1.0 2014 Assessment of Local Laws, Plans, Programs, and Practices

This re-assessment of local laws in the Honeoye Lake Watershed began with a general land use regulation inventory which focused on the three primary building blocks of land use control in New York State: the comprehensive plan, zoning, and subdivision regulation. After the general land use regulation inventory was complete, a more detailed assessment was conducted using a best management practices (BMP) assessment tool; see appendices for individual municipal matrices. Additional local laws and ordinances were included in the detailed assessment when applicable; standalone laws such as onsite wastewater treatment systems, timber harvesting, or erosion and sediment control are notable examples.

1.1 Basic Land Use Law Inventory

Town of	County	Comprehensive Plan?	Date	Zoning?	Date	Subdivision?	Date
Bristol	Ontario	Yes	2007	Yes	2011	Yes	2003
Canadice	Ontario	Yes	1999	Yes	2007	Yes	1999
Naples	Ontario	Yes	2002	Yes	1999	Yes	1999
Richmond	Ontario	Yes	2004	Yes	2006	Yes	1990
South Bristol	Ontario	Yes	2008	Yes	2014*	Yes	1994
Springwater	Livingston	No*	2007	No	--	Yes	2011
Average Age of Document (in years since 2014)			*9.5*		*6.6*		*17*

**In progress*

The complete assessment process was conducted in 2007 and again in 2014 in order to gain a thorough understanding of existing local laws, ordinances, and practices, many of which impact land use and ultimately water resources. The BMP assessment form lists 151 individual BMPs which are divided into six primary categories and relevant sub-categories:

1. **Development**
   - Existing Development
   - New Development and Substantial Redevelopment
2. **Forestry and Agriculture**
   - Forestry
   - Agriculture
3. **Waterways and Wetlands**
   - Modified Waterways
   - Wetlands and Riparian Area Management and Restoration
4. **Marinas**
   - Existing Marinas
   - New Marinas
   - All Marinas
5. **Roads and Bridges**
   - Existing Roads and Bridges
   - New Roads and Bridges
   - All Roads and Bridges (existing and new)
6. **Onsite Wastewater Treatment Systems (OWTS)**

The existing local laws of the six municipalities were reviewed and evaluated according to these 151 best management practices. The following analysis has been prepared based on this assessment, which is separated into two sections. Section 1.2, General Overview of Local Laws and Practices, provides a general overview and analysis of local laws within the Honeoye Lake Watershed and addresses the primary gaps that were found to be present throughout most (if not all) of these municipalities. Practical recommendations have been advanced therein. Section 3, Assessment of Local Laws and Practices, outlines major findings and other relevant issues or conditions identified within each of the six individual municipalities. The specific local laws that were reviewed are provided with proper citations and are linked when possible.

1.2 General Overview of Local Laws and Practices

1.2.1 Development

Stormwater Phase II represents the latest and most comprehensive system of rules to prevent the discharge of pollutants into area waterways stemming from construction activities. In order to assist municipalities with integrating Stormwater Phase II rules and regulations with local municipal laws, the NYS Department of State (NYSDOS), in conjunction with the NYSDEC, developed the NYS Sample Local Law for Stormwater Management and Erosion and Sediment Control (see Appendix C). Local officials are encouraged to consider incorporating certain aspects of the NYS Sample Local Law into current zoning and subdivision language in an effort to promote statewide consistency and to ensure comprehensive protection from erosion and sedimentation emanating from new construction activities.

Under Phase II Stormwater Regulations, all operators of construction sites disturbing one acre or more of land must file a Notice of Intent (NOI) with the appropriate DEC regional office and prepare a Storm Water Pollution Prevention Plan (SWPPP) that is to be followed by developers throughout the duration of the construction activities. SWPPPs are comprehensive documents addressing all aspects of pre- and post-construction stormwater runoff control practices and procedures. Among the six Honeoye Lake Watershed municipalities reviewed for this study, no local law or construction specification document was found to address all of the components that are contained within a SWPPP.[2]

It is important to note that while the local laws of municipalities within urbanized areas in New York State are required to prove equivalency with this law, municipalities within the Honeoye Lake Watershed are not currently subject to this requirement. Meeting equivalency with the NYS Sample Local Law simply reinforces local protection from erosion and sedimentation and encourages statewide consistency.

While many of the procedures detailed within the local codes reviewed herein were found to provide basic protections from impacts stemming from erosion and sedimentation, no local code was found to acknowledge recent changes in Federal and state laws with regard to Phase II Stormwater Regulations.[1]

[1] Refer to Appendix A: Evaluation of Government Roles, New York State Programs, NYSDEC, Office of Administration, Division of Environmental Permits: "11. Stormwater" for more information on Phase II Stormwater Regulations and permitting requirements.

[2] SWPPPs contain 16 specific components relevant to construction site erosion and sediment controls, which are listed under §2.2 ("Contents of Stormwater Pollution Prevention Plans") in the *NYS Sample Local Law for Stormwater Management and Erosion and Sediment Control*.

Thorough information and instruction regarding Stormwater Phase II Regulation implementation in NYS, as well as the text of the NYS Sample Local Law, can be found within the Stormwater Management Guidance Manual for Local Officials, available for download through the NYSDOS Division of Local Government.[3] Integrating the NYS Sample Local Law into current local law will require significant revisions of current law and should therefore be considered carefully by local officials, with cooperation and oversight from the municipal attorney, code enforcement officials, and zoning and planning board members. If the full sample law is integrated into local law, municipalities will also be responsible for designating a local Stormwater Management Officer to accept and review SWPPPs, forward the plans to the applicable municipal board and inspect stormwater management practices implemented in the field.

In the absence of conducting major revisions to local laws, local officials may want to consider simply referencing the importance of and requirements associated with the Statewide Phase II Construction Permit (GP-0-10-001)[4] within their local zoning, site plan approval and subdivision regulations, thereby requiring developers to provide proof of compliance with the Phase II Construction Permit in advance of the commencement of land-disturbing activities. As stated in the Stormwater Management Guidance Manual for Local Officials, "State law does not presently provide for the review of SWPPPs in the building permit process, but a municipality may direct the Building Inspector [or CEO] to require a SWPPP when application is made for another land use permit (site plan, subdivision, zoning change, special use permit)."[5] This approach, therefore, provides an amenable alternative to adopting the full NYS Sample Local Law. Enforcement of the SWPPP and other Phase II-related procedures would then fall to the regional DEC office in the absence of a local law stating otherwise. Given the limitations of DEC resources, a municipality may choose to designate their county SWCD as an appropriate reviewing agent; however, SWCD offices should be consulted before such an approach is pursued. The negotiation of a contract will likely be necessary in order to ensure that the SWCD office has the resources to commit to inspections.

Further information and instruction on integrating stormwater management into existing municipal programs can be found within the Stormwater Management Guidance Manual for Local Officials and in this report in Section 2.2, Stormwater and Erosion Management.

In addition to making considerations regarding Phase II Stormwater Regulations, local officials should assess the training, knowledge, and capability of Planning and Zoning Board members and the CEO and his or her staff and seek additional or supplemental training as necessary. Town officials should evaluate the preparedness and capability of the CEO, ensuring that adequate training and resources are made available. Given that Planning Board members are responsible for reviewing and approving development proposals, they should also be familiar with local stormwater management goals and the intent and mechanisms currently within local regulations.

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[3] NYS DOS Division of Local Government Publications, *Stormwater Guidance Manual for Local Officials.* http://www.dec.ny.gov/chemical/9007.html

[4] SPDES General Permit for Stormwater Discharges for Construction Activity, effective January 29, 2010 through January 28, 2015. http://www.dec.ny.gov/docs/water_pdf/gpsconspmt10.pdf

[5] NYS DOS Division of Local Government Publications, *Stormwater Guidance Manual for Local Officials.* p 14.

1.2.2 Agriculture and Forestry

1.2.2.1 Agriculture

Given the nature of agricultural protection laws in NYS, an assessment of local municipal laws will rarely identify local ordinances pertaining to agricultural activities. Many agricultural issues are regulated at the State level by the Department of Agriculture and Markets and the Department of Environmental Conservation. It is important to note, however, that 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 to, and often feels the most comfortable with. A municipality's position on good farming practice can therefore help to further water quality efforts. Furthermore, watershed organizations and local boards should strive to include members of the local agricultural community in land use and water quality planning initiatives in order to gain insight and knowledge regarding their attitudes and concerns related to the challenges associated with implementing agricultural environmental BMPs.

Agriculture Environmental Management (AEM) is New York State's voluntary, incentive-based program for addressing the environmental impacts associated with all types of agricultural activities. Within the Honeoye Lake Watershed, AEM programs are administered by the Soil and Water Conservation Districts (SWCDs) in Livingston and Ontario Counties. AEM Five-Year Strategic Plans for those counties should be consulted in order to assess local AEM priorities and the implementation status within individual watersheds.

More information follows in Section 2.3, Agriculture.

1.2.2.2 Forestry

Considerations for timber harvesting practices contained within the Local Timber Harvesting Law enacted by the Town of Bristol in 2005 were among the most comprehensive of those reviewed within this study. The local law applies to all individuals or businesses harvesting timber, with the exception of timber intended for personal use (i.e. fewer than twenty-five standards cords within a twelve-month period for firewood or fewer than 20,000 board feet within a twelve month period for lumber). As stated in Article V of the law, "No person, firm, partnership, corporation or other entity…shall engage in commercial timber harvesting as defined in this Law without a permit issued in accordance with Part VI herein." Permits are issued by the Town Code Enforcement Officer and must comply with six specific "standard operating procedures." Among those include: the installation of necessary or appropriate best management practices recommended in the NYS Forestry BMP Field Guide; no skidding within stream channels; maintaining fifteen-foot stream buffers; clear, well designated skid landings outside of the public right of way; and the implementation of appropriate site-reclamation procedures.

The Law makes distinctions between "basic" and "full" timber harvesting permit applications depending on the sensitivity of site conditions. Article VIII of the Law ("Violations and Enforcement") provide local officials with appropriate mechanisms to enforce the law, including provisions for site inspections, stop-work orders, and fines up to $250 or imprisonment for each separate violation.

Municipalities that identify timber harvesting to be a potential threat to water quality within their jurisdiction are recommended to review and adopt this local law, portions thereof, or the equivalent thereof, to ensure the adequate protection of local water resources from erosion and sedimentation.

1.2.3 Waterways and Wetlands

Practical recommendations with regard to waterways and wetlands that the municipalities within the Honeoye Lake Watershed might want to consider include: the use of mandatory setbacks from streambanks and shorelines in order to minimize disturbance of land within such areas; recognition of the NYS Wetlands Preservation Act (Article 24 of the NYS Environmental Conservation Law) directly within local law and the importance of upholding that law; and the identification and mapping of wetlands smaller than 12.4 acres and special zoning considerations that protect those areas. In a variety of instances cited below, adequate stream setback rules have already been implemented by several municipalities.

In addition, other environmentally-sensitive aquatic areas may also warrant further consideration. Municipalities 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 setback requirements in the zoning code, the site plan review process (for individual sites), and subdivision regulations (for larger developments). Alternatively, municipalities can also protect wetlands and riparian areas through provisions within their sediment and erosion control laws. Finally, careful administration of a flood prevention ordinance can restrict development within flood hazard areas, which also happen to be environmentally sensitive and/or riparian areas.

For more information, see section 2.2.5, Erosion and Sediment Control Regulations.

1.2.4 Marinas (applicable to the Towns of Canadice and Richmond only)

Boating activities on Honeoye Lake are generally limited to smaller recreational vessels. Considering that the lake is landlocked, unlike other Finger Lakes which are connected to the NYS Canal System, the environmental impacts stemming from recreational boating activities – while not insignificant – are likely to be limited.

The two primary environmental risks associated with recreational boating activities pertain to vessel waste and invasive species from transient vessels. Local regulations that address vessel waste and other sources of pollution related to boating should be considered if local residents and officials recognize a specific threat therein. Vessel pump-outs at marinas and other public facilities is a key provision in this regard. Grants are available for pump-out facilities at public and private marinas from the New York State Environmental Facilities Corporation through the Federal Clean Vessel Act.

Invasive species can begin to be addressed through the implementation of basic BMPs at public launch sites. Signage identifying species of concern as well as procedures that should be taken as vessels are launched and removed from the water (hull washing and scraping, for example) are among those recommended. All practices must be implemented in a uniform manner in both Richmond and Canadice, however, if they are to be effective.

Other areas for consideration may include standards for dock construction (including materials for construction), steep-slope construction provisions, and standards for dry-storage facilities. Provisions should designate an enforcement entity, such as a harbor master or local code enforcement officer.

Further instruction and guidance regarding docks and moorings and other harbor management issues can be found in the NYSDOS publication entitled Guidelines for the Preparation of Harbor Management Plans.[5]

1.2.5 Highways

While highway departments within most municipalities typically practice basic best management practices on an unofficial, voluntary basis, it is rare to see specific practices and procedures written directly into local code. The Town of Canadice Code (§106, "Streets and Sidewalks") presents a clear framework for addressing a variety of best management practices that pertain to highway maintenance. This section of the Code can be used as a valuable model for neighboring municipalities in the watershed as well as for rural towns throughout the region, as it sets clear priorities and expectations regarding the local roads and facilities therein.

The code contains directives and procedures that guide conscientious and consistent maintenance of local facilities. Guidelines are included for surface and roadside facilities such as bridges, drainage, road repair, and slopes. Several aspects of these guidelines appear to have erosion and sedimentation prevention specifically in mind. Given the town's rural nature, a distinction is made between low-volume roads and those that otherwise receive moderate or high traffic volumes. Article III of §106 states that a major reason for setting such standards is to decrease overall costs by reducing unnecessary maintenance on low-volume roads. Roads designated as "low-volume" are posted with signs intended to advise motorists of the need to exercise due diligence when traveling on such roads.

This feature of local law is generally unique to the region and worthy of mention for several reasons. Codifying highway maintenance procedures adds a degree of transparency to the operation and management of public assets, which lends significant credence to the department and the municipality as a whole. Furthermore, these specific procedures have the *potential* to work in conjunction with environmental best management practices (although it is important to note that this is not the intent of this section of code). Low-volume roads can have the potential to have a low-impact on local water resources. The recommended reduction of salt and sand usage and implied decrease in impervious surface area can have a positive impact on local water resources if done in accordance with other basic roadside provisions (such as check dams, vegetative swales, or other types of low-maintenance stormwater structures). Furthermore, interpretative signage can be designed to accompany low-volume road signs that are already in place, thereby acting as an information tool, notifying the public of the benefits of such areas.

All highway departments should seriously consider the development of a written inspection and maintenance plan intended for use by highway department employees for the efficient management and maintenance of highway-related facilities. Such a plan should incorporate some or all of the following components:

- Map identifying: (1) all structural facilities (catch basins, culverts, sediment retention facilities, etc.) with corresponding maintenance log; and (2) environmentally-sensitive areas or areas that should otherwise be given special consideration when conducting routine operation and maintenance activities (rivers and stream crossings, protected and unprotected wetlands, steep slope areas/gullies, near-shore areas, etc.);
- Maintenance log accompanying the facility map which identifies attributes such as: the date of facility installation; inspection and maintenance schedule; overall condition; and an anticipated date of replacement and/or priority replacement list; and

[5] NYS Department of State, Division of Coastal Resources. "Harbor Management Planning." Last viewed 4/407 at http://nyswaterfronts.com/downloads/pdfs/hmpguide.pdf

- A "wish list" specifying targeted locations for new facility installation or facility improvement. Such a list should generally not be constrained by local fiduciary limitations; rather, the list should be expansive in the event that support from an outside granting agency arises.

In addition, maintenance procedures pertaining to roadside ditches should be included and given particular emphasis. Roadside ditches provide a direct link between the land and area waterways. During storm and thaw periods, these appurtenances can contribute an immense amount of stormwater and associated runoff into area waterbodies. Ditch shape and design, cleaning procedures, materials and retrofitting approaches are among the subjects that should be covered. Specifically, ditch maintenance guidelines should address the following:

- Avoid performing ditch maintenance during excessively wet periods;
- Perform site stabilization immediately following cleaning, using straw bales, straw mulch, grass-seeding, hydromulch, and other erosion control and revegetation techniques as appropriate;
- Perform ditch retrofitting in steep slope areas or areas prone to erosion, taking ditch shape and contour into account; and
- Retrofits may include the installation of control measures such as check dams and riprap or vegetated swales, turnouts, wing ditches, and dips to disperse runoff and reduce road surface drainage from flowing directly into watercourses or other detention/retention areas.

Other BMPs in highway design and construction can be found in detail through the EPA publication *National Management Measures to Control Nonpoint Source Pollution from Hydromodification*.[6]

Furthermore, local officials should take deliberate steps to ensure that highway staff is familiar with Stormwater Phase II Regulations and associated permits and procedures. Training is cited as an important component of the Town Streets and Sidewalks Code, §106-10.A in order to "encourage the utilization of innovative and cost-cutting procedures as well as more efficient highway maintenance and consolidation methods." Employee training should also encompass appropriate practices for stormwater control as part of a comprehensive local stormwater management program. Such training opportunities are available throughout the year in most parts of NYS and can often be done in cooperation with other municipalities.

Local officials and staff should familiarize themselves with key design and guidance documents, in particular, the New York State Stormwater Management Design Manual, which provides design guidance on the most effective stormwater management practices.[7] For more information, see Section 2.4.1, Highway Department Practices.

1.2.6 On-site Wastewater Treatment Systems (OWTS)

In 1999, the Ontario County Planning Department drafted the Model Local Law for On-site Individual Wastewater Treatment.[7] In the instance that failing OWTS are recognized as a significant concern within the Honeoye Lake Watershed municipalities, this model ordinance or portions thereof can provide an adequate means of addressing the proper operation, maintenance and inspection of such systems. The law recommends inspections of existing wastewater treatment systems to occur during the following instances: prior to a change of use; prior to conveyance of real property; and when the structure is to be expanded by an area greater than 50%.

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[6] http://www.epa.gov/owow/nps/hydromod/index.htm.
[7] http://www.co.ontario.ny.us/planning/septic.htm

Each of these requirements may be incorporated into local law in order to ensure that systems are being maintained and functioning properly. Furthermore, local law may require new systems to be subjected to the oversight, examination, and site evaluations deemed necessary in order to ensure that systems are being designed and installed properly (as per Appendix 75-A of the NYS Public Health Law).

In order to guarantee that OWTS are operating properly, inspections of systems should occur on a cyclical basis, roughly every 3 to 5 years. An excellent example of manageable OWTS inspection procedures can be found in Cayuga County. The Sanitary Code of the Cayuga County Health District currently requires property owners within the Owasco Lake and Little Sodus Bay watersheds to have an inspection completed every 3 years; all other properties within the County are required to have inspections every 5 years (performed on a staggered rotational basis depending on location).[8]

Another important aspect of OWTS management is education and outreach. A variety of county and regional organizations conduct education and outreach programs in an attempt to target homeowners, contractors and developers regarding proper installation and maintenance of OWTS. Information pertaining to the basic operation of systems, how failing systems can harm local water resources, recommended frequency for pump-outs to occur, and water conservation are several issues that should be conveyed through education and outreach activities.

For more information on OWTS, see Section 2.2.3.1.

2.0 Recommended Regulatory Tools and Best Management Practices

Recommended regulations and practices discussed in this section are based upon a number of sources of best management practices (BMPs) and models, along with the information collected in the Assessment. The Assessment was used both to determine gaps in certain municipal laws and programs and to find good examples in others.

Priority focus areas included:

- Development-related land use tools – zoning, site plan review, subdivision regulations (amount of vegetation, impervious surfaces, etc.)
- Stormwater regulations, including MS4 regulations and suggestions for non-MS4s
- Stream corridor protections
- Riparian buffers – vegetated areas, additional setbacks
- Floodplain protections and increased restrictions on use and site changes
- Wetlands
- Agricultural issues – setbacks, manure storage, etc.
- Erosion and sediment

Recommendations are given for all municipalities that were reviewed as a set of next steps that can be taken. These are based on priority issues and do not include every possible way to improve water quality. Many BMPs and recommendations are applicable to more than one county or municipality; as such, these are included throughout this section. Detailed recommendations specific to counties and municipalities, respectively, are based on their unique assessments and needs and located in Section 3: Recommendations for Local Laws, Plans, Programs, and Practices.

2.1 Land Use Tools

The Constitution of the State of New York specifies that the primary authority for guiding community planning and development is vested in cities, towns and villages. This authority is commonly referred to as “home rule” and is implemented locally through the creation of comprehensive plans, zoning, site plan review, and subdivision standards. Counties are also vested with certain powers and capacities to guide development and act as a steward of resources within its borders.

These building blocks of land use control and planning also help establish water quality controls, either directly or indirectly.

2.1.2 Comprehensive Plans

Comprehensive plans are strategic documents that set out the broad goals and vision of a community. The plan should reflect current conditions and issues of the municipality, where the community would like to be, and how to reach those goals. The plan should be developed with widespread citizen input and put in writing 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). While the planning board or planning department staff may prepare the plan, by law the comprehensive plan must be adopted by the local legislative body after public hearing.

A comprehensive plan should identify the type and intensity of development to be accommodated. A comprehensive plan which is too generalized may not serve to effectively guide future development. Municipalities should ensure that their comprehensive plans – at minimum – list watershed management and related topics such as water quality, stormwater management, and erosion and sediment control as municipal priorities. Prioritizing these issues is a good starting point, and justifies the need to expand related local laws and practices.

Some communities in New York may not have comprehensive land use planning processes; for those that do, there is often no link between the land use plan and water quality protection and planning. Water is currently regulated through a patchwork of federal and state laws, yet the future of water resource management will likely require a more holistic approach to how we deal with drinking water, wastewater and stormwater runoff. Communities should seek initial funding to update their comprehensive plan in order to be eligible for a host of water-related programs – which consider smart growth, green infrastructure, and sustainability in funding decisions – regardless of MS4 status. For assistance in developing a comprehensive plan, see *Protecting Water Resources through Local Controls and Practices* Appendix E1.[1]

2.1.3 Zoning

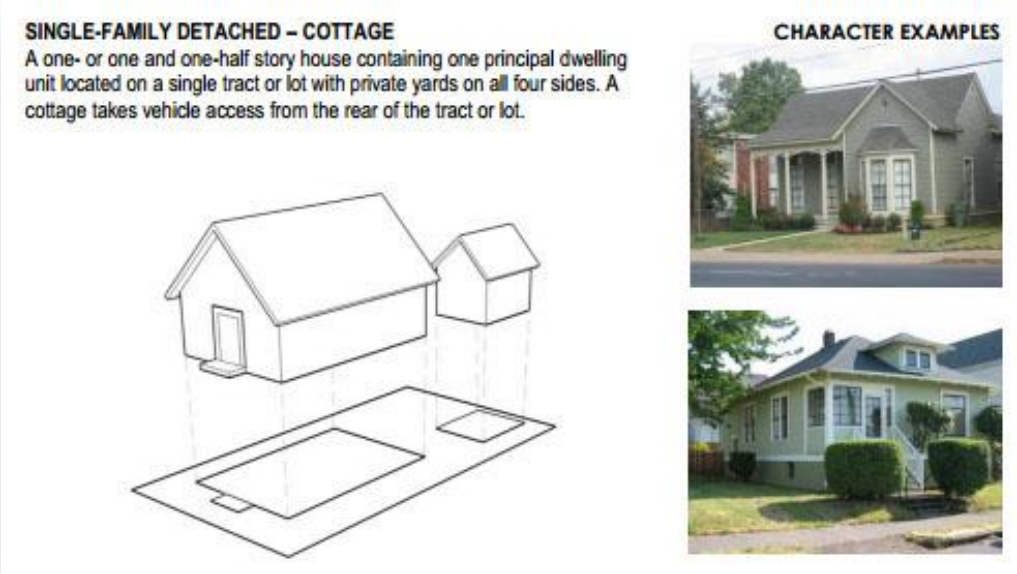
To help make the leap from planning to zoning to implementation and enforcement, zoning laws should concisely implement the purpose and intent laid out in the comprehensive plan. Zoning can regulate the use, form, siting, and character of development on individual land parcels. Zoning is most effective in preventing future issues with development or harmful uses. While an existing use or form is generally grandfathered, after the use or building is abandoned for a certain amount of time new regulations would be enforceable. Nonconforming use is lost through abandonment, typically defined by local zoning law. These regulations also have power to prevent a property owner from expanding a use or building when they are non-conforming in the new zone.

Encouraging development within or adjacent to already developed areas limits the amount of required infrastructure expansion and often results in the preservation of open space in outer lying areas. Zoning for adaptive reuse development encourages the redevelopment of vacant or underutilized structures. Consider increasing the allowable uses in a zone or zoning by form rather than use. One way to accomplish this is to allow for Mixed-Use zoning, especially in village downtowns and infill areas.

Consider the costs of not implementing these practices; smart growth saves an average of 38 percent on upfront costs for new construction of roads, sewers, water lines and other infrastructure.[2] These measures save municipalities an average of 10 percent on police, ambulance, and fire service costs and generates 10 times more tax revenue per acre than conventional suburban development. The geographical configuration of a community and the way streets are connected significantly affect public service delivery. Smart growth patterns can reduce costs simply by reducing the miles service vehicles must drive. The savings on services in rural areas are much higher, perhaps as much as 75 to 80 percent.[3]

A form-based zoning code can be limited to verifiable building form characteristics such as setbacks, yard types, building height and massing, frontage size and lot coverage. For example, a municipality can mandate that all buildings be of a similar height to fit in with the character of a neighborhood without exhaustive architectural design standards such as the size of windows or facade details.[4]

Including graphics, such as the following example of expected development form and character, help make zoning easier for everyone to use and understand:



2.1.3.1 Overlay Districts

An overlay district is a zoning technique that selects natural or cultural areas of the municipality based on criteria such as main street retail areas, historic districts, scenic views, steep slopes, wetlands, woodlots, or riparian areas. As the name suggests, these districts overlay the underlying zoning designation (such as commercial, residential, etc.). The underlying zoning, and all of its regulations, remain in place. The overlay district simply adds another set of regulation processes to help protect sensitive areas.

An Environmental Protection Overlay District (EPOD) could be utilized to restrict uses with large impacts on the water. This could also include development setbacks, vegetative buffers, etc. Current allowable uses should be grandfathered in to the law as still allowable. As non-conforming uses are abandoned, properties will be required to comply with the buffer regulations. These non-conforming grandfathered uses will come into compliance over time.

Active River Areas

River health depends on a wide array of processes that require dynamic interaction between the water and land through which it flows. The areas of dynamic connection and interaction provide a frame of reference from which to conserve, restore and manage river systems. The active river area framework offers a more holistic vision of a river than solely considering the river channel as it exists in one place at one particular point in time. Rather, the river becomes those lands within which the river interacts both frequently and occasionally. The active river area (ARA), therefore, is a critical zone in which watershed restoration and protection efforts should be focused.

The Nature Conservancy developed this approach to address river health in areas directly adjacent to streams. The ARA framework can be used as a tool to inform conservation,

restoration and management of riparian areas and entire watersheds.[5] Municipalities should utilize the Active River Area method to determine the area of land most important to target to protect water quality through practices and programs. Many of the regulatory tools and best management practices outlined here could be targeted toward the active river area. The Active River Area can be prioritized in laws and practices, such as a zoning overlay district based on the five components of the ARA: material contribution areas; the meander belt; floodplains; terraces; and riparian wetlands.

2.1.4 Site Plan Review

Site plan review addresses the layout and design of development on a single parcel of land. It is commonly considered supplemental to other land development guidance controls and is usually included within a community's zoning law. Yet it is a critical planning tool for identifying and addressing drainage, erosion control, amount of impervious cover, vegetation, and other stormwater mitigation measures. This is often the easiest place to add watershed protections because the law and review system are usually already in place, and just need to be expanded slightly. The site plan review process allows for greater municipal scrutiny and application of intent for certain land uses and/or structures. Some examples of intent may include:

- Promoting environmental sustainability in new development and redevelopment
- Preserving and enhancing neighborhood character
- Achieving compatibility with adjacent development and uses
- Improving the design, function, aesthetics, and safety of development projects and the overall visual and aesthetic quality of the city/town/village
- Mitigating potentially negative impacts on drainage and the landscape
- Removing or reducing minimum parking requirements, reducing the size of parking spaces, and developing parking lot design standards that include grass areas, filter strips, bioswales, and other types of biofilers for capturing runoff
- Encouraging creative shared parking options between uses with non-competing peak use periods[6]
- Limited site plan reviews for small projects can be conducted at an administrative level by a staff planner or zoning code administrator
- Site plan approvals conditional on other permits and approvals, such as Stormwater Pollution Prevention Plans (SWPPP) and building permits

A site plan should show the existing and proposed conditions, including topography, vegetation, drainage, floodplains, marshes, wetlands, and waterways; open spaces, walkways, means of ingress and egress, utility services, landscaping, structures and signs, lighting and screening devices; submitted along with building plans, elevations and building materials; and any other information that may be reasonably required to allow an informed decision to be made by a planning board.

One approach that begins to address the integration of sustainable policies with proposed development is the concept of Better Site Design (BSD). Better site design incorporates non-structural and natural approaches to future development projects to minimize effects on watersheds by conserving natural areas, reducing impervious cover and improve application of stormwater treatment. The DEC's Handbook on Better Site Design[7] includes easy-to-follow tables and checklist for applying these practices. Green Infrastructure, also known as Low Impact Development, such as Bioswales (roadside ditches) and bioretention areas (sunken gardens), French drains (retention trenches) and brick and cobblestone streets (pervious pavers) are old technologies given new life. Some of the best practices in Green Infrastructure were developed by the USDA's Soil Conservation Service in the wake of the Great American Dust

Bowl.[8]

New residential development guidelines for the design, planting, and maintenance of trees may include certification by a Registered Landscape Architect and the use of structural soils, such as CU-Soil™, which helps trees get established and grow to fuller crowns while also assisting in stormwater management. A number of relevant publications are available from the Urban Horticulture Institute at Cornell University.[9]

Site plan review should include:

- Preservation of open space, natural features, vegetation and trees
- Landscape elements, including grass areas, filter strips, and bioswales
- Live plant materials and maintenance schedule, including protection of existing mature vegetation, especially trees over eight inches DBH (diameter-breast-height)
- Percentage of open space based on the size of the development parcel(s)
- Minimization of impervious surfaces and the use of permeable materials such as porous asphalt and structural soil
- Plan compliance with New York Standards and Specifications for Erosion and Sediment Control especially Appendix G – Sample Checklist for reviewing Erosion & Sediment Control Plans[10]
- Construction plan, including haul route, staging area, and runoff management strategy

Development should be limited in key areas such as riparian buffers, wetlands, floodplains, Active River Areas, etc. The Board should seek advice from County SWCD, especially on proposals disturbing over one acre, as well as those located near sensitive areas such as steep slopes, high erosion areas, wetlands, floodplains, etc. Input from County Environmental Management Councils (EMCs) and municipal Conservation Advisory Councils (CACs) and Conservation Boards can assist with taking inventory of natural features of the landscape to identify those locations that are important to preserve and protect. A thorough urban/suburban site plan review model can be found in the City of Ithaca[11]; a rural model can be found in the Town of Ithaca.[12]

2.1.5 Subdivision of Land

Subdivision regulations control the manner by which land is divided into smaller parcels of land. While zoning and subdivision control are entirely separate and distinct parts of the planning implementation process; used together they result in well-ordered, environmentally-aware development. 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. Subdivision regulations can be used to limit the negative impacts development can have on waterbodies before during and after the construction period. Approval can be contingent on additional requirements such as:

- Preservation of natural features, trees, and vegetation
- Conservation of imperiled species, ecological communities, and unique natural areas

- Agricultural land conservation
- Floodplain avoidance
- Minimization of the creation of impervious areas / encourage permeable surfaces
- Limit parking footprint to no more than 20% of the total development footprint area for all new off-street surface parking facilities, with no individual surface parking lot larger than 2 acres[13]
- Pre-construction, construction, and post-construction
- Site protections to minimize erosion and runoff (retaining vegetation, sediment fencing, etc.)
- Clustered subdivision

Under Section 278 of New York State Town Law, towns have the authority to mandate clustered subdivisions. A subdivision is considered a cluster subdivision when lots and dwelling units are clustered closer together than in a conventional subdivision; open space is created on the remainder of the property without increasing density for the tract as a whole. This can be an effective way to preserve open space, while not reducing the total number of development units. Clustered subdivisions allow developers to reduce minimum lot sizes and increase density if they preserve an appropriate portion of the proposed development as open space, identified by important agricultural soils, water bodies, and conservation of open space. They allow for a range of lot sizes, building densities, and housing choices to accommodate a variety of age and income groups. Clustered development also has fiscal benefits; clustering requires less road and sewer infrastructure and lowers ongoing public safety operations and maintenance costs. For subdivisions from a few acres up to 320 acres (1/2 square mile) in size, municipalities may consider adopting the LEED for Neighborhood Development (LEED-ND) Standard to holistically tie together development siting, street design, development of pedestrian linkages, stormwater management, green infrastructure and building design, and other performance standards. These standards can be applied to infill development as well. The 2013 *Technical Guidance Manual for Sustainable Neighborhoods* is available from the US Green Building Council.[14]

2.2 Stormwater and Erosion Management

Once water runs off of private property, it tends to become the problem of the municipality. Roads, buildings, parking, sidewalks, and driveways all increase runoff from rain events and snow melt. Stormwater runoff contains pollutants such as nutrients, pathogens, sediment, toxic contaminants, and oil and grease. Water quality problems generated by these pollutants have resulted with waterbodies such as lakes and streams having impaired or stressed uses. Impervious surfaces such as roofs, driveways, and parking lots may be regulated by municipalities through zoning and subdivision regulations and the site plan review process. In addition, 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 to municipalities in terms of ditch and storm drain cleaning.

To address these local concerns, federal stormwater regulations commonly known as "Stormwater Phase II" require "urbanized area" municipalities to develop a Small Municipal Separate Storm Sewer System (MS4) management program. To prevent harmful pollutants from being washed or dumped into an MS4, operators must obtain a NPDES (National Pollutant Discharge Elimination System) permit and develop a stormwater management program. Pursuant to Section 402 of the Clean Water Act, stormwater discharges from certain construction activities are unlawful unless they are authorized by a NPDES permit or by a state permit program. New York's SPDES (State Pollutant Discharge Elimination System) is a NPDES-approved program with permits issued in accordance with New York's Environmental Conservation Law.

Municipalities can use the EPA's MS4 maps to determine whether their jurisdiction is located in the 2010 urbanized area where the MS4 program would apply.[15]

The New York State Smart Growth Public Infrastructure Policy Act (the Act) of 2010 requires the New York State Environmental Facilities Corporation (EFC) to determine that infrastructure projects meet relevant smart growth criteria in order to provide Clean Water State Revolving Fund financial assistance. Public infrastructure projects cannot use the CWSRF for land, including right-of-ways, unless that land is integral to the wastewater treatment process. Percolation of stormwater through the soil matrix is essential to the operation of green infrastructure practices, many of which can be conveniently located in public right-of-ways. This utilization of soil and plants in a right-of-way to clean and infiltrate stormwater allows the land in that right-of-way becomes integral to the treatment process and thus could be eligible for CWSRF funding.[16]

Non-MS4 Communities

While the Honeoye Lake watershed is made up of non-urbanized areas (and thus, are not required to follow MS4 Stormwater Phase II requirements), municipalities should consider working toward voluntary compliance with some or all of the minimum measures to better manage stormwater and its potential effects. In many areas this work is already occurring through SWCDs and other groups though public outreach, education, and participation. Other strides could be made through adoption (or strengthening) local laws related to illicit discharge and runoff (MCMs 3, 4, and 5). A Sample Local Law for Stormwater Management and Erosion & Sediment Control prepared by NYSDEC is available in Appendix C.

2.2.1 Public Education and Outreach

It is important to target the right groups for education opportunities to make efficient use of often scarce resources. It can be effective to aim and customize education and outreach strategies for different groups. Some groups can receive advanced training depending on their background, while others may benefit from brief introductory information. Three types of groups that might be considered for different outreach strategies could be government employees and decision makers, stakeholder groups, and the general public.

One of the biggest aims of the program is outreach: improving awareness of stormwater pollution sources and educating the public on how pollution gets into local waters. A 2005 report by the National Environmental Education & Training Foundation, *Environmental Literacy in America*[17], found that a large percentage of the public does not understand that runoff from agricultural land, roads, and lawns, is now the most common source of water pollution; nearly half of Americans believes industry still accounts for most water pollution. Many people don't recognize the fact that storm drains are connected directly to waterways or just don't think about it during their normal routine.

2.2.1.1 Government Employees and Decision Makers

This group includes planning and zoning boards, town/village boards, as well as code enforcement officers, zoning officers, highway department, public works employees and planners. Appointed and elected officials and employees should be trained both on the importance of improving water quality and the ways that they can have a positive effect through the use of their zoning code, approval of site plans and subdivisions, etc. Training is available on these and other topics at Genesee/Finger Lakes Regional Planning Council's Local Government Workshops. Held in the fall and spring each year, these events helps fulfill state law requiring training for local planning officials. Training is also

available on a regular basis from the Department of State, as well as through counties, associations, and private entities.

In municipalities throughout New York, Conservation Advisory Councils (CACs) and Boards (CABs) serve as important advisory bodies to town boards, planning boards, and zoning boards of appeals. By providing a scientific perspective on site plan review, comprehensive plans, environmental ordinances, open space protection, and biodiversity conservation, CACs contribute to the preservation and improvement of the natural environment and quality of life for residents. Article 12-F, Section 239-x and 239-y of the State of New York General Municipal Law details how a city, town, or village can create a Conservation Advisory Council or Conservation Board to advise on the development, management, and protection of its natural resources and act as an environmental liaison to the public.

Employees such as highway department workers or code enforcement officials should receive education specific to their positions and should help further their knowledge of local laws and practices and why they are important to protecting the environment and water quality. Local Code Enforcement should coordinate and partner with SWCDs regarding inspecting requirements and enforcement; even if it's not the code enforcement officer's duty, they should be aware of regulations to report issues that they notice

County Soil and Water Conservation District employees often have a much greater depth of understanding of watershed issues, but additional advanced training related to best management practices and water quality implementation strategies can be very beneficial, especially since these groups are often involved in educating the other groups. Monroe County SWCD offers 4-hour E&SC courses for certain contractors (Trained Contractor) and certain Qualified Inspectors in addition to the Western New York Stormwater Management Training Series (offered in 2012 and 2013).

2.2.1.2 Stakeholder Groups

Groups that have a specific interest or mission related to water quality should be targeted for education. Expanding citizen stewardship becomes easier when tapping into the network of groups that work toward improved local management of water resources. Watershed committees, Water Quality Coordinating Committees (WQCCs), county Environmental Management Councils (EMCs), municipal Conservation Advisory Councils (CACs) and Conservation Boards, lake associations and other environmental groups usually already have a general understanding of issues and can be excellent at disseminating information to the general public. These groups are often filled with volunteers who are willing to strategize ways to educate others such as organizing outreach materials, attending and speaking at events and just generally sharing information with others. These organizations can facilitate education and public involvement activities that foster a citizen-based watershed ethic:

- SWCDs
- WQCCs
- Volunteer citizen educators
- Honeoye Lake Watershed Task Force and other watershed groups
- Region, County, and Municipal Planners
- Cornell Cooperative Extension

2.2.1.3 Public Educational Materials and Strategies

It is important to educate the public on issues that are affecting water quality and alert them of simple things they can do to positively affect certain water quality issues. Many people may be willing to make small changes if they knew their actions could have a positive impact on the environment and water quality. The public may also support municipal and county expenditures on programs and practices if they understood the importance of protecting water quality.

Targeting the public geographically is one option. The population of residents within a close geographic area of waterbodies can be a very important group to reach out to. The actions of these residents have the biggest direct impact on water quality due to their close proximity to the water body. This group may be more receptive toward water quality improvement concepts because they may appreciate the water body's recreational or aesthetic value and may benefit directly from it, and could, depending on the issue, relate water quality issues to their property value. This group should be targeted for education on simple household BMPs like those included in the H2O Hero campaign such as the use of or disposal of fertilizers, paints, pet waste, as well as septic system maintenance.[18] For example, information could be provided to restaurants on the effects of grease clogging storm drains and to auto garages on the effects of dumping used oil into storm drains.

Effective outreach materials are also interesting and accessible to children and included in places traditionally used for education. The Water Education Collaborative's H2O Hero campaign accomplishes this through information sharing with educational institutions and in school education programs. The H20 Hero could be marketed more extensively in existing target markets and be expanded into new markets.

Targeting key places that are important to protect for distribution of education materials can also be an effective strategy; storm drain labeling is a good example of this method. The storm drain markers inform residents that "anything that goes down a storm drain goes directly into a water body without being treated."[19] Placing recreational guides and outreach materials at parks and in kiosks along waterbodies can help connect recreational groups using the water and adjacent land such as boaters, marina owners, paddlers, and fishing and hiking groups. Setting up a booth at a water or park cleanup event can be effective in targeting people who are both interested in the health of the environment and are also willing to volunteer their time to make a difference.

2.2.2 Public Participation and Involvement

Make sure a system is in place for the public to report any issues they see; this will help to point inspections and enforcement in the right direction. Evaluate potential expansion of monitoring efforts, such as monitoring and assessments for bacteria and emerging contaminants of concern.

2.2.2.1 Adopt a Storm Drain

"Adopt a Storm Drain" programs encourage individuals or groups to keep storm drains free of debris and to monitor what is entering local waterways through storm drains. A natural progression of this could be the recruitment of volunteer web developers and municipal information technology professionals to develop a real-time, mobile civic engagement platform to send reports on storm

drains. Developed using open source software,[20] mobile reporting empowers residents to identify civic issues and report them right from their smartphone to the appropriate authority (SWCDs, town/city hall, etc.) for quick resolution. This allows government to use technology to save time and money plus improve accountability to those they govern; this acts as a positive, collaborative platform for real action. A number of municipalities have implemented this for public infrastructure; for instance, Boston's Adopt a Hydrant program[21] allows users to adopt a fire hydrant to shovel out after it snows.

2.2.3 Illicit Discharge Detection and Elimination

Illicit discharges enter the system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the MS4 leaching from septic systems, spills collected by drain outlets, or paint or used oil dumped directly into a drain). These untreated discharges contribute high levels of pollutants, including heavy metals, toxins, oil and grease, solvents, nutrients, viruses, and bacteria to waterbodies. Pollutant levels from these illicit discharges are high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health.

For MS4 communities, the first step in designing a program to publicize and facilitate public reporting of illicit discharges is to implement an ordinance or other regulatory mechanism that prohibits non-stormwater discharges into the MS4. It should also outline appropriate enforcement procedures and actions, including a plan to detect and address non-stormwater discharges, including illegal dumping, into the MS4 and education of public employees, businesses, and the general public about the hazards associated with illegal discharges and improper disposal of waste.

2.2.3.1 On-Site Wastewater Treatment Systems (OWTS)

The number one source of nonpoint source pollution in New York State is on-site wastewater treatment systems.[22] When these systems and facilities are properly designed, installed and maintained; they are effective at treating regulated contaminants in human and industrial wastewater. However, if these individual systems or centralized facilities are not working properly, wastewater can contribute nutrients, pathogens and other contaminants to groundwater and surface water. Even when properly functioning, these systems are ineffective in the treatment of many pharmaceuticals and toxic chemicals.

Most systems that are inadequately treating wastewater do not manifest to the worst case scenario of surface discharge. Therefore, many systems that are not working properly go undetected for years and contribute elevated levels of pathogens, nutrients and other contaminants to groundwater and ultimately the lake. The highest priority systems that are inadequately functioning are those along the shoreline since there is no buffer or filtering before the groundwater flow from the wastewater system enters the lake. Typical four bedroom houses can generate 600 gallons of wastewater per day.

Fortunately, septic system repairs are a lower-cost measure that can make a significant impact on water quality and health in this watershed. Over the last twenty years, technological advances have increased the level of treatment but also the complexity of design and operation. New York State Department of Health's (NYSDOH) Administrative Rules and Regulations for the design of residential onsite wastewater treatment systems (OWTS) apply to systems discharging residential wastewater flows of 1,000 gallons per day or less from year-round and seasonal dwellings.[23] New York State Department of Environmental Conservation (NYSDEC) standards under 6 NYCRR Part

750 applies to private, commercial, institutional, and residential wastewater system flows of over 1,000 gallons per day.[24] Each agency's standards have similar OWTS design options for residential OWTSs; however, for residential systems discharging over 1,000 gallons per day, NYSDEC's design standards and applicable permits apply.

Countywide and Watershed Methods

Best practices, such as regular inspections, should be stated directly in law. Sewage disposal system failures can manifest in a number of ways over time and those failures can be very difficult to detect because the system is buried. Standard inspections, which are typically non-invasive, are not necessarily thorough enough to ensure that the system is functioning properly.

A model Onsite Wastewater Treatment Law[25] was prepared by the Ontario County Planning Department. It includes requirements for inspection and permitting before construction or repair of OWTS. The Department of Health inspects and investigates when there are questions of public health and/or nuisances, and can require remediation. When public sewers are available and accessible, the commissioner may require properties with existing OWTS to abandon use and connect to public sewers. Setbacks of 200 feet from public drinking water sources are required for OWTS as well as storage of other unsanitary and or offensive materials.

Municipal Method

Counties may not have the capacity to take on the additional responsibility that comes with strengthening the onsite wastewater treatment regulations in their Sanitary Codes. Municipalities can take on this role by creating a local Onsite Wastewater Treatment Law. The most important portions to include would be setting an inspection schedule and the requirement to repair, update, and replace systems that are failing. Permits should not be transferrable to different parties; rather, inspection and permitting should be done at property transfer. Additional updates could include the requirement to connect to public sewers when possible. These could vary depending on which county the municipality is located in, and what regulations/practices are already in place. Ontario County's SWCD Uniform Procedures Program provides inspection services to the Towns of Bristol; we urge the other communities in the Honeoye Lake Watershed to sign onto this program as well.

While most regulation of OWTS traditionally occurs at the state and county level, municipalities can also enact regulations to help mitigate some of the associated risks through their building permit and certificate of occupancy regulations.[26] The Town of Huron, New York, Septic Law, Local Law 1-2013,[27] written by environmental engineer and land use attorney Alan Knauf, can be easily calibrated for another New York State municipality. Huron, a community on Sodus Bay, requires specific controls for the design of private wastewater systems installed in the town's designated coastal zone and sets an inspection timetable for residential and commercial septic inspections; this ordinance can be found attached in Appendix D.

Important regulations to have in a septic law:

- Mandatory inspections at set time intervals or at certain specified points in time such as change of property deed transfer, change in use, or intensity of use
- Prohibit a reduction in total trench length of innovative systems, such as ATUs (Anaerobic Treatment Units) for shoreline properties; review total trench length for innovative systems for all upland properties.

- Require a minimum design flow of 150 gpd/bedroom for shoreline properties and 130 gpd/bedroom for all other properties
- Require a minimum depth of the absorption system following ATU or microbial inoculator generator of 2 feet depth of usable soil.
- Require an inspection every 5 years for onsite systems within 200 feet of the lake and require all inspectors to use the standardized Onsite Training Network (OTN) inspection protocol.
- Require connection to public sewers if available within a given distance

The Canandaigua Lake Watershed Inspection Program

The Canandaigua Lake Watershed Commission is an organization of the five municipalities – the City of Canandaigua, the Town of Gorham, the Village of Rushville, Village of Palmyra, and the Village of Newark – that withdraw and sell water from Canandaigua Lake. (The Canandaigua Lake watershed overlaps the Honeoye Lake watershed in the Towns of Bristol, South Bristol, and Naples.) The Canandaigua Lake Watershed has over 4,200 OWTS that emit an estimated 1 million gallons of effluent into the soils of the watershed daily.[28] Together they've instituted a Lake Watershed Inspection Program that employs an inspector to conduct deep hole and percolation tests for OWTS placement, consultations for new construction and repairs of systems, reviews of building plans for suitability of OWTS, and inspections at the time of property deed transfer, and investigations of violations. They transmit the results of their Onsite Wastewater System Inspection Report[29] to the State Department of Health.[30]

The five municipal water purveyors in the watershed have had a set of rules and regulations for the watershed since 1953. The Canandaigua Lake Watershed Commission relies upon the work of the Watershed Inspector to help reduce the impacts of wastewater on water quality. The Watershed Inspector provides thorough and consistent oversight to onsite systems throughout the entire watershed, keeping impacts of onsite systems to a fraction of what they could potentially be.

In 2010 alone, the Watershed Inspector conducted 50 inspections of existing systems for deed/property transfer, reviewed dozens of plans for new systems, and conducted 16 onsite meetings with property owners and engineers. Additionally, he assisted with the tracking and maintenance of more than 250 non-traditional systems. The Watershed Inspector's work has identified potential sources of water quality impairments and helped fix them. For example, 55 violations of onsite systems were found from 2005 to 2012 and all were fixed. The Canandaigua Lake watershed is fortunate to have a full-time Watershed Inspector that has created and implemented a program that is used as a model for other watersheds in New York State. The Watershed Inspector works with the NYS Department of Health Geneva Office along with local code enforcement officers in the enforcement of the Rules and Regulations.

The Watershed Rules and Regulations are dated and have gaps that do not provide for comprehensive protection of the watershed. For many years, the Commission worked with New York State to update the Rules and Regulations. However, the State did not move forward on making these changes to the law. Instead, the Department of Health encouraged the Watershed Commission to work with watershed municipalities to strengthen their own laws. Based on this decision, the Watershed Commission adopted a more proactive management approach; it restructured its bylaws to allow for implementation of actions not currently governed by the Rules and Regulations and more closely partnered with the Canandaigua Lake Watershed Council to aid in watershed protection.

Keuka Watershed Improvement Cooperative (KWIC)[31]

The collaborative method and inspection system used by KWIC joins the efforts of municipal officials from eight Keuka Lake towns and villages – Hammondsport, Penn Yan, Barrington, Jerusalem, Milo, Pulteney, Urbana, and Wayne – to ensure uniform regulations and enforcement of wastewater systems to protect the purity of the lake. KWIC was formed through an inter-municipal agreement in 1993 after more than a decade of discussion and debate and is widely considered to be a model of cooperation and pro-active wastewater management.

Two other collaborative models are Schuyler County's Lamoka-Waneta Lakes Wastewater Treatment Inspection Program, and the Otsego Lake Onsite Wastewater Management Program.[32] The New York Onsite Wastewater Treatment Training Network (OTN)[33] offers training on system design and maintenance, technological advances in OWTS and continuing education credits for engineers, architects, code enforcement officers, and wastewater operators.

2.2.4 Construction Site Runoff Control

Sediment runoff from construction sites is typically 10 to 20 times greater than those of agricultural lands, and 1,000 to 2,000 times greater than those of forest lands.[34] During a short period of time, construction sites can contribute more sediment to streams than can be deposited naturally during several decades.

To assist municipalities in implementing methods for protecting water quality, New York State Department of Environmental Conservation released updated *Specifications for Erosion and Sediment Control* in 2005.[35] This manual, known as 'The Blue Book,' should be used by site developers in preparing their erosion and sediment control plans and by local municipalities in preparing and implementing their soil erosion and sediment control programs. It includes a number of excellent models, including an Erosion and Sediment Control Plan for Small Homesite Construction,[36] Example Erosion and Sediment Control Plan,[37] and a Sample Checklist for reviewing Erosion & Sediment Control Plans.[38] Requiring developers to think about stormwater protections results in better site planning and lessens the likelihood of problems that need to be mitigated by the municipality or other property owners.

Pollutants commonly discharged from construction sites include:

- Sediment
- Solid and sanitary wastes
- Phosphorus and Nitrogen
- Pesticides
- Oil and grease
- Concrete truck washout
- Construction chemicals and debris

The SPDES general permit for Construction Activity[39] was updated in 2010 (valid through 2015) and is required for projects disturbing over one acre of land. Ensure that requirements are being followed for projects disturbing over one acre of land. Include requirements in site plan review and subdivision approval process.

Many municipalities count on SWCD to inspect upon their request, but code enforcement officials need to be educated in stormwater practices, and familiar with construction permits and plans in order to know when to request assistance from the SWCD. In addition, code enforcement officials spend a great

deal of time in the field, thus understanding stormwater regulations would help them notice any violations or issues that could be reported to SWCD or DEC. Code Enforcement Officers should ensure that construction sites:

- Have dumpsters or other containers for debris and solid waste
- Store hazardous materials or waste fluids away from receiving waters and catch basins
- With areas for refueling of vehicles or equipment on-site are bermed or away from receiving waters and storm drains
- Properly install concrete truck washouts away from receiving waters and storm drains
- Identify and stabilize critical areas of protection and all exposed soil areas

The Stormwater Toolbox[40], developed by the Rural Stormwater Coalition and distributed to each Southern Tier county in 2008, can be a great resource for non-MS4 communities. It includes packets of information for distribution to developers of small construction sites for which a state stormwater permit is required and explains the how sections of the New York Building Code and Property Maintenance Codes, respectively, apply to stormwater drainage. A local Construction Stormwater Pollution Prevention and Erosion and Sediment Control Ordinance developed by the Town of Parma is available at the end of this report in Appendix E.

2.2.5 Erosion and Sediment Control Regulations

Soil erosion is the removal of soil by water, wind, ice, or gravity and it is largely influenced by season and topography but also to what degree it's covered by vegetation. Erosion is a problem during runoff events, particularly intense rainfall. Counties and municipalities may adopt laws pertaining to erosion and sediment control in accordance with MCMs 5 & 6. An Erosion and Sediment Control Model Ordinance geared towards counties in New York State is found in *Protecting Water Resources through Local Controls and Practices* Appendix E6.[41]

Site Plan Review is a good point in the development process to review a project's Erosion and Sediment Control plan, which should incorporate practices such as phasing, seeding, grading, mulching, filter socks, stabilized site entrances, preservation of existing vegetation, and other best management practices to control erosion and sedimentation during construction. The Erosion and Sediment Control plan must show how the project team intends to:

- Preserve vegetation and mark clearing limits
- Protect vegetation during construction
- Establish and delineate construction access
- Control flow rates
- Install sediment controls
- Stabilize soils, including providing erosion control protection to a temporary critical area for an interim period
- Protect slopes
- Stabilize channels and outlets
- Control pollutants
- Control dewatering

2.2.5.1 Riparian Buffers

Protecting riparian areas – those adjacent to waterbodies, wetlands, and flood plains – is critical to water quality. The land area directly adjacent to streams is considered to be among the most dynamic and sensitive components of a watershed. A riparian buffer is a special type of vegetated area along a stream, wetland, or shoreline where development is restricted or prohibited. Its primary function is to protect and physically separate a stream, lake, coastal shoreline or wetland from polluted stormwater discharges from future disturbance or encroachment. If properly designed, a buffer can provide stormwater management functions, can act as a right-of-way during floods, and can sustain the integrity of water resource ecosystems and habitats.

A stream with a riparian buffer, surrounded by tree cover and vegetation, benefits from both the cooling effects from the tree canopy overhead and the bank stabilization from tree roots and other types of plant cover. Detritus from surrounding plants also contribute to the stream as a source of nutrition and habitat for a variety of animals and organisms. Conversely, streams surrounded by impervious, hard, non-vegetative cover or agricultural cover will likely experience greater soil loss and more impacts from nonpoint source pollution. Stream buffers have financial benefits as well: they minimize property damage, reduce municipal investment, increase property values, and reduce maintenance costs.[42]

According to the EPA's Aquatic Buffer Model Ordinance[43]:

Buffers adjacent to stream systems and coastal areas provide numerous environmental protection and resource management benefits that can include the following:

1. Restoring and maintaining the chemical, physical, and biological integrity of the water resources
2. Removing pollutants delivered from urban stormwater
3. Reducing erosion and sediment entering the stream
4. Stabilizing stream banks
5. Providing infiltration of stormwater runoff
6. Maintaining base flow of streams
7. Contributing the organic matter that is a source of food and energy for the aquatic ecosystem
8. Providing tree canopy to shade streams and promote desirable aquatic organisms
9. Providing riparian wildlife habitat
10. Furnishing scenic value and recreational opportunity

Substantial research has been conducted on the effective size of buffers, particularly related to water quality considerations, to assist planners in developing scientifically sound minimum buffer widths.[44] Recommendations for appropriate buffers widths vary based on the management goal; there is no

ideal buffer that is applicable in all circumstances. Buffer sizes should be significantly larger if the intent is to protect ecological functions, such as providing wildlife habitat and supporting species diversity in addition to water quality functions.

Larger, more restrictive buffers are most beneficial to water quality, but there are other factors that prevent a direct correlation between buffer size and percentage of pollutant reduction entering streams. Soil characteristics, hydrology, and types of vegetation also affect how effective a buffer will be in filtering pollutants. In general the most effective buffers are those that are applied to all streams, are at least 100 feet wide and consist of natural forest vegetation.[45] Municipalities should determine what size and types of buffers work in their community and enact these. At minimum, small buffers (approximately 30 feet), can still have a major effect on water quality. More information pertaining to buffer effectiveness related to width, soil type, buffer type, etc.-especially related to nitrogen removal- can be found in the EPA Study *Riparian Buffer Width, Vegetative Cover, and Nitrogen Removal Effectiveness: A Review of Current Science and Regulations.*[46]

Figure 2.1: Recommended Buffer Widths by Stream Order

Stream Order	Stream Classification		
	(Sensitive Streams)	(Restorable Streams)	(Impacted Streams)
1	75 feet	60 feet	50 feet
2	125 feet	100 feet	75 feet
3+	150 feet	125 feet	100 feet

Notes:
1. Stream order refers to a classification system for stream networks, where low order (e.g., 1st and 2nd order) are smaller streams and high order are progressively larger streams. When two 1st order streams meet, they become a 2nd order stream, and so on.
2. Stream classification refers to the condition or quality of the stream. Stream classification may already exist in a community or can be initially determined using certain indicators such as watershed impervious cover.
3. Buffer widths are total widths measured from top of active channel bank.
4. Widths may be expanded to include site-specific considerations, such as steep slopes (e.g., >15%), flood zones, critical habitat, etc.

Adapted from City of Lenexa, KS: Successful Implementation of Riparian Buffer Programs. Stormwater Magazine. Nov/Dec 2006 issue.

Though it is recommended that preference be given to variable-width buffers, based on stream classification and topographic index, uniform widths are easier to enforce and require less time and expertise to administer. The latter approach to creating riparian buffers is to have a three-tiered buffer system, with the most restrictive buffer adjacent to the water body, and a second less restrictive buffer beyond that.

The inner buffer, adjacent to the water body, should be vegetated. This consists of an area of land within a set distance, such as 75 feet, from each bank of the waterway and would be intended to remain in a natural state (natural vegetation, mix of forested vegetation and natural grasses (un-mowed)). Some planting may be beneficial in areas that need to be restored to their natural state. Strict regulations should be placed on the allowable uses on this land, and development would be prohibited. An outer buffer could also be created with few vegetation requirements and would restrict most structures from being built but allow some uses while still restricting others. Another option for this second buffer would be to allow

more uses with stricter regulations regarding stormwater, runoff, erosion, etc. Allowable uses could include flood control or recreation.[47]

Another method recommended by NYSDEC's 2010 Stormwater Management Design Manual,[48] is a three buffer system. Essentially the vegetated buffer above would be split into two buffers, a more restrictive one adjacent to the stream (minimum of 25ft) with very few allowable uses such as flood control or footpaths, and another vegetated buffer (minimum of 25ft) with a few more allowable uses such as recreation and less restrictive vegetation requirements. The outer buffer similarly restricts structures, but allows more uses.

Methods

Like other land use regulations, there are a number of different places to incorporate Riparian Buffers into local law:

- Environmental Protection Overlay Districts – Buffer zones may be created as EPODs and designated on the municipal zoning map. Like other zoning districts, allowable uses and restrictions may also be included.
- Setbacks – Regulations on development could be included as part of the bulk zoning regulations of the appropriate zones. Example: Structures must be at least 150 feet from the top of a stream bank, maintained with native vegetation.
- Site Plan Review – This can include native vegetation, clearing or grading, and tree conservation requirements for site plan approval. If municipalities do not wish to create restrictive Riparian Buffers, the Site Plan Review process is one place where they can try to encourage retention of vegetation. Many municipalities encourage retaining trees and natural vegetation as much as possible during development. This could be strengthened by specifying this practice within 50 to 100 of feet of stream banks, depending on stream order and whether the site is a greenfield or infill.
- Subdivision Law – Buffer regulations can be mandatory in order to get a subdivision approval. If municipalities do not wish to create restrictive riparian buffers, at minimum they should use their Subdivision Law to give their planning boards the ability to encourage retention of natural vegetation especially adjacent to waterbodies. Example: Town of Batavia-Subdivision of Land: IV Sec 2.E.2: "To the fullest extent possible, all existing trees and shrubbery shall be conserved." Simply adding "especially on properties adjacent to or within 50 feet of streams" could be an effective way to prioritize these areas related to this review requirement.

Perceptions include concerns about private property rights, complaints about pests and nuisances, and additional costs to local governments due to implementation, regulation, and enforcement of a buffer program. A riparian buffer that includes the 100-year floodplain may also eliminate the need for expensive flood controls.

2.2.5.2 Floodplains

Floodplains act as a check valve for streams; they allow water to be slowed down, to dissipate energy after a rainstorm or snow melt. They spread out the stream's energy and allow water to soak into aquifers. Flood Insurance Rate Maps (FIRM) are produced by the Federal Emergency Management Agency and provide the official record of special flood hazard areas. While paper FIRMs are

generally available online for every community in the Honeoye Lake watershed, corresponding digital GIS data pertaining to the flood boundary is not yet available for every community through state or federal agencies.

Basic Flood Regulations

Flood regulations play an important role in protecting water quality, through limiting and regulating certain types of development and uses within the floodplain. Improper regulation of the flood zone could in turn increasing flooding, flood damage, and erosion, and has a negative effect on water quality through pollutants and sedimentation.

All of the municipalities within the Honeoye Lake watershed are included in FEMA's National Flood Insurance Program (NFIP) and have at least the minimum flood regulations and maps in place. These include restrictions on land use and what types of structures can be built in the flood zone as well as first floor elevation requirements and other flood proofing requirements for structures. The National Flood Insurance Program (NFIP) is a federal program that enables property owners to purchase affordable flood insurance. The NFIP uses the 100-year flood as the standard on which to base its regulations. This is a national standard used by virtually every federal and most state agencies (including New York State) in the administration of their programs as they relate to floodplains. The technical and engineering methods involved in determining the magnitude of these floods are well established. A 100-year flood is an event estimated to have a one percent chance of occurring each year. Yet a flood of this magnitude could occur more or less frequently than once every 100 years. FEMA boundaries are important, not just because they indicate areas where insurance is federally mandated, but also because these boundaries communicate risk to a homeowner or community.

Designation of a floodplain manager is not only a requirement but also an effective way to ensure that at least one person is responsible for ensuring flood regulations are being followed and that developers and municipal boards understand them. Enforcement is often the biggest issue with flood plain regulations and the possibility that they are not being used in land use decision making and development approval. Most of these regulations in the watershed date back to the early 1980's and it may be easy for them to be overlooked by representatives in municipalities that are not used to having much development in the floodplain.

Improved Flood Regulations

Most municipalities could benefit from strengthening their floodplain regulations as many are simply based on minimum standards. Strengthening regulations can help municipalities to qualify for the Community Rating System (CRS) of the National Flood Insurance Program.[49] Residents in CRS communities receive a discount on their flood insurance. NYSDEC's Model Local Law for Flood Damage Prevention includes Optional Additional Language[50] to strengthen some of the basic flood requirements; see attached Appendix F. Legal addendums such as Compensatory Storage, Repetitive Damage, Cumulative Substantial Improvement, Critical Facilities, and Areas Behind Levees or below High Hazard Dams, bolster basic flood regulations.

Local communities are encouraged to provide an extra margin of safety by requiring structures to be elevated above the base flood elevation. Flood insurance for a house built two or more feet above the base flood elevation will cost about half as much as for a house built to the base flood elevation. Flood insurance for a house built just a foot below the base flood elevation will cost about four times more than for a house built to the base flood elevation. All municipalities should update their flood regulations to comply with NYS Building Code requirements (the lowest elevated floor in an A zone

(special flood hazard area) is elevated to or above the base flood elevation (BFE), plus two feet above base flood elevation). This is known as freeboard: the height of watertight surface between a building above a given level of stream, lake, or river.

Another way to improve floodplain laws is to limit the allowable land uses within a floodplain. Preventing some agricultural operations in the floodplain is also possible. The Town of Geneva provides guidance on the location of manure pits and barnyards. Another option to improve flood regulations is to limit fill in flood zones. For example, the Town of Byron in Genesee County restricts fill in flood areas as fill brought into a flood zone has the potential to change the boundaries of the flood zone.

Methods

Some floodplain regulations were created as a standalone law. This option is acceptable, but it may be more beneficial to incorporate them directly into the municipality's zoning law, increasing the visibility of floodplain regulations in the community bringing them to the direct attention of planning/zoning board members. Flood ordinances are most effective when also integrated with site plan review, environmental quality review (SEQRA), and subdivision review. Similarly, flood zones should be incorporated into zoning maps. Bringing flood regulations out into the forefront exposes them to more people and will also help to influence their update when zoning laws are reviewed and updated.

A flood EPOD may prohibit the following without a variance or special permit:

- construction or operation of onsite-wastewater
- new structures, including parking lots
- mining, filling, grading, paving, excavation or drilling operations

If historical settlement patterns offer no feasible alternative for development, a licensed professional engineer or architect should develop or review structural design, specifications, and plans for construction and must certify that the design and methods of construction are in accordance with accepted standards of practice to floodproof the structure.

2.2.5.3 Wetlands

Four large wetlands are significant to the health and management of Honeoye Lake and its watershed. Wetlands are places where saturation with water is the dominant factor determining both the nature of soil development and the types of plant and animal communities living in the soil and on its surface.[51] Freshwater wetlands commonly include shrub or forested swamps, marshes, bogs, and fens, and many lie along rivers and streams in the floodplain riparian zone. Wetlands serve a number of important functions within a watershed, including filtering sediment, chemical detoxification, nutrient removal, flood protection, shoreline stabilization, ground water recharge, stream flow maintenance, and wildlife and fisheries habitat. Wetlands are arguably among the most productive and economically valuable ecosystems in the world.

The US Army Corps of Engineers evaluates permit applications for essentially all construction activities that occur in the nation's waters, including federal wetlands. Under the NYS Freshwater Wetlands Act, NYSDEC regulates wetlands 12.4 acres (5 hectares) or larger. Most New York State Freshwater Wetlands have been surveyed by the DEC – for most counties, the original wetland maps were completed and filed between 1984 and 1986 – and many are in the process of being re-surveyed.

What can and should be done with a wetland can be subject to a broad range of interpretation and enforcement. A good deal depends upon the ability of federal, state, and local agencies to understand the context of wetlands within a watershed or subwatershed.

Municipalities should place extra emphasis on protecting wetlands. Wetland regulations in place at the state and federal level should be reviewed and understood by and local decision makers such as planning boards to ensure that property owners have submitted information and are allowed to proceed with projects based on state and federal approval when needed. Municipalities should also strictly adhere to any local review and/or regulations in place regarding wetlands. Municipal officials such as planning board members, and code enforcement officers should be familiar with local regulations and prioritize the protection of wetlands in their project review approval and enforcement duties. County Environmental Management Councils and municipal Conservation Boards or Advisory Councils can be a great resource for information on unique natural areas such as wetlands.

Beyond the protection of wetlands areas themselves, municipalities should enact wetland buffers and regulations at the local level. Protection of the areas surrounding wetlands improves the functions of the wetland. This table from the *Planner's Guide to Wetland Buffers for Local Governments*[52] gives a general estimate of the distances where vegetated non-disturbance type buffers begin to be effective and the point where they are no longer needed to be effective by function. The actual effectiveness of these types of restrictive buffers varies case by case depending on the location, surrounding land uses, topography, soil type, buffer characteristics, watershed characteristics, etc.

Figure 2.2: Recommended Buffer Widths by Wetland Function

Wetland Function	Special Features	Recommended Minimum Width (feet)
Sediment Reduction	Slopes (5-15%) and/or functionally valuable wetland	100
	Shallow slopes (<5%) or low quality wetland	50
	Slopes over 15%	Consider buffer width additions with each 1% increase of slope (e.g., 10 feet for each 1% of slope greater than 15%)
Phosphorus Reduction	Steep slope	100
	Shallow slope	50
Nitrogen (Nitrate) Reduction	Focus on shallow groundwater flow	100
Biological Contaminant and Pesticide Reduction	N/A	50
Wildlife Habitat and Corridor Protection	Unthreatened species	100
	Rare, threatened, and endangered species	200-300
	Maintenance of species diversity	50 in rural area 100 in urban area
Flood Control	N/A	Variable, depending on elevation of flood waters and potential damages

Adapted from: Center of Watershed Protection and United States Environmental Protection Agency. Wetlands and Watersheds: Adapting Watershed Tools to Protect Wetlands. United States Environmental Protection Agency, 2005.

Buffers often take the form of either areas where either additional review and approval are needed for disturbance or areas with specific restrictions regarding disturbances, land use, development, land cover, etc.; or a combination of both. Examples of buffer regulations/review concepts could include:

- Vegetation requirements
- Restrictions on use – permitted uses, non-permitted uses, uses permitted with approval, etc.
- Restrictions on fill
- Setback requirements from wetlands or wetland buffers for structures, development, certain land uses, etc.
- Classification of buffers to determine which are high priority to protect
- Requirement of a permit for disturbance/use including a review and approval process
- Multiple buffers – vegetated buffer, use/disturbance restriction buffer, buffer area requiring review/permit approval, structural setback (buffer), etc.
- A determination of which wetlands will have buffers[53]
- All wetlands and waters
- Specific types of wetlands (federal, state, non-federal/state regulated, those of a specific size)
- Those within stream and river corridors, floodways, riparian buffers, or adjacent areas
- Specific identified and mapped wetlands
- A varying degree of regulation based on site – size, location, surrounding land uses, slope, soil type, etc.

To some extent, larger, more vegetated, and more restrictive wetland buffers are more effective,[54] but municipalities must determine what balance to strike between the buffer size and restrictions and other competing needs and interests.

2.3 Agriculture

Farming can have a negative effect on water quality through erosion of crop land, sedimentation, and runoff contaminated with fertilizers or animal wastes. These effects can be mitigated through best management practices, and regulations in some cases. BMPs and regulations can be expensive to farm owners; focusing on areas closest to waterways is the most effective strategy for improving water quality and limiting hardship to farmers. Nutrient loading, if left unchecked, will further degrade water quality in the lake if not addressed in a meaningful and sustainable manner.

Many municipalities within the Honeoye Lake watershed have strong representation by the farming community on local planning, zoning, and conservation boards. These bodies seek to balance quality of life issues of the entire community while considering the functions that are necessary to run a profitable agricultural business, all while meeting the obligations of federal, state and applicable local laws. The advancement of sound agricultural practices within the local farming community have been incrementally applied on local farms by a variety of agencies – in particular, local branches of the Natural Resources Conservation Service (NRCS, a service of the United States Department of Agriculture), county Cornell Cooperative Extension offices, and county Soil and Water Conservation District offices. This voluntary, gradual approach to implementing environmental BMPs has been successful, as evidenced by the growing number of farming operations participating in programs like Agricultural Environmental Management and other USDA-sponsored conservation programs.

2.3.1 Land Use Tools for Agriculture

Counties and towns can proactively support local agriculture, particularly through right-to-farm laws, property tax reduction, purchase and transfer of development rights programs, and agricultural and farmland protection plans. Yet the land use tools described in Section 4.2 – comprehensive plans, zoning, subdivision ordinances – are equally important, as towns have primary land use and decision-making authority and these may be applied to farm operations in agricultural districts. For example, a town that wishes to prevent animal waste from entering water bodies may regulate the siting of barnyards (heavy use area) adjacent to a stream and require animals to be fenced out of the stream with all runoff addressed with an appropriate collection and treatment system according to Natural Resource Conservation Service standards.

Yet the Commissioner of the Department of Agriculture and Markets can intervene when local governments enact laws that *unreasonably* restrict farm operations in agricultural districts. Town boards and county legislators should understand whether a local ordinance is unreasonable by the standard of state Agricultural Districts Law.[1] At the least, an ordinance should be clear, free of vague language that could be interpreted to impinge on the rights of farmers, and should be thoroughly vetted so that no particular farmer is unduly restricted by the proposed change. The best approach is an ordinance consistent with DEC standards that balances the need to uphold public health and safety alongside the needs of farmers to bring food to New York's table.

Generally, construction of on-farm buildings and the use of land for agricultural purposes should not be subject to site plan review, special use permits, or non-conforming use requirements when conducted in a state-certified agricultural district. The Department of Agriculture and Markets has developed a model streamlined site plan review process, available within *Guidelines for Review of Local Zoning and Planning Laws;*[55] the guide is a useful tool for understanding the limits of zoning and planning laws in agricultural districts. Questions concerning review of local laws should be directed to the Commissioner's office, preferably during the potential legislation's drafting stage.[56]

Two additional resources aimed at local planners and officials – *Planning for Agriculture in New York: A Toolkit for Towns and Counties,*[57] published by the American Farmland Trust in 2011, and the Department of State's James A. Coon Local Government Technical Series' *Local Laws and Agricultural Districts: How Do They Relate?,*[58] updated in May 2013 – also contain extensive information for local decision makers.

2.3.2 Agricultural Environmental Management (AEM)

Agricultural Environmental Management (AEM) is a voluntary program adopted by New York State to help farmers make common-sense, cost-effective and evidence-based decisions to help meet business objectives while protecting and conserving natural resources. A five-tiered process, from inventory to plan implementation, customizes best management practices to a particular farm; virtually identical farm operations in different locations may have entirely different environmental concerns. The result is a coordinated approach to implementing agricultural conservation practices that make a meaningful improvement to the health and stability of the natural environment. Within the Honeoye Lake Watershed, AEM programs are administered by the Soil and Water Conservation Districts (SWCDs) in Livingston and Ontario Counties. AEM priorities are detailed in county AEM strategic plans which are updated on a five-year cycle. The plans prioritize actions by specific

[1] New York State Agriculture and Markets Law (AML) §305-a.

watersheds within the county based on local water quality concerns and input from a local advisory committee.

2.3.2.1 Participation and Outreach

While there are few farmers who have not had received at least some information on AEM, local stakeholders and municipal officials may be unaware of the AEM program.

- Update mailing lists and collect all AEM data from previous years for focus watershed year
- Contact all landowner/farmers in via letters and follow-up phone calls to generate interest in a free, confidential AEM Risk Assessment
- Follow up with past participants of AEM in focus watershed to update information and encourage farms to move forward in tiered process
- Schedule outreach and education presentations and look for new opportunities to collaborate and form new partnerships.
- Conduct meetings with farmers as requested to complete tiered worksheets, including Tier 3 conservation plans.
- Prepare any Tier 3's for farmers interested in pursuing funding through agricultural nonpoint source grant program.
- Apply for agricultural nonpoint source grants and seek additional funding through other programs such as EQIP to implement high priority practices on farms in priority watersheds.
- Staff should attend AEM and any relevant trainings or updates as scheduled.
- Encourage ABMP field trials and demonstrations of new agricultural environmental technologies
- Incorporating AEM practices into local law where possible (ex: location of barnyards, additional drainage/runoff considerations in Site Plan Review)

2.3.2.2 Vegetated Buffers

Vegetative buffers on agricultural land are a cost-effective way to reduce phosphorus. Ag buffer strips could be located between crops, at the edge of crop fields or bordering waterbodies.

All existing agricultural uses should be grandfathered and allowed to continue their use if in place at the time of adoption, but beyond that, municipalities have the option of allowing new agricultural land uses to be exempt from buffer regulations in the future, or requiring compliance. Neither the Tompkins County Model or Ithaca Model exempt agricultural uses; this in order to prevent the negative effects of runoff from future agricultural land, which could include fertilizers, animal wastes, and soil from erosion. The EPA

Model suggests making farms with an approved Natural Resource Conservation Service Conservation Plan exempt from this type of law. Voluntary Agricultural Environmental Management techniques are often used to help farmers limit their effects on water quality in place of regulation. Conservation Tillage, Stripcropping, Ag-to-Forest Land Conversion, Ag-to-Wetland Conversion, Nutrient Management, Grazing Land Management, Terraces/Diversions, Streambank Protection, Barnyard Management, and Cropland Management are all strategies for supporting a healthy Honeoye Lake.

2.3.3 Concentrated Animal Feeding Operations (CAFOs)

Small, family-operated farms have been consolidated into larger, more centralized operations known as Concentrated Animal Feeding Operations (CAFO), reflecting a trend towards economy of scale in agricultural commodity production. CAFOs are defined as lots or facilities where animals are stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period; they are categorized as either "large" or "medium" based on the numbers of animals confined.[59] CAFOs that discharge to waters of New York State are regulated by the DEC under the authority of the Clean Water Act through the New York State Pollution Discharge Elimination System (SPDES) (refer to Section 2.2.2.10 for more information on the SPDES program).[60] Intermittent, sporadic, even occasional flows to waters may be the norm for many CAFOs, but they are nonetheless discharges prohibited under the CWA.

2.3.4 Alternative Energy Strategies

In aquatic ecosystems, phosphorous is usually the limiting nutrient for plant growth. This means that excessive amounts of phosphorous in a system can lead to an abundant supply of vegetation and low dissolved oxygen for fish. Manure from dairy cows contains approximately 2 lbs of phosphorus (and 13 lbs of nitrogen) per wet ton; 1,200 cows in a milking herd (a large CAFO) generate around 69 tons of manure every day.[61] Farms across the country have begun converting this manure into electricity via anaerobic methane digestion.

Soil and Water Conservation Districts lead the charge in enabling the development of anaerobic digesters with funding through NYSERDA, the USDA Rural Development program, EPA's AgSTAR program, USDA NRCS grants, and the NYS Department of Agriculture & Markets. Small-scale projects typically do not yet benefit from economies of scale; digester cost per head of cattle tends to be prohibitively high since dairy manure is not a particularly energy dense feedstock. Yet co-digestion alongside food waste increases separation efficiency and digestate balance. Several states, including Vermont, Massachusetts, California, and Connecticut have banned food waste from going to landfills and this trend is likely to continue. Digested effluent can be sold as a crop fertilizer and as animal bedding. Excess power may be sold to NYSEG under a power purchase agreement; that option is being explored for the greater Rochester market.[62]

NYSERDA's Agriculture Energy Efficiency Program (AEEP)[63] also offers assistance in identifying and implementing electric and natural gas energy efficiency measures to eligible farms and on-farm producers, including orchards, dairies, greenhouses, vegetables, vineyards, grain dryers, and poultry farms.

2.4 Highway Department Practices

Paved development has the highest coefficient of runoff, and thus highway departments have a very important role in preserving roadway longevity and watershed quality. Many highway problems are drainage related. Roads and highways have the potential to generate and contribute substantial amounts of eroded material and other pollutants into local waterbodies. Specific contaminants associated with road runoff include sediment, oils and grease, heavy metals, garbage/debris, and road salts, as well as fertilizers, pesticides and herbicides applied to roadside facilities or spilled on or near roads. Hydrologically-connected roads – roads that are designed to contribute surface flow directly to a drainage channel – have the greatest potential to deliver road-derived contaminants to streams. New roads can also be a vector to human encroachment on the natural landscape and, in combination with other public services, can induce new development outside of traditional population centers.

A 2010 Paul Smith's College report on the effects and costs of road de-icing in the Adirondacks[64] details a series of best management practices for winter maintenance, including a salt management plan, development of an anti-icing strategy, and precision application techniques. To produce a high level of service at a modest cost, at pavement temperatures above 25ºF, Road Salt (NaCl) is probably the most cost effective choice, but at lower temperatures other chloride based deicers may be more cost effective.

2.4.1 Roads and Highways

Highway departments should follow NYS DOT design and guidance documents and manuals such as the NYS DOT Highway Design Manual,[65] the NYS DOT Environmental Manual,[66] and the Southern Tier Central Regional Planning *Highway Superintendents Roads and Water Quality Handbook*.[67]

2.4.2 Bridges and Culverts

Bridges present a number of additional risks to hydrologic function. In some cases, the bridge itself creates a direct connection between the roadway and stream if the bridge drain is not diverted to an on-land treatment facility (generally ground infiltration or retention). Bridges and culverts, if built too small, can restrict and concentrate stream flow, thereby creating or accelerating stream bank erosion and stream incision. When not properly maintained or designed, bridges and culverts will cause debris accumulation and contribute to upstream flooding and possible property damage. Bridges and culverts also have the potential to restrict wildlife passage and fish movement if not properly designed and maintained. Conversely, bridge crossings also offer excellent opportunities for recreational access to rivers and streams, a possibility that should be considered during any necessary construction or repair of such facilities.

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[65] https://www.dot.ny.gov/divisions/engineering/design/dqab/hdm
[66] https://www.dot.ny.gov/divisions/engineering/environmental-analysis/manuals-and-guidance/epm
[67] http://www.stcplanning.org/index.asp?pageId=130

3.0 Assessment of Local Laws and Practices

Many of the gaps in local laws and practices across the watershed are similar. This section attempts to tailor recommendations to each specific municipality based on the assessment matrices found in the appendix, but also refers back to recommendations in Section 2 that are applicable to multiple municipalities. These recommendations may be used as a starting point to help municipalities and counties hone in on top priorities, determine what additional information is needed, and what steps may to be taken toward implementation.

The inclusion of some standardized recommendations will hopefully facilitate the sharing of information between counties and municipalities; one of the strongest recommendations is to increase collaboration between groups. Water quality management is a regional issue and thus collaboration and standardization of strategies can be beneficial to all. Sharing of knowledge and expertise can also be financially beneficial; for example, two groups can share the cost of a joint training session, or neighboring municipalities can adopt the same model regulation. Collaboration and standardization can make initial efforts more efficient and allow groups to focus on implementation work. Shared practice allows for better design, better maintenance, and economic incentives that can deliver higher performance and lower cost.

The Genesee/Finger Lakes Regional Planning Council maintains a Municipal Law Library which contains holdings of local laws from member municipalities across the nine-county region. This review of local laws took place in December 2013 and January 2014, utilizing hardcopy and digitized plans, laws, and program information. Municipalities within the Honeoye Lake Watershed were contacted prior to the review in an effort to attain any missing or updated laws or sections of code. The analysis herein reflects G/FLRPC's latest holdings.

3.1 Town of Bristol, Ontario County

Local Laws Reviewed:

- *Town of Bristol Comprehensive Plan* (March 2007)
- *Zoning Ordinance of the Town of Bristol* (L.L. 3-2011, May 2011)[68]
- *Site Plan Review* (L.L. 2-2011)

Previously Reviewed:

- *Regulations for Minor Subdivision and Land Development*, Town of Bristol, NY (October 2003)
- *Regulations for Major Subdivision and Land Development*, Town of Bristol, NY (October 2003)
- *Flood Damage Prevention* (L.L. 1-1987, October 1986)
- *Site Plan Review* (L.L. 2-2011)
- *Town of Bristol Design Criteria and Construction Specifications* (date unknown)
- *Town of Bristol On-Site Wastewater Treatment Law* (June 2003)
- *Local Timber Harvesting Law* (March 2005)

Recommendations for Future Action by Local Officials:

- **Develop stormwater management ordinance** – Develop a local law that works in conjunction with existing zoning ordinances; it should: account for topography and soil type; require retaining and protection of trees and other natural vegetation on and near disturbed sites to minimize erosion; stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt

barriers, and mulching; and maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction. Such a law would work in concert with the existing Site Plan Review standards. See Section 4.3 for details.

- **Develop green infrastructure standards** – As stated in the Town's Comprehensive Plan, Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.
- **Strengthen flood damage prevention law** – Since Bristol already has flood damage prevention regulations, the town is likely an eligible community for the Community Rating System (CRS) program from NFIP. Review the list of optional flood regulation additions created by DEC in Appendix F to see some options for qualifying for CRS; also see Section 4.3.5.2 for more details.
- **Create riparian buffers –** Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. An actual buffer area with vegetation requirements and use restrictions should be created. The Town of Fayette, Seneca County has an EPOD for Stream and Canal Corridors that is an excellent example of riparian buffer protection. Refer to Section 4.3.5.1 for buffer recommendations and models.
- **Update subdivision regulations –** Consider adopting the LEED for Neighborhood Development (LEED-ND) Standard to assist with selection of suitable lands, street network design, development of pedestrian linkages, green infrastructure and building design, and other performance standards in concert with the Town's 2007 comprehensive plan; see Section 4.2.4. Smart growth strategies applied to subdivisions can make a dramatic difference in service delivery costs; see Section 4.2.2 for details.

3.1.1 Development

Section 1.6 of the Town of Bristol Construction Specifications for Land Development cites specific regulations for preventing siltation or erosion stemming from the development of property within the Town of Bristol. Specifically, the regulations apply to major and minor subdivisions and the construction of multiple dwellings (as cited under Article 15, §1 of the Town Zoning Ordinance) and as of 2011, also includes steep slopes. Section 2 of the Bristol Construction Specifications for Land Development goes on to detail further requirements with regard to sediment and dust control, as well as the proper installation of critical stormwater facilities (catch basins and storm drains).

The 2007 assessment recommended that the Town of Bristol review Section 1.6 of the Bristol Construction Specifications for Land Development and compare them against Section 2.2.1 [Contents of Stormwater Pollution Prevention Plans] of the Sample Local Law for Stormwater Management and Erosion and Sediment Control. The Town of Bristol updated the local zoning ordinance to include Erosion and Stormwater controls as part of Steep Slope Regulations. While this is an improvement and largely adequate to prevent significant impacts to local water resources stemming from erosion and sedimentation, local officials should strive to establish local equivalency with the 16 components of Stormwater Pollution Prevention Plans listed in the aforementioned Sample Local Law for Stormwater Management and Erosion and Sediment Control.

3.1.2 Agriculture and Forestry

Local actions pertaining to agricultural operations depend entirely upon the degree to which such operations exist. If local farms are suspected of impacting water resources within the Honeoye Lake Watershed, Agricultural Environmental Management (AEM) five-year strategic plans for those farms should be reviewed. Concerned parties should assess the degree to which individual farm plans are being created, whether the specific criteria within those plans are being met, and if that criteria is adequate to protect water resources. AEM is a voluntary program; it may therefore be necessary to determine the number of farms participating in the program that are within the watershed as compared to the total number of farms within the watershed. Ontario County SWCD is responsible for administering the AEM program for Ontario County farms.

Generally, construction of on-farm buildings and the use of land for agricultural purposes should not be subject to site plan review, special use permits, or non-conforming use requirements when conducted in a state-certified agricultural district. Yet local land use tools – comprehensive plans, zoning, subdivision ordinances – are equally important, as towns have primary land use and decision-making authority and these may be applied to farm operations in agricultural districts. For example, a town that wishes to prevent animal waste from entering water bodies may regulate the siting of barnyards (heavy use area) adjacent to a stream and require animals to be fenced out of the stream with all runoff addressed with an appropriate collection and treatment system according to Natural Resource Conservation Service standards.

The Local Timber Harvesting Law enacted by the Town of Bristol in 2005 addresses nearly every BMP listed on the environmental assessment form (the only exception being "Seasonal preferences [considered] for logging operations"). If consistently and properly enforced, this law should adequately serve the purpose of protecting local water resources within the Town from careless or aberrant logging operations. No further revisions are necessary or recommended.

3.1.3 Waterways and Wetlands

The updated local law assessment for the Town of Bristol identified a few new environmental BMPs specific to waterways and wetlands in the 2011 zoning update. The Town's Design Criteria and Construction Specifications identify the "preservation of natural watercourses and drainage channels" as a preferable practice. Article Eight of that ordinance refers to New York State Department of Agriculture & Markets standards for animal waste, but we encourage the Town to require that barnyards not be sited adjacent to streams or other waterbodies and that animals be kept out of streams as the health of Honeoye Lake is fragile.

The Town's 2011 Site Plan Review ordinance requires applicants to identify watercourses on their site plan review application, but doesn't include language on setbacks or vegetated buffers. If the protection of natural watercourses within the Town is to be guaranteed, local officials should consider more stringent language than what is currently in place under Section 1.5.1 of the Town's Design Criteria. Specifically, a law which pertains to the preservation of natural water courses should cover the following: (a) identification of the location of watercourses to be protected on an official map; and (b) establishment of specific measures to be followed regarding activities in such areas (such as appropriate building setbacks (the Town's zoning generally requires buildings to be 75 feet from each other, but only 25 feet from a stream), vegetated buffers, etc. Similar measures can also be taken for wetland areas that are not protected under Article 24 of the NYS Environmental Conservation Law, which protects wetland areas of 12.4 acres or more.

3.1.4 Marinas

The Town of Bristol does not have any shoreline area or navigable waterways that lie within the Honeoye Lake Watershed. This section of the local law assessment therefore does not apply to this study.

3.1.5 Highways

The local law assessment form addresses basic good housekeeping practices and procedures that pertain to activities typically conducted within most local highway departments. Questions addressed three primary areas of concern: right of way maintenance (road right of way and drainage facilities); construction of new facilities (any type of land disturbing activity); and general shop operation (staff training, record keeping, etc.).

Operations conducted by the Town of Bristol Highway Department primarily involve routine right-of-way maintenance and repair. Stormwater management facilities are very limited within the Town; the majority of such infrastructure is confined to roadside ditches and one stormwater detention pond (which is maintained by the department). Roadside ditches have been gradually retrofitted and stabilized with rip-rap in steep-slope areas; failing culverts are also upgraded over time as they are identified and as resources allow. The department uses 100% salt for deicing, which – when applied sensibly and away from environmentally-sensitive areas – is considered to be less harmful to surface water than when mixed with sand or other fine material. Highway superintendent Ron Wilson indicated that this is the case – salt is used sparingly whenever feasible and is rarely used along gravel roads (which provide adequate traction without salt when plowed). Salt supplies are also stored within a salt shed, preventing loss and runoff.

Basic BMPs are in place with regard to erosion and sediment control, although the department does not typically disturb large areas of land while performing routine operations. Furthermore, the majority of routine highway right-of-way maintenance activities are generally exempt from Stormwater Phase II Regulations. BMPs such as site stabilization and seeding of disturbed areas were identified as routine practices that are conducted after various land disturbance activities take place (ditch cleaning/grading, for example).

3.1.6 Onsite Wastewater Treatment Systems (OWTS)

The local law assessment form puts forth seven environmental BMPs that pertain to onsite wastewater treatment systems (OWTS). The two most important BMPs are 6-01 and 6-05 which pertain to system inspection. The Town of Bristol Onsite Wastewater Treatment Law includes a provision which nearly satisfies the language of BMP 6-05. §501 of the code explains the circumstances under which OWTS inspections are warranted – (1) prior to change of use; and (2) [building] expansion greater than 50%. While these are important and valuable provisions to have included in local law, they nonetheless fall short of fully meeting the BMP 6-05 as it is written ("inspection of all OWTS at property transfer or within one year prior to transfer").

A comprehensive septic system ordinance should require owners of OWTS to have their systems inspected and pumped at a rate that will allow the discovery of a failure within a reasonable period of time (i.e. every 3-5 years, depending on use and location).

3.2 Town of Canadice, Ontario County

Local Laws Reviewed:

- *Town of Canadice Zoning*, L.L. 3-2007
- *Planned Residential Development District*, L.L. 2-2008[69]

Previously Reviewed:

- *Town of Canadice Code*, with specific emphasis on the following chapters:
  - *Chapter 48: Boats and Boating; Chapter 67: Flood Damage Prevention; Chapter 73: Junk Yards*; Chapter 77: Land Use*; Chapter 81: Mobile Homes*; Chapter 92: Sewers; Chapter 95: Site Plan Review*; Chapter 103: Solid Waste; Chapter 106: Streets and Sidewalks; Chapter 108:Subdivision of Land; Chapter 120: Zoning* (L.L. 3-2007)
- *Town of Canadice Comprehensive Plan, Revision B* (1999)

Recommendations for Future Action by Local Officials:

- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.
- **Create riparian buffers –** Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. An actual buffer area with vegetation requirements and use restrictions should be created. The Town of Fayette, Seneca County has an EPOD for Stream and Canal Corridors that is an excellent example of riparian buffer protection. Refer to Section 4.3.5.1 for buffer recommendations and models.
- **Strengthen flood damage prevention law** – Since Canadice already has flood damage prevention regulations, the town is likely an eligible community for the Community Rating System (CRS) program from NFIP. Review the list of optional flood regulation additions created by DEC in Appendix F to see some options for qualifying for CRS; also see Section 4.3.5.2 for more details.

3.2.1 Development

The Town consolidated many of the laws related to land use into a single zoning ordinance in 2007; this includes the chapters indicated with an asterisk above. The Town amended the zoning to include a Planned Residential Development District in December 2008; this rezoning is intended to protect Canadice and Hemlock Lakes. Regulations stipulated under Site Plan Review, now included in zoning, are comprehensive in scope with regard to the protection of environmentally sensitive areas, drainage, erosion, and sediment control. Site plan review is required for a wide variety of purposes, including: changes of use and structure of buildings; changes within commercial or industrial zones; change in the use of the land; filling or excavations; home occupations; and several other activities. Development, therefore, is clearly subject to stringent local oversight.

With specific regard to erosion and sediment control, Site Plan Review covers many similar items that are required within a Stormwater Pollution Prevention Plan (SWPPP), as required under the General Permit for Construction Activities (GP-0-10-001). This indicates a high level of reliability and thoroughness. Based on this assessment, however, it is recommended that local officials review the Site Plan Review

ordinance and compare it against Section 2.2.1 [Contents of Stormwater Pollution Prevention Plans] of the Sample Local Law. Local law should strive for equivalency with the 16 components of Stormwater Pollution Prevention Plans listed therein. Furthermore, local law should acknowledge recent changes in Federal and state laws with regard to Phase II Stormwater Regulations in an effort to promote statewide consistency. (Further information on Stormwater Phase II detailed in Section 5.2 General Overview of Local Laws and Practices, above.)

3.2.2 Agriculture and Forestry

Considerations for timber harvesting practices are contained within Site Plan Review (§120-123). The Site Plan Review process applies to individuals harvesting more than 10,000 board feet, 25 standard cords, or the equivalent thereof. Written statements must be submitted by the harvester to the Planning Board with statements which illustrate professional approval from a professional forester. Review of the required information listed in §120-82 covered nearly all BMPs found in the local law assessment form.

While the local law provides adequate protection from erosion and sedimentation when properly enforced, it is recommended that officials consider revising the local law in order to achieve a level of consistency with other municipalities within the Honeoye Lake Watershed. Centralized enforcement and adequate training for enforcement officials are also central components to effective.

3.2.3 Waterways and Wetlands

§120-123 of the Canadice Town Code addresses environmentally-sensitive areas, including wetlands, floodplains, watercourses, woodlands and other unique features. No regulations specific to the operation and maintenance of modified waterways were present. §120-123 B(3) does provide basic oversight and review for development activities in and around watercourses (lakes, ponds, or streams). Based on this assessment, it is recommended that local officials consider further defining exactly what water bodies are subject to review under this section through written definition and/or an official map (intermittent watercourses or those which otherwise are not watered year-round may come into question).

§120-123 B(1) of the code addresses wetlands in particular, citing review requirements for development activities on wetland areas identified on NYSDEC wetlands maps or within 200 feet of an identified wetland area. §24-0701.2 of the NYS Environmental Conservation Law regulations (Freshwater Wetlands) apply to activities within 100 feet of such areas; thus, the local law is more stringent than the state regulations. Local officials may want to further consider evaluating the need for including mandatory setbacks of structures from stream banks and shorelines in order to minimize disturbance of land within such areas.

3.2.4 Marinas

No environmental BMPs specific to marinas (sometimes referred to as “dockings and moorings”) were found within Canadice Town Code. §48 of the local code entitled “Boats and Boating” lists several restrictions pertaining to the operation of vessels; these restrictions are primarily intended to ensure public safety, however, and do not apply to water quality issues. §48 was last updated in April 1996.

3.2.5 Highways

The local law assessment form addresses basic good housekeeping practices and procedures that pertain to activities typically conducted within most local highway departments. Questions addressed three primary areas of concern: right of way maintenance (road right of way and drainage facilities); construction of new facilities (any type of land disturbing activity); and general shop operation (staff

training, record keeping, etc.). While highway departments within most municipalities typically practice basic best management practices on an unofficial, voluntary basis, it is rare to see specific practices and procedures written directly into local code. The Town of Canadice Code (§106, "Streets and Sidewalks") presents a clear framework for addressing a variety of best management practices that pertain to highway maintenance. This section of the Code can be used as a valuable model for neighboring municipalities in the watershed as well as for rural towns throughout the region, as it sets clear priorities and expectations regarding the local roads and facilities therein.

The code contains directives and procedures that guide conscientious and consistent maintenance of local facilities. Guidelines are included for surface and roadside facilities such as bridges, drainage, road repair, and slopes. Several aspects of these guidelines appear to have erosion and sedimentation prevention specifically in mind. Given the town's rural nature, a distinction is made between low-volume roads and those that otherwise receive moderate or high traffic volumes. Article III of §106 states that a major reason for setting such standards is to decrease overall costs by reducing unnecessary maintenance on low-volume roads. Roads designated as "low-volume" are posted with signs intended to advise motorists of the need to exercise due diligence when traveling on such roads.

This feature of local law is generally unique to the region and worthy of mention for several reasons. Codifying highway maintenance procedures adds a degree of transparency to the operation and management of public assets, which lends significant credence to the department and the Town as a whole. Furthermore, these specific procedures have the potential to work in conjunction with environmental best management practices (although it is important to note that this is not the intent of this section of code). Low-volume roads can have the potential to have a low-impact on local water resources. The recommended reduction of salt and sand usage and implied decrease in impervious surface area can have a positive impact on local water resources if done in accordance with other basic roadside provisions (such as check dams, vegetative swales, or other types of low-maintenance stormwater structures). Interpretative signage can also be designed to accompany low-volume road signs that are already in place, thereby acting as an information tool, notifying the public of the benefits of such areas.

3.2.6 Onsite Wastewater Treatment Systems (OWTS)

Adequate local provisions regarding the installation and inspection of onsite wastewater treatment systems can be found in §92 of Canadice Town Code. This section of the Code states that systems located on difficult sites must incorporate "current technology or design methods" in order to ensure the proper operation and functioning of the system. While §92-3F clearly states that systems must be maintained in "good working order," no specific inspection schedule is included within the code; rather, properties are subject to inspection due to either a change in use or building expansion. The Code further provides the Town with the discretion to require the property owner to retain the services of a design professional when deemed necessary, to retain the services of the Ontario County SWCD for application of the Uniform Inspection Procedures Program, and to allow property access for inspection as deemed necessary.13 Each of these provisions is indicative of a conscientious effort to reduce the impacts of failing onsite wastewater treatment systems. Based on this assessment, it is recommended that §92 of Canadice Town Code be amended to allow for system inspection on a more routine basis, preferably either at the time of property transfer or at more regular intervals (approximately every 3-5 years).

3.3 Town of Naples, Ontario County

Local Laws Reviewed:

- *Zoning, Chapter 132 and attachment*[70]
- *Subdivision of Land, Chapter 116 and attachments*[71]
- *Timber Harvesting, Chapter 123*[72]
- *Flood Damage Prevention, Chapter 74*[73]
- *Highways, Chapter 81*[74]

Previously Reviewed:

- *Zoning, Chapter 132*
- *Subdivision of Land, Chapter 116*
- *Town of Naples Master Plan 2002-2007*

Recommendations for Future Action by Local Officials:

- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.
- **Create riparian buffers –** Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. An actual buffer area with vegetation requirements and use restrictions should be created. The Town of Fayette, Seneca County has an EPOD for Stream and Canal Corridors that is an excellent example of riparian buffer protection. Refer to Section 4.3.5.1 for buffer recommendations and models.
- **Update subdivision regulations –** Consider adopting the LEED for Neighborhood Development (LEED-ND) Standard to assist with selection of suitable lands, street design, development of pedestrian linkages, green infrastructure and building design, and other performance standards as needed. See Section 4.2.4.
- **Strengthen flood damage prevention law** – Since Naples already has flood damage prevention regulations, the town is likely an eligible community for the Community Rating System (CRS) program from NFIP. Review the list of optional flood regulation additions created by DEC in Appendix F to see some options for qualifying for CRS; also see Section 4.3.5.2 for more details.
- **Adopt forestry ordinance** – See Bristol's Local Timber Harvesting law as a model ordinance.
- **Develop onsite wastewater treatment regulations** – Adopt on-site wastewater treatment regulations requiring inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). See Section 4.3.3.1 for further details.

3.3.1 Development

Chapters 116 (Subdivision of Land) and 132 (Zoning) of the Town of Naples Code cover a wide variety of activities related to new and existing development which, when taken together and properly enforced, provide adequate protection to local water resources. There have been only minor modifications to these chapters since 2007.

Several important best management practices are contained within the local Subdivision Regulations. Article IV ("Development Standards for Subdivisions"), §116-21 E ("Preservation of natural features") provides strong assurance that features such as mature trees, lakes, ponds, streams, watercourse boundaries and other "unique physical features" will be maintained to the greatest degree practicable when new development occurs. Similar provisions are contained within the Zoning Code under Article IV ("Provisions Applicable to All Districts"), §132-15 ("Preservation of natural features"). Furthermore, §132-16 (Regulations applicable to all districts") of the Zoning Code includes specific restrictions on activities in steep slope areas within the Town. Article VI ("Supplementary Regulations"), §132-30("Steep slopes") of Zoning reinforces these restrictions with added provisions for any application for construction, excavation or other development on slopes which exceed 15 degrees.

Article VI ("Specifications for Sketch Plans"), §116-40 A(1) ("Final plat specifications for major subdivisions") of the Subdivision Code requires the submission of construction detail sheets for subdivisions "of four lots or less…". §116-41 ("Construction detail sheets"), Part E of the Subdivision Regulations addresses plans to be submitted by the developer for addressing erosion and sediment control. While this section of local law contains adequate procedures regarding erosion and sediment control, the section falls short of addressing Phase II Stormwater Regulations. Furthermore, the document referenced in Article VI, §116-41.E(j) ("New York Guidelines for Urban Sediment and Erosion Control") of the Zoning Code has been updated and renamed the "New York State Standards and Specifications for Erosion and Sediment Control." This should therefore be amended and updated in order to avoid confusion.

Based on this assessment, it is recommended that local officials review Subdivision Regulations and compare them against Section 2.2.1 [Contents of Stormwater Pollution Prevention Plans] of the Sample Local Law. Local law should strive for equivalency with the 16 components of Stormwater Pollution Prevention Plans listed therein. Furthermore, local law should acknowledge recent changes in Federal and state laws with regard to Phase II Stormwater Regulations in an effort to promote statewide consistency. (Further information on Stormwater Phase II detailed in Section 5.2 General Overview of Local Laws and Practices, above.)

3.3.2 Agriculture and Forestry

Only one best management practices specific to Agriculture and Forestry was identified through the local law and practices assessment (BMP 2-11: Use Agricultural Environmental Management).

3.3.3 Waterways and Wetlands

Town of Naples Code contains several provisions that directly protect local waterways. Town Subdivision Code, Article IV ("Development Standards for Subdivisions"), §116-20.D states that "The preservation of natural watercourses is preferable to the construction of drainage channels, and wherever practicable such natural watercourses should be preserved." Town Zoning Code, Article IV ("Provisions Applicable to All Districts"), §132-15 ("Preservation of Natural Features") disallows structures to be built within 100 feet from the center of the bed of a stream carrying water on average of six months of the year. This mandatory setback rule is a basic provision that can provide several benefits when properly enforced, including protection from flooding, the preservation of the aesthetic value of property, reduction in runoff, and general stream bank protection.

Based on this assessment, it is recommended that detail is added to §116, Article IV of the Town Subdivision Code and §132, Article IV of the Town Zoning Code identifying the location and name (if available) of specific watercourses that are to be protected. This can be accomplished through updating or

amending the Official Map for the Town of Naples and providing a reference to the map within the sections of local law cited above.

3.3.4 Marinas

The Town of Naples does not have any shoreline area or navigable waterways that lie within the Honeoye Lake Watershed. This section of the local law assessment therefore does not apply to this study.

3.3.5 Highways

Operations conducted by the Town of Naples Highway Department primarily involve routine right-of-way maintenance and repair. Stormwater management facilities are very limited within the Town; inspection of such facilities occurs on an annual basis. Roadside ditches have been gradually retrofitted and stabilized with rip-rap in steep-slope areas; failing culverts are also upgraded over time as they are identified and as resources allow.

Basic BMPs were are in place with regard to erosion and sediment control, although the department does not typically disturb large areas of land while performing routine operations. Furthermore, the majority of routine highway right-of-way maintenance activities are generally exempt from Stormwater Phase II Regulations. Vegetation is generally maintained on steep slopes and within swale areas; temporary vegetation, mulching and hydroseeding is employed by the department when large ground disturbances occur.

3.3.6 Onsite Wastewater Treatment Systems (OWTS)

No specific onsite wastewater treatment system BMPs were found to be in place within the Town of Naples. Based on this assessment, it is recommended that local officials consider adopting all or portions of the Ontario County Model Local Law for On-Site Individual Wastewater Treatment

3.4 Town of Richmond, Ontario County

Local Laws Reviewed:

- *Chapter 200, Zoning (amendments 2007-2009)*[75]
- *Chapter 173, Subdivision of Land (amendments 2007-2009)*[76]
- *Chapter 162, On-site Individual Wastewater Treatment Systems (2005)*[77]

Previously Reviewed:

- *Subdivision Regulations (1990)*
- *Code of the Town of Richmond, Chapter 200, Zoning (2006)*
- *Comprehensive Plan (2004)*
- *Design Criteria & Construction Specs. For Land Development in the Town of Richmond*

Recommendations for Future Action by Local Officials:

- **Develop stormwater management ordinance** – Develop a local law that works in conjunction with existing zoning, site plan, and/or subdivision ordinances. Such a law would require developers to prepare a Stormwater Pollution Prevention Plan and submit it to the relevant local board as part of the process for new development. See Section 4.3 for details.
- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management

practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.

- **Adopt flood damage prevention law** – Review the list of optional flood regulation additions created by DEC in Appendix F to see some options; also see Section 4.3.5.2 for more details.
- **Create riparian buffers –** Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. While the Town's subdivision regulations require applicants to pay particular attention to developing around creeks, an actual buffer area with vegetation requirements and use restrictions should be created. The Town of Fayette, Seneca County has an EPOD for Stream and Canal Corridors that is an excellent example of riparian buffer protection. Refer to Section 4.3.5.1 for buffer recommendations and models.
- **Amend subdivision regulations –**Consider adopting the LEED for Neighborhood Development (LEED-ND) Standard to assist with selection of suitable lands, street network design, development of pedestrian linkages, green infrastructure and building design, and other performance standards in concert with the Town's 2004 comprehensive plan; see Section 4.2.4. Smart growth strategies applied to subdivisions can make a dramatic difference in service delivery costs; see Section 4.2.2 for details.

3.4.1 Development

Three specific components of local law within the Town of Richmond cover activities related to development: Zoning, Subdivision and local Design Criteria and Construction Specifications for Land Development in the Town of Richmond. No significant updates have been passed since the 2007 review. Sections of the Town's Subdivision Rules and Regulations (see Article VII §1B ("Development Standards for Subdivisions, Treatment of Unique Features" and §2E ("Preservation of Natural Features")) are specific requirements intended to retain the natural and scenic beauty of new developments within the town. These sections of law, when properly enforced, ensure that features such as mature trees, lakes, ponds, streams, watercourse boundaries and other "unique physical features" will be maintained to the greatest degree practicable when new development occurs. These sections further require developers to retain, redistribute, and stabilize existing soils within a reasonable period of time (6 months), providing some assurance that erosion and sedimentation will be minimized.

§200-35 of the Zoning Code contains similar provisions intended to preserve natural features, including restrictions disallowing the construction of structures within 50 feet of the bed of a stream which carries water an average of six months. While stream setbacks are an important component of preserving aesthetic characteristics and protecting local water resources, a distance of 50 feet may prove to be inadequate in this regard. Future revision to a minimum distance of 100 feet may therefore be warranted. Furthermore, explicit specification of what streams fall under this regulation is recommended. Protected streams should be identified on the town's Official Map and by name (when applicable).

Specific controls to development and construction practices are contained within the Town's Design Criteria and Construction Specifications for Land Development.15 Section I.6.1 entitled "Erosion Control" explains the intended erosion and sediment control design practices that are to be submitted with final subdivision plans (and to be put into place by the developer upon commencement of construction). Among the procedures that may be requested of the developer include the installation of sediment basins, minimal exposure of land, temporary vegetation and/or mulching on exposed areas, retaining natural vegetation when possible, and the installation of other protective measures as is determined necessary by

either the Municipal Engineer or the Planning Board. Furthermore, it is clearly stated that the municipality "reserves the right to establish other more restrictive parameters" as deemed necessary and that stormwater discharge rates shall not exceed those which exist under natural conditions.

Section II of the Construction Specifications pertains to actual construction activities. Section II.9 ("Sediment and Dust Control") details the construction of facilities, intended objectives of those facilities, the conditions under which such facilities should need to be improved due to poor performance, and when they can be terminated. Dust and mud control are included among these objectives, and the document text clearly states the intention of the requirements and the responsible parties. Together, along with supporting text in the Subdivision Rules and Regulations, strong rules of enforcing adequate erosion and sediment control measures are in place.

Based on this assessment, it is recommended that local officials review erosion and sediment control procedures that are currently in place against Section 2.2.1 [Contents of Stormwater Pollution Prevention Plans] of the Sample Local Law. Local law should strive for equivalency with the 16 components of Stormwater Pollution Prevention Plans listed therein. Furthermore, local law should acknowledge recent changes in Federal and state laws with regard to Phase II Stormwater Regulations in an effort to promote statewide consistency. (Further information on Stormwater Phase II detailed in Section 5.2 General Overview of Local Laws and Practices, above.)

Basic BMPs are in place regarding erosion and sediment control, although the department does not typically disturb large areas of land while performing routine operations. Furthermore, the majority of routine highway right-of-way maintenance activities are generally exempt from Stormwater Phase II Regulations.16 Erosion and sediment control practices are not typically conducted by the department when disturbing small areas of land.

3.4.2 Agriculture and Forestry

Only one best management practices specific to Agriculture and Forestry was identified through the local law and practices assessment (BMP 2-11: Use Agricultural Environmental Management).

Special use requirements within the Zoning Law (§200-46.B(3)) pertaining to logging and sawmills requires applicants to include "Provisions for the restoration of the property including how all waste materials will be disposed of during and after the operation has ceased and removal of the equipment." While this statement provides the Town with some protection regarding site restoration, determining exactly what constitutes adequate restoration is up to the discretion of the Code Enforcement Officer after authorization by the Zoning Board of Appeals and formal site plan approval.

3.4.3 Waterways and Wetlands

With regard to waterways, both Town Zoning and Subdivision Rules and Regulations address the preservation of natural features, which includes maintaining the integrity or natural condition of streams, brooks, drainage channels and views. Specifically, §200-35.A of the Zoning Code states that no structure shall be placed within 50 feet of the bed of a stream that carries water an average of 6 months per year. While stream setbacks are an important component of preserving aesthetic characteristics and protecting local water resources, a distance of 50 feet may prove to be inadequate in this regard. Future revision to a minimum distance of 100 feet may therefore be warranted. Streams intended to be protected should be indicated on the town's Official Map and/or in writing, specifying name and location.

Furthermore, Article VII, §2F(3) of the Subdivision Rules and Regulations stipulates that:

> …Particular attention shall be paid to development in the vicinity of Honeoye Creek and its flood plain, and no alteration of the existing characteristics of the areas shall take place without the specific approval of the Town as to the adequacy of the protective measures taken, if any, and the effects of such development on upstream and downstream reaches of the watercourse and adjacent properties...

These specific rules can provide several benefits when properly enforced, including protection from flooding, the preservation of the aesthetic value of property, reduction in runoff, and general stream bank protection.

3.4.4 Marinas

Several BMPs specific to marinas (sometimes referred to as "dockings and moorings") were found within Richmond Town Code under Article VI of the Zoning Code pertaining to Special Use Permits for marinas. This section of code simply states that any applicant seeking to obtain a permit for a marina must first obtain any required permits from the associated state agency responsible for oversight of specified facilities (such as fueling stations, docks, or retaining walls). This section of code provides the Town with minimal assurance that marinas will be operating in accordance with state laws. It does not, however, provide complete assurance that hazardous facilities or activities taking place as a result of those facilities will be maintained over time, installed properly, or operated in a safe manner.

3.4.5 Highways

The local law assessment form addresses basic good housekeeping practices and procedures that pertain to activities typically conducted within most local highway departments. Questions addressed three primary areas of concern: right of way maintenance (road right of way and drainage facilities); construction of new facilities (any type of land disturbing activity); and general shop operation (staff training, record keeping, etc.).

Operations conducted by the Town of Richmond Highway Department primarily involve routine right-of-way maintenance and repair. Stormwater management facilities are very limited within the town; currently the town has one detention pond, which is maintained by the highway department. Such facilities are likely to continue to be installed within Richmond with oversight from the highway department and assistance from the SWCD as necessary. Erosion-prone areas, such as steep roadside ditches and gullies, have been gradually addressed as resources have allowed. General practices in this regard involve the use of geo-fabrics with rip-rap; culverts have also been upgraded after significant failures have occurred (East Lake Road, for example). Other culverts that have questionable performance are known by the department and are targeted for upgrades – once again, as resources allow.

3.4.6 Onsite Wastewater Treatment Systems (OWTS)

BMP 6-06 ("Require all properties within 500' of municipal service to connect") was clearly stated within several sections of local law (Subdivision, Article VIII §1 Streets, F and G; Subdivision, Article VI §2 Preliminary Plat [requirements] E; and Construction Specs for Land Development, Sanitary Sewage Facilities I.11.1). Furthermore, local law requires percolation tests to be performed in order to determine the adequacy of local soils to perform properly if an OWTS is installed. Code (On-site Individual Wastewater Systems §162-19) requires inspections prior to change in use, prior to conveyance of real property, and expansions greater than 50%. While these measures are largely adequate to protect water

quality, it is recommended that local officials consider adopting portions of the Ontario County Model Local Law for On-Site Individual Wastewater Treatment to include provisions for routine inspection of onsite wastewater treatment systems at specified increments (every 3 or 5 years, for example).

3.5 Town of South Bristol, Ontario County

Local Laws Reviewed:

- *Town of South Bristol Comprehensive Plan*[78]
- *Chapter 149, Subdivision of Land*
- *Chapter 170, Zoning*

Previously Reviewed:

- *Town of South Bristol Comprehensive Plan*
- *Chapter 149, Subdivision of Land*
- *Chapter 170, Zoning*

Recommendations for Future Action by Local Officials:

- **Develop stormwater management ordinance** – Develop a local law that works in conjunction with existing zoning ordinances; it should: account for topography and soil type; require retaining and protection of trees and other natural vegetation on and near disturbed sites to minimize erosion; stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching; and maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction. Such a law would work in concert with the existing Site Plan Review standards. See Section 4.3 for details.
- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.
- **Create riparian buffers –** Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. While the Town's requires that no structure shall be constructed within 50 feet of a stream, an actual buffer area with vegetation requirements and use restrictions should be created. The Town of Fayette, Seneca County has an EPOD for Stream and Canal Corridors that is an excellent example of riparian buffer protection. Refer to Section 4.3.5.1 for buffer recommendations and models.
- **Adopt flood damage prevention law** – Review the list of optional flood regulation additions created by DEC in Appendix F to see some options; also see Section 4.3.5.2 for more details.
- **Adopt forestry ordinance** – See Bristol's Local Timber Harvesting law as a model ordinance.
- **Amend subdivision regulations –** Consider adopting the LEED for Neighborhood Development (LEED-ND) Standard to assist with selection of suitable lands, street network design, development of pedestrian linkages, green infrastructure and building design, and other performance standards in concert with the Town's 2013 comprehensive plan; see Section 4.2.4. Smart growth strategies applied to subdivisions can make a dramatic difference in service delivery costs; see Section 4.2.2 for details.

- **Develop onsite wastewater treatment regulations** – Adopt on-site wastewater treatment regulations requiring inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). See Section 4.3.3.1 for further details.

3.5.1 Development

Town of South Bristol local law contains several components designed to maintain the natural integrity of natural features. Article VI ("Supplementary District Regulations") §170-63 ("Preservation of natural features") of the Zoning Code specifies that no structure shall be constructed within 50 feet of the bed of a stream carrying water an average of six months. This section of code also states that "Existing natural features, such as trees, brooks, drainage channels and views, shall be maintained" to the greatest degree practicable. Local Subdivision regulations contain similar provisions under Article 1, §§149-6 and 149 27-E. Furthermore, §§149-27-E(1) and (2) state that topsoil must be redistributed within the disturbed area within a reasonable period of time and, to the fullest extent possible, existing trees and shrubs must be preserved.

These regulations represent the most basic forms of protection that a municipality should enact in order to protect the health and maintain general welfare of the community. While stream setbacks are an important component of preserving aesthetic characteristics and protecting local water resources, a distance of 50 feet may prove to be inadequate in this regard. Future revision to a minimum distance of 100 feet may therefore be warranted. Furthermore, explicit specification of what streams fall under this regulation is recommended. Protected streams should be identified on the town's Official Map and by name (when applicable).

Based on this assessment, it is recommended that local officials review erosion and sediment control procedures that are currently in place Article 1, §§149-6 and 149-27-E of the Subdivision Law against Section 2.2.1 [Contents of Stormwater Pollution Prevention Plans] of the Sample Local Law. Local law should strive for equivalency with the 16 components of Stormwater Pollution Prevention Plans listed therein. Furthermore, local law should acknowledge recent changes in Federal and state laws with regard to Phase II Stormwater Regulations in an effort to promote statewide consistency. (Further information on Stormwater Phase II detailed in Section 5.2 General Overview of Local Laws and Practices, above.)

3.5.2 Agriculture and Forestry

Only one best management practice specific to Agriculture and Forestry was identified through the local law and practices assessment (BMP 2-11: Use Agricultural Environmental Management).

3.5.3 Waterways and Wetlands

As stated in Section 5.3.5.1 Development, above, Town of South Bristol local law contains several components designed to maintain the integrity of natural features, which in this case includes streams, brooks, and other drainage channels. Article VI ("Supplementary District Regulations") §170-63 ("Preservation of natural features") specifies that no structure shall be constructed within 50 feet of the bed of a stream carrying water an average of six months. This mandatory setback rule is a basic provision that can provide several benefits when properly enforced, including protection from flooding, the preservation of the aesthetic value of property, reduction in runoff, and general stream bank protection.

In the event of future local law revision, local officials may want to consider expanding this minimum setback distance, perhaps only in identified environmentally-sensitive, pristine, or otherwise aesthetically pleasing areas. Furthermore, explicit specification of what streams fall under this regulation is strongly

recommended. Protected streams should be identified on the town's Official Map and by name (when applicable).

3.5.4 Marinas

The Town of South Bristol does not have any shoreline area or navigable waterways that lie within the Honeoye Lake Watershed. This section of the local law assessment therefore does not apply to this study.

3.5.5 Highways

The local law assessment form addresses basic good housekeeping practices and procedures that pertain to activities typically conducted within most local highway departments. Questions addressed three primary areas of concern: right of way maintenance (road right of way and drainage facilities); construction of new facilities (any type of land disturbing activity); and general shop operation (staff training, record keeping, etc.).

Operations conducted by the Town of South Bristol Highway Department primarily involve routine right-of-way maintenance and repair. Stormwater management facilities are very limited within the town; identifying and eliminating erosion problem areas within the town is not a specific priority of the department. Erosion and sediment control plans are devised when necessary with oversight and assistance from the SWCD as necessary.

3.5.6 Onsite Wastewater Treatment Systems (OWTS)

BMP 6-06 ("Require all properties within 500' of municipal service to connect") was clearly stated within local law. No other BMPs specific OWTS were identified within the Town of South Bristol.

Based on this assessment, it is recommended that local officials consider adopting all or portions of the Ontario County Model Local Law for On-Site Individual Wastewater Treatment. Provisions to allow for routine inspection of onsite wastewater treatment systems should be included within local code, such as at time of property transfer or at specified increments (every 3 or 5 years, for example).

3.5 Town of Springwater, Livingston County

Local Laws Reviewed:

- *Subdivision Law (2011)*

Previously Reviewed: N/A

Recommendations for Future Action by Local Officials:

- **Draft a comprehensive plan** – Draft a comprehensive plan emphasizing the protection of local water resources and recognizing the importance of watershed planning efforts within the Honeoye Lake watershed and other neighboring watersheds within the municipality.
- **Develop stormwater management ordinance** – Develop a local law that works in conjunction with existing zoning ordinances; it should: account for topography and soil type; require retaining and protection of trees and other natural vegetation on and near disturbed sites to minimize erosion; stabilize disturbed soils; redistribute topsoil for seeding and planting; use temporary vegetation, silt barriers, and mulching; and maintain runoff rates, or control increased runoff caused by changed surface conditions to minimize flooding, erosion, sedimentation and pollutants

entering waterbodies prior to, during and after construction. Such a law would work in concert with the existing Site Plan Review standards. See Section 4.3 for details.

- **Develop green infrastructure standards** – Consider opportunities to retrofit existing properties with new facilities, such as stormwater detention/retention ponds; also attempt natural conveyance restoration wherever possible. Continue ditch maintenance using best management practices, maintaining vegetative buffers near waterbodies, lining sensitive areas with rip rap and seeding disturbed areas immediately after are recommended practices. See Section 4.2.3 for more information.
- **Create riparian buffers –** Riparian buffers and similar protections can be very effective tools in protecting water quality, preventing erosion and sedimentation, reducing nonpoint source pollution, etc. An actual buffer area with vegetation requirements and use restrictions should be created. The Town of Fayette's EPOD (1) Stream and Canal Corridor is an excellent example of riparian buffer protection. Refer to Section 4.3.5.1 for buffer recommendations and models.
- **Adopt flood damage prevention law** – Review the list of optional flood regulation additions created by DEC in Appendix F to see some options; also see Section 4.3.5.2 for more details.
- **Develop onsite wastewater treatment regulations** – Adopt on-site wastewater treatment regulations requiring inspections, connection to public water/sewer and setbacks (potentially from waterways, wetlands and floodplains). See Section 4.3.3.1 for further details.

With the exception of basic uniform practices covered by regional entities (including the County Soil and Water Conservation District, County Department of Health, Finger Lakes/Lake Ontario Watershed Protection Alliance, and Cornell Cooperative Extension, and G/FLRPC) there were no local laws found to be in place within the Town of Springwater which would have a beneficial or protective effect on local water resources.

We recommend the Town join the Honeoye Lake Watershed Task Force and pass the draft Sewer Use Law after adding language providing for routine inspection of onsite wastewater treatment systems, such as at time of property transfer or at specified increments (every 3 or 5 years, for example), inspections prior to change in use and prior to conveyance of real property as well as for expansions greater than 50%.

The dearth of local laws within the Town of Springwater precludes the ability to make specific recommendations within this analysis. It is therefore recommended that town officials continue to familiarize themselves with the watershed planning process occurring within the Honeoye Lake watershed (as well as activities that may be taking place within neighboring watersheds) and consult with the Livingston County SWCD and Department of Planning as future interest and issues dictate.

SECTION 3.0 ENDNOTES

[68] http://www.townofbristol.org/docs/zoning/zoningOrd_2011.05.11.pdf
[69] http://www.canadice.org/chapter-120---zoning.html
[70] http://ecode360.com/12678124
[71] http://ecode360.com/12677669
[72] http://ecode360.com/12678055
[73] http://ecode360.com/12677401
[74] http://ecode360.com/14801884

[75] http://ecode360.com/12720686
[76] http://ecode360.com/12720213
[77] http://ecode360.com/12720032
[78] http://www.southbristolny.org/Documents/Comprehensive_Plan/ComprehensivePlan.pdf

Appendices

Appendix A: Assessment Matrices

Town Of Bristol - http://www.gflrpc.org/Publications/Honeoye/AssessRec/Bristol.pdf
Town of Canadice - http://www.gflrpc.org/Publications/Honeoye/AssessRec/Canadice.pdf
Town of Naples - http://www.gflrpc.org/Publications/Honeoye/AssessRec/Naples.pdf
Town of Richmond - http://www.gflrpc.org/Publications/Honeoye/AssessRec/Richmond.pdf
Town of South Bristol - http://www.gflrpc.org/Publications/Honeoye/AssessRec/South%20Bristol.pdf
Town of Springwater - http://www.gflrpc.org/Publications/Honeoye/AssessRec/Springwater.pdf

Appendix B: Annotated Reference List, New York Water Resources Institute (2013); http://wri.eas.cornell.edu/Infrastructure_References.pdf

Appendix C: Sample Local Law for Stormwater Management and Erosion & Sediment Control (revised 3/06); http://www.dec.ny.gov/docs/water_pdf/localaw06.pdf

Appendix D: Town of Huron Septic Law (3/11/13); http://townofhuron.org/content/Generic/View/23:field=documents;/content/Documents/File/176.pdf

Appendix E: Construction Stormwater Pollution Prevention and Erosion and Sediment Control Ordinance; http://www.parmany.org/pdf/building/stormwater/Final-Construction-Ordinance.pdf

Appendix F: NYSDEC Optional Additional Language: Model Local Law for Flood Damage Prevention; http://www.schohariecounty-ny.gov/CountyWebSite/EmergencyManagement/NYSDEC-OptionalLanguage.pdf