shall provide for access to the facility at reasonable times for periodic inspection by the ((City/Town/Village) of _____) to ensure that the facility is maintained in proper working condition to meet design standards and any other provisions established by this local law. The easement shall be recorded by the grantor in the office of the County Clerk after approval by the counsel for the ((City/Town/Village) of _____).

4.3 Maintenance after Construction
The owner or operator of permanent stormwater management practices installed in accordance with this law shall be operated and maintained to achieve the goals of this law. Proper operation and maintenance also includes as a minimum, the following:

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

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

4.3.3 Discharges from the SMPs shall not exceed design criteria or cause or contribute to water quality standard violations in accordance with Article 2, section 3.2.

4.4 Maintenance Agreements
The ((City/Town/Village) of _____) shall approve a formal maintenance agreement for stormwater management facilities binding on all subsequent landowners and recorded in the office of the County Clerk as a deed restriction on the property prior to final plan approval. The maintenance agreement shall be consistent with the terms and conditions of Schedule C of this local law entitled Sample Stormwater Control Facility Maintenance Agreement. The ((City/Town/Village) of _____), in lieu of a maintenance agreement, at its sole discretion may accept dedication of any existing or future stormwater management facility, provided such facility meets all the requirements of this local law and includes adequate and perpetual access and sufficient area, by easement or otherwise, for inspection and regular maintenance.

Section 5. Severability and Effective Date

5.1 Severability
If the provisions of any article, section, subsection, paragraph, subdivision or clause of this local law shall be judged invalid by a court of competent jurisdiction, such order of judgment shall not affect or invalidate the remainder of any article, section, subsection, paragraph, subdivision or clause of this local law.

5.2 Effective Date
This Local Law shall be effective upon filing with the office of the Secretary of State.
Approved by: _____ Date _____

Article 3. Subdivision Regulation Amendment

Sections ___ and ___ of the Subdivision Regulations of the ((City/Town/Village) of _____) are hereby amended by adding the following to the information requirements:

A. For Preliminary Subdivision Plat add: Stormwater Pollution Prevention Plan: A Stormwater Pollution Prevention Plan (SWPPP) consistent with the requirements of Article 1 and 2 of this local law shall be required for Preliminary Subdivision Plat approval. The SWPPP shall meet the performance and design criteria and standards in Article 2 of this local law. The approved Preliminary Subdivision Plat shall be consistent with the provisions of this local law.

B. For Final Subdivision Plat approval add: Stormwater Pollution Prevention Plan: A Stormwater Pollution Prevention Plan consistent with the requirements of Article 1 and 2 of this local law and with the terms of preliminary plan approval shall be required for Final Subdivision Plat approval. The SWPPP shall meet the performance and design criteria and standards in Article 2 of this local law. The approved Final Subdivision Plat shall be consistent with the provisions of this local law.

[If the municipality has only one requirement for a final plan (no preliminary) then use Paragraph A language only.]

Article 4. Site Plan Review Regulation Amendment

Sections ___ and ___ of the Site Plan Review regulations of the ((City/Town/Village) of _____) are hereby amended by adding the following to the information requirements:

For Site Plan Approval add: Stormwater Pollution Prevention Plan: A Stormwater Pollution Prevention Plan consistent with the requirements of Article 1 and 2 of this local law shall be required for Site Plan Approval. The SWPPP shall meet the performance and design criteria and standards in Article 2 of this local law. The approved Site Plan shall be consistent with the provisions of this local law.

Article 5. Erosion & Sediment Control Law Amendment

The Erosion & Sediment Control Law of the ((City/Town/Village) of _____) is hereby repealed and replaced with the New York State Model Erosion and Sediment Control Ordinance, March 2003.

[The New York State Model Erosion and Sediment Control Law should be tailored to the municipality by inserting municipality name where appropriate and removing comment lines.]

OR

Section _____of the Erosion & Sediment Control Law of the ((City/Town/Village) of _____) is hereby amended by adding the following clause: Stormwater Pollution Prevention Plan: A Stormwater Pollution Prevention Plan consistent with the requirements of Article 1 and 2 of this local law shall be required. The SWPPP shall meet the performance and design criteria and standards in Article 2 of this local law. The approved erosion control permit shall be consistent with the provisions of this local law.

[For both options in Article 5, the municipality must also adopt Articles 1, 2, 3 and 4 (as applicable for their municipality) in order to address post-construction stormwater runoff control in stormwater pollution prevention plans.]

Article 6. Administration and Enforcement

[The following provisions for construction inspection, performance guarantees and bonds, and enforcement are important to include in a stormwater control program, but may already exist in local law. Therefore the municipality and its counsel should review their existing provisions for these activities, compare them with the following provisions, and consider whether revisions or amendments are necessary to achieve the purposes of this local law.]

Section 1. Construction Inspection

1.1 Erosion and Sediment Control Inspection
The ((City/Town/Village) of _____) Stormwater Management Officer may require such inspections as necessary to determine compliance with this law and may either approve that portion of the work completed or notify the applicant wherein the work fails to comply with the requirements of this law and the stormwater pollution prevention plan (SWPPP) as approved. To obtain inspections, the applicant shall notify the ((City/Town/Village) of _____) enforcement official at least 48 hours before any of the following as required by the Stormwater Management Officer:

1.1.1 Start of construction
1.1.2 Installation of sediment and erosion control measures
1.1.3 Completion of site clearing
1.1.4 Completion of rough grading
1.1.5 Completion of final grading
1.1.6 Close of the construction season
1.1.7 Completion of final landscaping

1.1.8 Successful establishment of landscaping in public areas.

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

1.2 Stormwater Management Practice Inspections

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

1.3 Inspection of Stormwater Facilities After Project Completion

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

> *[Inspections may be performed by local government staff or the local government may designate an inspector required to have a Professional Engineer's (PE) license or Certified Professional in Erosion and Sediment Control (CPESC) certificate, as long as the designated inspector is required to submit a report.]*

1.4 Submission of Reports

The ((City/Town/Village) of _____) Stormwater Management Officer may require monitoring and reporting from entities subject to this law as are necessary to determine compliance with this law.

1.5 Right-of-Entry for Inspection

When any new stormwater management facility is installed on private property or when any new connection is made between private property and the public storm water system, the landowner shall grant to the ((City/Town/Village) of _____) the right to enter the property at reasonable times and in a reasonable manner for the purpose of inspection as specified in paragraph 1.3.

Section 2. Performance Guarantee

2.1 Construction Completion Guarantee

In order to ensure the full and faithful completion of all land development activities related to compliance with all conditions set forth by the ((City/Town/Village) of _____) in its approval of the Stormwater Pollution Prevention Plan, the ((City/Town/Village) of _____) may require the applicant or developer to provide, prior to construction, a performance bond, cash escrow, or irrevocable letter of credit from an appropriate financial or surety institution which guarantees satisfactory completion of the project and names the ((City/Town/Village) of _____) as the beneficiary. The security

shall be in an amount to be determined by the ((City/Town/Village) of _____) based on submission of final design plans, with reference to actual construction and landscaping costs. The performance guarantee shall remain in force until the surety is released from liability by the ((City/Town/Village) of _____), provided that such period shall not be less than one year from the date of final acceptance or such other certification that the facility(ies) have been constructed in accordance with the approved plans and specifications and that a one year inspection has been conducted and the facilities have been found to be acceptable to the ((City/Town/Village) of _____). Per annum interest on cash escrow deposits shall be reinvested in the account until the surety is released from liability.

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

2.3 Recordkeeping
The ((City/Town/Village) of _____) may require entities subject to this law to maintain records demonstrating compliance with this law.

Section 3. Enforcement and Penalties

3.1 Notice of Violation.
When the ((City/Town/Village) of _____) determines that a land development activity is not being carried out in accordance with the requirements of this local law, it may issue a written notice of violation to the landowner. The notice of violation shall contain :
3.1.1 the name and address of the landowner, developer or applicant;
3.1.2 the address when available or a description of the building, structure or land upon which the violation is occurring;
3.1.3 a statement specifying the nature of the violation;
3.1.4 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;
3.1.5 a statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed;
3.1.6 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.

3.2 Stop Work Orders
The ((City/Town/Village) of _____) may issue a stop work order for violations of this law. Persons receiving a stop work order shall be required to halt all land development activities, except those activities that address the violations leading to the stop work order. The stop work order shall be in effect until the ((City/Town/Village) of _____) confirms that the land development activity is in compliance and the violation has been satisfactorily addressed. Failure to address a stop work order in a timely manner may result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this local law.

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

3.4 Penalties
In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of this local law shall be guilty of a violation punishable by a fine not exceeding three hundred fifty dollars ($350) or imprisonment for a period not to exceed six months, or both for conviction of a first offense; for conviction of a second offense both of which were committed within a period of five years, punishable by a fine not less than three hundred fifty dollars nor more than seven hundred dollars ($700) or imprisonment for a period not to exceed six months, or both; and upon conviction for a third or subsequent offense all of which were committed within a period of five years, punishable by a fine not less than seven hundred dollars nor more than one thousand dollars ($1000) or imprisonment for a period not to exceed six months, or both. However, for the purposes of conferring jurisdiction upon courts and judicial officers generally, violations of this local law shall be deemed misdemeanors and for such purpose only all provisions of law relating to misdemeanors shall apply to such violations. Each week's continued violation shall constitute a separate additional violation.

3.5 Withholding of Certificate of Occupancy
If any building or land development activity is installed or conducted in violation of this local law the Stormwater Management Officer may prevent the occupancy of said building or land.

3.6 Restoration of lands
Any violator may be required to restore land to its undisturbed condition. In the event that restoration is not undertaken within a reasonable time after notice, the ((City/Town/Village) of _____) may take necessary corrective action, the cost of which shall become a lien upon the property until paid.

Section 4. Fees for Services

The ((City/Town/Village) of _____) may require any person undertaking land development activities regulated by this law to pay reasonable costs at prevailing rates for review of SWPPPs, inspections, or SMP maintenance performed by the ((City/Town/Village) of _____) or performed by a third party for the ((City/Town/Village) of _____)

Appendix C: Glossary

Algal blooms: Massive growths of phytoplankton, commonly occurring in lakes in the spring. When the phytoplankton are profuse, the water may be stained bright green or blue and the lake rendered unfit for swimming or drinking.

Alluvium: A general term for unconsolidated material deposited by a stream or other body of running water.

Animal unit: A unit of measurement for any animal feeding operation calculated by adding the following numbers: the number of slaughter and feeder cattle multiplied by 1.0, plus the number of mature dairy cattle multiplied by 1.4, plus the number of swine weighing over 25 kilograms (approximately 55 pounds) multiplied by 0.4, plus the number of sheep multiplied by 0.1, plus the number of horses multiplied by 2.0.

Aquatic herbicides: Chemicals, such as Diquat and 2,4-D, used to eradicate aquatic plants.

Backflow prevention device: A safety device used to prevent water pollution or contamination by preventing flow of water and/or chemicals in the opposite direction of that intended (ASAE, 1989).

Base flow: Sustained or fair-weather flow of a stream.

Best Management Practice: A methods that have been determined to be the most effective, practical means of addressing a problem.

Best use: A series of classifications designating the most desired use of the water and bordering lands. 14 classifications are used, ranging from AA (source of water supply for drinking, culinary, or food processing purposes) to II (waters which constitute the Interstate Sanitation District).

Bioaccumulate: The process by which toxic pollutants (such as heavy metals, inorganic chemicals, and organic chemicals) amass in the tissues of organisms after repeated intake or exposure.

Biochemical Oxygen Demand (BOD): The consumption of oxygen caused by decomposition or metabolism of biodegradable organic compounds by microbes.

Biodegradation: The metabolic breakdown of materials into simpler components by living organisms.

Bog/Marsh/Swamp: Land that has less than 10.0 percent stocking with live trees and which characteristically supports low, generally herbaceous or shrubby vegetation, and which is intermittently covered with water during all seasons; includes tidal areas that are covered with brackish water during high tides.

Buffer strips: Strips of land along water courses that contain natural and (or) planted grasses, plants and trees that filter out sediment and increase uptake of nutrients in runoff.

Clean Water Act: National environmental law enforced by the United States Environmental Protection Agency (USEPA) that regulates water pollution.

Cluster septic systems: Method of waste disposal where wastewater is transported via small-diameter sewers to a drainfield, mound or sand filter which is used by several residences. Used where site conditions prohibit the use of on-lot systems.

Coliform: Bacteria group often involved in contamination of water. Can be associated with the intestinal tract of humans (fecal coliform) or from feces and decaying lake matter (total coliform). Coliform can also be an indicator organism and not necessarily a pathogen.

Combined Sewage Overflow (CSO): A water drainage pipeline that receives surface runoff as well as sanitary or industrial wastewater.

Conservation easements: A legal document that restricts the type and amount of development that may take place on a parcel of land. They are often developed for open space preservation, historic preservation, protection of natural habitats, and preservation of areas for public recreation or education.

Contaminant plume: An elongated and mobile column or band of a pollutant moving through the subsurface.

Cover crops: Grasses and other close-growing crops grown on fields during the winter to provide soil protection between harvest and spring plowing. Cover crops are also used to enrich soils.

Detention basin: A constructed holding area for stormwater runoff. Basins can protect streams and lakes from sediment and other pollutants derived from up-gradient land use activities. The removal rate for particulate pollutants depends on the volume of runoff, length of time provided for sedimentation, and the settleability characteristics of the particulate matter. Artificial marshes can be incorporated within the basins to provide additional biological removal of pollutants.

Dissolved oxygen: The quantity of oxygen dissolved in the water. In lakes, the amount of oxygen dispersed in the water helps determine the degree of stratification, and the potential for depletion of oxygen, fish and other aquatic organisms. Dissolved oxygen is affected by temperature (as water temperature decreases, increasing amounts of oxygen can be dissolved in water), time of day (photosynthetic plants create oxygen during the day, and use oxygen at night), and pollution (*aerobic* bacteria and other organisms require oxygen for the consumption of wastes).

Drainage basin: Used interchangeably with *catchment* or *watershed*. The term can also imply a larger area containing several watersheds or *sub-basins*.

Drumlin: A low, smooth, elongated oval hill, mound, or ridge of compact glacial till. The longer axis is parallel to the path of the glacier and commonly has a blunt nose pointing in the direction from which the ice approached.

Ecosystem: A group of living organisms that behave as a unit.

Effluent: Wastewater that flows into receiving water by way of a domestic or industrial point source.

Environmental Impact Statement (EIS): A report containing a description of some proposed action, the environmental setting, potential environmental impacts, ways to minimize the impacts, and reasonable alternatives. The EIS also serves as a public disclosure of the record used by an agency in its environmental decision-making process.

Eutrophic: A stage of nutrient availability and biological productivity, the natural result of the aging of a lake. The highest stage of nutrient availability is hyper-eutrophic.

Eutrophication: The process of natural lake aging, nutrient enrichment, and basin fill-ing. Human activities that increase nutrient and sediment loadings to a lake are called *cultural eutrophication*.

Evapotranspiration: The combined loss of water from water bodies (evaporation) and plants (transpiration – plant uptake, consumption and release of soil water through leaves).

Fallow: Allowing cropland to lie idle, either tilled or untilled, during the whole or greater portion of the growing season.

Fecal coliform: A type of bacteria whose natural habitat is the colon of warm-blooded mammals, such as man. The presence of this type of bacteria in water, beverages, or food is usually taken to mean that the material is contaminated with solid human waste.

First flush: Stormwater runoff, usually early in the storm, that contains the majority of accumulated sediments and chemical constituants (pollutants) derived from the upstream watershed.

Floodplain: The area that borders a water body and is subject to flooding on a periodic basis.

Forest land: Land that is at least 10 percent stocked with trees of any size, or that formerly had such tree cover and is not currently developed for a nonforest use. The minimum area for classification of forest land is one acre. The components that make up forest land are timberland and all noncommercial forest land.

Freshwater: Water containing only small quantities (generally less than 1,000 mg/L) of dissolved minerals.

Freshwater Wetlands Act: Law passed in 1975 that regulates the use and development of the State's freshwater wetland resources for the purpose of preserving, protect- ing, and conserving the wetlands and the benefits derived from them. Provides for the regulation of all wetlands over 5 hectares (12.4 acres) in size, and for smaller ones if they have been determined by the DEC to be of unusual ecological importance.

Geographic Information Systems (GISs): Software that is used for digitizing and accessing hydrologic information.

Grade: (1) The slope of a road, channel, or natural ground. (2) To finish the surface of a canal bed, roadbed, top of embankment, or bottom of excavation.

Grazing unit: An area of public or private pasture, range, grazed woodland, or other land that is grazed as an entity.

Ground cover: Maintenance of a vegetative cover for silviculture (forestry) activities in order to reduce sediment and nutrient runoff from an activity site as well as control weeds.

Ground water (geology): Water filling all the unblocked pores of underlying material below the water table, which is the upper limit of saturation.

Habitat: A zone where environmental conditions are rather uniform spatially.

Hard water: Water that is high in calcium, magnesium, and (or) other minerals. In lakes, hard water can cause "whiting events", when changes in water pH causes the calcium to precipitate from the water column.

Herbaceous: A vascular plant that does not develop woody tissue

Herbicides: Chemical compounds, applied in either liquid or granular form, used to kill undesired rooted vegetation and restrict further vegetation growth.

Holding pond: A reservoir, pit, or pond, usually made of earth, used to retain polluted runoff water for disposal on land.

Hydrogeology: The science of the interactions between water and geologic materials.

Hydrologic budget: A mass balance expression of hydrologic inputs and outputs (precipitation, condensation, evapotranspiration, surface and ground water storage, gains and losses, etc.)

Hydrologic cycle: An abstraction of water's movement, in solid, liquid and gaseous states, through the atmosphere, lithosphere, and biosphere.

Hydrology: The science of water. It describes the movement, distribution, chemistry, and occurrence of water.

Impervious soil: A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Impervious surface: A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Infiltration: The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity: The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate: The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The r ate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

In-lake control techniques: Treatment actions that are conducted in the lake itself. There are four major types of in-lake control techniques.
Physical techniques alter the physical structure of the land or water, examples being sediment dredging, aquatic plant harvesting, and the construction of stormwater sediment traps.
Chemical techniques involve the use of chemicals that either change the behavior of the lake or poison some of the lakes' plants and animals.
Biological techniques consist of introducing or removing specific types of plants and/or animals.
Institutional techniques involve methods that focus on society, including regulating the actions of individuals by law.

Integrated pest management: A technique that uses two or more control methods to minimize pesticide pollution of surface or ground waters and provide an economic control of pests.

Lacustrine: Of or pertaining to a lake.

Lacustrine deposit (geology): Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake stratification, also thermal stratification: During ice-free season, lake are warmer at the top and colder at the bottom. Deeper lakes tend to exhibit a warm layer of water of uniform temperature at the surface, a region of water exhibiting rapid temperature decrease beneath, and a uniformly cold layer of water at the bottom.

Land trust: A private, not-for-profit group, controlled by local citizens, that acquires land or interests in land for the protection of open space, recreation, or resource lands. There are currently over 25 land trusts in New York State.

Leach field.Leachate: Liquids that have percolated through a soil and that contain substances in solution or suspension.

Leaching: The removal of soluble material from soil or other material by percolating water.

Liming: The process by which calcium-based products are added to acidified lakes or their surrounding watershed to bring the pH closer to neutral and to restore the alkalinity levels to buffer future acidic inputs.

Limiting nutrients: Those nutrients that restrict or limit algal growth when not sufficiently present or utilized. Inmost lakes, either phosphorus or nitrogen serve as the limiting nutrient.

Limnology: The study of freshwaters--- lakes, ponds, reservoirs, streams and wetlands.

Littoral zone: The area between land and open water, can also be described as that portion of the lake where rooted aquatic plants exist. One of the three important habitats of a lake, consisting of the shoreline. This zone is very similar ecologically to terrestrial habitats, and is very productive and rich in diversity.

Load: The quantity (i.e., mass) of a material that enters a waterbody over a given time interval.

Macronutrient: Nutritional necessities of algae, required and available in larger amounts (the classic examples are carbon, nitrogen, phosphorus, hydrogen, sulfur, oxygen)

Macrophyte: Rooted aquatic plants in the lake ecosystem that grow and propagate by photo-synthesis.

Mixing zone: The transition boundary between the fresh groundwater and saltwater zones. Also used to describe the transition zone where a pollutant load mixes with the receiving water.

Mooring regulations: Restrictions on the number, size, and location of docks, or the materials to construct them. These restrictions help to reduce overcrowding and strain on the lake ecosystem.

Moraine (geology): An accumulation of earth, stones, and other debris deposited by a glacier. Types are terminal, lateral, medial, and ground.

Soil: The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

National Forest lands: Federal lands legally designated as National Forests or purchase units and other lands administered as part of the National Forest System by the USDA Forest Service.

Nonpoint source pollution: Type of pollution involving complex transport and delivery mechanisms within the lake watershed. Unlike point source pollution, where the pollutants are discharged directly to the lake of tributaries. Thus, this pollution is much more difficult to control.

Nutrient, plant: Any element taken in by a plant, essential to its growth, and used by it in the production of food and tissue. Plant nutrients are nitrogen, phosphorus, potassium calcium, magnesium, sulfur, iron, manganese, copper, boron, zinc, and perhaps other elements obtained from the soil; and carbon, hydrogen, and oxygen obtained largely from the air and water.

On-site wastewater treatment.

Overland flow: The flow of rainwater or snowmelt over land surface toward receiving waters.

Peat: Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture.

Percolation: The downward movement of water through the soil.

Permeability: The quality that enables the soil to transmit water or air, measures as the number of inches per hour that water moves through the soil. Terms describing permeability are *very slow* (less than 0.06 inch), *slow* (0.06 to 0.20 inch), *mod-erately slow* (0.2 to 0.6 inch), *moderate* (0.6 to 2.0 inches), *moderately rapid* (2.0 to 6.0 inches), *rapid* (6.0 to 20 inches), and *very rapid* (more than 20 inches).

pH: A number used by chemists to express the acidity of solutions, including water. A pH value lower than 7 indicates an acidic solution, a value of 7 is neutral, and a value of higher than 7 indicates an alkaline solution. Most ground waters in the United States have pH values ranging from about 6.0 to 8.5.

Phosphorus: An element which is an essential macronutrient for plant growth. Phosphorus is often the limiting nutrient for freshwater lakes in New York State.

Phosphorus budget: A biogeochemical cycle that accounts for the major sources of phosphorus to a lake (soil erosion, transport by streams, human waste) and from the lake (withdrawals, surface and groundwater outflows).

Phosphorus inactivation: A method of removing phosphorus from the water column in order to limit algal growth. A chemical is added to the water in order to bind with phosphorus present in the bottom sediments, minimizing the release of biolog- ically available phosphorus from sediments when oxygen is depleted from the hypolimnion.

Phosphorus precipitation: A method of removing phosphorus from the water column in Order to limit algal growth. Certain chemicals (usually alum salts) are added to the lake that will bind the phosphorus in the water column and sink it to the lake bottom.

Photosynthesis: The process by which plants convert the sun's energy into biomass or chemical energy. The primary way that energy enters the lake ecosystem.

Plume: A relatively concentrated mass of emitted chemical contaminants spreading in the environment.

Point source pollution: Form of pollution where the pollutants are discharged directly ("pipe" discharge) to a lake or its tributaries.

Polychlorinated biphenyls (PCBs): Synthetic organic compounds that can accumulate in the bodies of fish and other organisms and cause death with enough exposure. Probable human carcinogen.

Primary wastewater treatment: The first step in the treatment process, involving screens to remove the larger floating solids (such as sticks, seeds, rags, or paper). Skimming tanks remove excess oil or grease, and settling or sedimentation basins remove settleable suspended matter such as sand, gravel, and some organic solids.

Profile, soil: A vertical section of the soil extending through all its horizons and into the parent material.

Recharge: The water that infiltrates the water table. Recharge is the leftover precipitation after losses to surface runoff and evapotranspiration.

Recharge area: The area where water reaches the saturated zone by surface infiltration.

Relief: The elevations or inequalities of a land surface, considered collectively.

Retention basin: Much like a detention basin, where water is stored and pollutants are removed through sedimentation.

Rill: A steep sided channel resulting from accelerated erosion. A rill is generally a few inches deep and not wide enough to be an obstacle to farm machinery.

Riparian: Of or pertaining to a river or stream.

Riprap: Rock and stone rubble used as a blanket or liner to prevent erosion in highly susceptible areas. This practice is used on sites that are subjected to large volumes of water that cannot be stabilized with less expensive vegetative measures.

Root zone: The part of the soil that is, or can be, penetrated by plant roots

Runoff: The precipitation discharged in stream channels from a drainage area. The water that flows off the land surface without sinking in is called surface runoff; that which enters the ground before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Salinity: The concentration of dissolved solids or salt in water.

Salmonid: A class of fish, including lake trout and brown trout, best suited for a deep, cold water portion of oligotrphic lake with a small littoral zone.

Saturated zone: The zone (below the unsaturated zone) where interconnected openings contain only water.

Secchi disk: A 20cm steel or heavy plastic disk, composed of alternating black and white quadrants, used to measure the transparency of lakes. The transparency is considered the average of the depths at which the disk first disappears from view, and first reappears, respectively.

Secondary wastewater treatment: This intermediate step is used to reduce high oxygen demand before the wastewater is discharged into a lake or stream. Filtration and biological and chemical processes are used to remove a high percentage of organic matter from the wastewater.

Sediment basins: Depressions that can be constructed to protect lakes and streams from upstream land use activities. Stormwater is detained and released at a controlled rate, which can be modified to optimize sedimentation.

Sediment removal: Management technique that involves dredging bottom sediment from a lake to increase the depth, control nuisance aquatic vegetation, control nutrient release from sediments, and to remove toxic substances.

Seepage: Water escaping through or emerging from the ground along an extensive line or surface as contrasted with a spring, where the water emerges from a localized spot.

Septic leachate detector: A hand held fluorometer that can locate effluent plumes and domestic waste water in lakes. When the probe is submersed in lake water in front of a shoreline home, a response can be noted if human sewage, detergents, or whiteners are detected. Also known as a septic snooper.

Septic tank mound: An alternative method to the septic tank-leach field system, used in areas where soil conditions are not well suited for subsurface soil absorption. An above-ground mound is created with fill material, usually a porous sandy soil. Wastewater from the tank is allowed to seep through the soil in the mound, which then filters back through the ground. Clay barriers around the mound serve to reduce the seepage of wastewater to the surrounding ground.

Septic tank sand filter: Used in area where soils are unsuitable for conventional drain fields. The wastewater filters from the septic tank to a second tank, which periodically releases the water through a sand filter. The filter is lined with clay or plastic to prevent wastewater leakage, and the filtrate is collected and piped to a disinfection unit.

Septic tank: The most common on-site system for the treatment and disposal of domes-tic wastewater from individual residences, involving the transport of wastewater from a residence to a buried tank. Perforated pipes then transport the wastewater to a subsurface drainage system where it percolates into the soil.

Settleable solids: Solids in a liquid that can be removed by stilling a liquid. Settling times of 1 hour (APHA/AWWA/WPFC, 1975) or more are generally used

Sheet flow: Water, usually storm runoff, flowing in a thin layer over the ground surface.

Silage: A fodder crop that has been preserved in a moist, succulent condition by partial fermentation; such crops include corn, sorghums, legumes, and grasses

Silt: As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80percent or more silt and less than 12 percent clay.

Silviculture: A branch of forestry dealing with the cultivation and management of trees in order to produce a crop resource on a continuing basis.

Sinkhole: A depression in a landscape where limestone has been locally dissolved.

Slope: The inclination of the land surface form the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Sludge: The material resulting from chemical treatment of water or coagulation.

Soil survey: A general term for the systematic examination of soils in the field and in laboratories; their description and classification; the mapping of kinds of soil; the interpretation of soils according to their adaptability for various crops, grasses, and trees; their behavior under use or treatment for plant production or for other purposes; and their productivity under different management systems.

Stratified: Arranged in strata, or layers. The term refers to geologic material. Layers in soils that result from the processes of soil formation are called horizons; those in- herited from the parent material are called strata.

Strip cropping: A means of reducing soil erosion on tilled cropland. The intent is to Break the length of slope into segments by laying out strips across the natural slope of the land. Strips of close-growing crops or meadow grasses are planted between tilled row crop strips to serve as sediment filters or buffer strips in controlling erosion. The strips increase water infiltration, retain soil particles, and reduce velocity of runoff.

Structure, soil: The arrangement of primary soil particles into compound particles or aggregates that are separated from adjoining aggregates. The principal forms of soil structure are--- *platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil: Technically, the B horizon; roughly, the part of the solum below plow depth.

Suspended sediment: The very fine soil particles that remain in suspension in water for a considerable period of time

Temperature profile: The temperature of a water column at specific points. Used in lake profiling to determine the degree of stratification, and the potential for depletion of oxygen, fish and other aquatic organisms.

Terraces: Earth embankments, channels or a combination ridge and channel construct-ed across the slope of a field to control runoff. They are generally applied where contouring, strip cropping and reduced tillage operations do not offer adequate protection from soil erosion and are most practical on deep soils. By breaking the length of slope into smaller segments and intercepting the flow of runoff, terraces effectively reduce soil erosion and the transport of sediment off-site. In reducing the volume and velocity of runoff, water is retained on the land for moisture conservation.

Tertiary wastewater treatment: The third step in treatment is used to significantly reduce nutrient concentrations in the wastewater. These advanced treatment processed usually involve a combination of

chemical (alum or iron salt addition), biological (biological treatment columns), and physical (filtration and/or settling) techniques. This may provide more than 90% removal of phosphorus.

Tillage: The operation of implements through the soil to prepare seedbeds and rootbeds, control weeds and brush, aerate the soil, and cause faster breakdown of organic matter and minerals to release plant foods.

Timberland: Forest land producing or capable of producing crops of industrial wood (more than 20 cubic feet per acre per year) and not withdrawn from timber utilization (formerly known as commercial forest land).

Time of travel: The amount of time it takes for water to reach a well or stream from a certain distance.

Toxicity: A gauge of how detrimental a substance is to a living organism. Toxic effects can either be *acute* (causing immediate death or impairment) or *chronic* (causing subtle damage that may not show up until years after exposure).

Transpiration: The process by which trees, shrubs, and grasses in a watershed draw water out of the soil and emit water vapor to the air.

Trenches: An infiltration practice that provides an opportunity for surface water to filter runoff through the surface soil. A trench involves infiltration through uncovered soil.

Trophic state classifications: Using the Trophic State Index, a value is determined that classifies a water sample as being either oligotrophic (low-nutrient), mesotrophic (average nutrients), or eutrophic (high-nutrient). Oligotrophic lakes often provide an excellent drinking water supply, while eutrophic lakes often support excellent warmwater fisheries.

Turbidity: A water chemistry parameter, caused by suspended materials such as clay, silt, algae, and other materials that cause light to be scattered and absorbed, not transmitted in straight lines through water. It has a major influence on Secchi disk transparency and therefore the clarity of the lake.

Turn over: The upper layer cools down in the fall, until the lake reaches uniform temperature. The thermal barrier to mixing is gone and the lake will mix, or turn over, from top to bottom. This process is called fall overturn. In the spring, the ice melts and the lake again becomes one uniform temperature and mixes, called spring overturn.

Underground Storage Tanks (USTs): A tank with at least 10 percent of its volume beneath the ground, including attached pipes.

Use impairment: When referring to a lake, a "problem" in the complete functioning of the lake ecosystem.

Volatile Organic Compounds (VOCs): A category of volatile organic compounds with relatively high vapor pressures.

Water table: The upper limit of the soil or underlying rock material that is wholly saturated with water. *Water table, apparent*. A thick zone of free water in the soil. An apparent water table is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil.

Water table, artesian. A water table under hydrostatic head, generally beneath an impermeable layer. When thislayer is penetrated, the water level rises in an uncased borehole.
Water table, perched. A water table standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Watershed: The area that consists of all the land, streams, rivers, lakes, and other water bodies that contributes water to the lower end of that watershed at its point of discharge.

Weir: A device for measuring or regulating the flow of water.

Well graded: Refers to a soil or soil material consisting of particles well distributed over a wide range in size or diameter. Such a soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wetland: An area with some open water and much shoreline and emergent vegetation. The water in a wetland may be only a few inches deep.

Zone of aeration: Also called the unsaturated zone. The portion of the subsurface between the water table and the ground surface.

Zone of saturation: The portion of the subsurface that is saturated with groundwater.