

## 1.6 NYCDEP Watershed and Planning

A driver for undertaking the GEIS is the protection of New York State drinking water and specifically the drinking water supply for New York City without hampering the Town's ability to survive and prosper.

The NYC West of Hudson Drinking Water Watershed (referred to herein as the "NYC Watershed") comprises approximately 1,900 square miles of land in the Catskill Mountains and the Hudson River Valley Region of New York. The Batavia Kill and associated watershed within the Town are tributary to the Schoharie Creek and Schoharie Reservoir, part of the NYC drinking water supply. The NYCDEP is responsible for the management of the drinking water watershed in accordance with the NYC Watershed Memorandum of Agreement (MOA) and the Public Health Law §1107.

The 1997 NYC Watershed MOA is a legally binding document, setting forth obligations by the parties with the objective of protecting the NYC Watershed and the economy of the local communities. The MOA provides the NYCDEP with a five (5) year Filtration Avoidance Determination (FAD) issued by the United States Environmental Protection Agency (USEPA) to deter building a water filtration plant. In 2002, the five (5) year FAD was extended through 2007. In 2007, the USEPA renewed the FAD for ten (10) years. The 2007 FAD requires NYC to complete a series of watershed protection initiatives and activities includes a new ~~\$300,000,000~~ 240,000,000 land acquisition program.

The FAD/MOA's three (3) main components include the Watershed Protection and Partnership Programs, Watershed Rules and Regulations and the Land Acquisition Program. Those components have been included as a requirement of FAD, as the FAD has been renewed.

A complete copy of the MOA is available online at <http://www.nysefc.org/home/index.asp?page=294>.

Concerning the first component, the Watershed Protection and Partnership Programs were established under the MOA to maintain and enhance water quality and preserve the economic and social character of the NYC Watershed communities. The Catskill Watershed Corporation (CWC) works closely with the NYCDEP and the NYC Watershed communities to administer and manage the following Watershed Protection and Partnership Programs:

- Stormwater Retrofits and Funding
- Sand/Salt Storage Facilities
- Septic System Remediation and Replacement Program (both household and mixed commercials (under 1,000 gpd))
- Community Infrastructure (i.e., new wastewater treatment plants (WWTPs))
- Future Stormwater Fund (i.e., reimburse property owners for incremental costs associated with NYCDEP's stormwater regulations)
- Public Education
- Catskill Fund for the Future
- Tax Consulting (exhausted)
- Land Acquisition Consultation

Programs are funded by NYCDEP through the MOA and FAD. The stormwater regulations prohibit new impervious surfaces within 100 feet of a stream or watercourse and require individual permits for stormwater management.

The second component, Watershed Rules and Regulations (Watershed Regulations), ~~places restrictions and regulations applicable to activities undertaken within the Watershed that are more stringent than the~~

rest of the State. The Watershed Regulations are promulgated pursuant to Article 11 of the New York State Public Health Law, Section 24-302 of the NYC Administrative Code, and duly promulgated by the NYCDEP and approved by the NYSDOH. The Watershed Regulations control all forms of sewage disposal and stormwater management. The Watershed Regulations has made new sewage disposal (i.e., septic system, and WWTP) extremely expensive and, in many cases, cost prohibitive. The Watershed Regulations will be referred to throughout the GEIS.

Opposition groups have used the SEQRA process as a tool to discourage and delay development within the NYC Watershed. The time it takes to obtain the necessary approvals, and the obstacles and uncertainty associated with obtaining approval, represent a significant impediment to development. The Watershed Rules and Regulations applicable to wastewater treatment plants (WWTPs) makes new plants cost prohibitive. In order to install a new WWTP consistent with the NYC Watershed rules and regulations that is affordable to a potential user, the system has to be sized for a large number of homes (e.g., over 200). In order to obtain individual stormwater permits from the NYCDEP, an applicant must implement a Storm Water Pollution Prevention Plan (SWPPP) that contains the measures selected by the NYCDEP. In order to attain NYCDEP approval of a SWPPP, the applicant must implement the recommendation proposed by that agency. As a result, the cost of stormwater protection typically exceeds the costs elsewhere in the State. One of the objectives of this GEIS is to create best management protocols and/or a regional approach that could be implemented by an applicant in order to expedite the NYCDEP approval process.

The third component, the Land Acquisition Program, defines the means for NYCDEP to purchase land to provide a “buffer” around sensitive Watershed lands, including reservoirs, their tributaries and other important land features. The purchase of land allows NYC to manage the use of the acquired lands while protecting water quality within the NYC Watershed. The 2007 FAD requires an additional \$300,240,000,000 in funding commitments. Additionally, the 2007 FAD sets forth a plan to increase the use of land trusts and non-government organizations to identify and aid NYC in the acquisition of eligible lands. The Town is concerned that the land acquisition program will have a long term negative impact on the sustainability of the community. Unfortunately, due to the requirements in the FAD, the NYCDEP has been forced to implement the land acquisition program as an open space program. The NYCDEP has been required to make a minimum number of solicitations each year on land that met certain water quality criteria. The water quality criteria are so broad that the majority of lands within the NYC Watershed meet the criteria. As a result, the NYCDEP has acquired disparate parcels of land spread throughout the NYC Watershed without any comprehensive management plan. A recommendation in this GEIS is for NYCDEP and its regulators to make the land acquisition program more focused on water quality protection and community sustainability.

Many Catskill communities (similar to many rural communities throughout the state) are on the decline and have been for a long time. The economy of the Town of Windham is better than many of the other surrounding communities. The Watershed Rules and Regulations together with the Land Acquisition Program have contributed to the decline. There has been a steady decline in the full time population in these communities, a steady increase in the average age of the full time resident, a decrease in the level of advanced education of the full time resident, a decrease in school enrollments, a decrease in the available services (medical, educations, stores, retail, entertainment), and an increase in poverty. In order to survive and provide the basic services necessary for a living, sustainable community, each town or region needs a nucleus of full time residents that will volunteer for the fire department, little league, girl scouts, at the local churches, staff the hospitals or emergency medical facilities and shop at our stores. Ski related tourism helps; but it may not be enough for local residents to afford health insurance, electricity, phone, housing, insurance, education, gasoline, etc. ~~The Watershed Regulations (as enforced by NYCDEP) and the Land Acquisition Program have contributed to making housing unaffordable for those who work in the NYC Watershed.~~ While the Watershed Rules and Regulations and the City’s Land

Acquisition Program are not the cause of the decline and economic development funds provided by NYC and NYCDEP have contributed to the watershed economy. The Watershed Regulations (as enforced by NYCDEP) and the Land Acquisition Program have contributed to making housing unaffordable for those who work in the NYC Watershed. they are a contributing factor in the rate of the decline. The increase in gas prices and fuel oil prices place an additional burden on rural residents that must travel to urban areas for employment and basic services. Fortunately, the MOA (and partnership created by the MOA) requires all parties to the MOA to work together to protect water quality while, at the same time, ensuring the economic viability of the Watershed communities. Under the MOA, the state and the City are committed to work with the local communities to allow new development; it is up to those communities to create an environment (ecological, social and economic) to allow for and encourage new development consistent with the communities rural character and comprehensive plan.

### **1.7 GEIS Development Team**

This GEIS and the compilation of detailed information resulted through the contributions of many persons including citizens, businesses, local and County government officials, various governmental agencies, and technical experts.

The GEIS Working Group members include:

- Town of Windham (Town and Planning Boards)
- Catskill Watershed Corporation (CWC)
- Greene County Department of Planning and Economic Development (GCDPED)
- Greene County Soil and Water Conservation District (GCSWCD)
- Windham Chamber of Commerce
- Sterling Environmental Engineering, P.C.
- Delaware Engineering, P.C.

### **1.8 Goals of the GEIS**

Within the objectives identified through the SEQRA process, the goals of this GEIS include:

8. Understand and characterize the current environmental conditions of the Town (including the physical, cultural, historical, agricultural, and scenic resources). Such includes understanding the strengths, weaknesses, threats and development opportunities.
9. Identify critical environmental sensitivities and identify critical needs of the community for a sustainable economy.
10. Evaluate the existing conditions and determine the capacity for future growth, change and sustainability.
11. Develop an understanding of the dynamics of human activities and actions, including likely trends that may influence the environment in the future. The GEIS also seeks to evaluate cumulative impacts that have significance throughout the entire region.
12. Document the likely potential environmental impacts associated with certain activities and actions. The GEIS concentrates on impacts and topics of concern to residents, landowners, and businesses in the Town.

State, New York City and Federal regulations are currently in place to protect surface water sources. NYSDEC, NYCDEP and United States Army Corps of Engineers (USACOE) protect and preserve surface water quality by regulating land use activities. Development complying with State, New York City and Federal laws to safeguard surface water quality is not expected to have a significant negative impact.

### 5.3.1.1 Wetlands

Freshwater wetlands can play a role in flood control (runoff and flood water storage), wildlife habitats, ground and surface water quality protection, open space, and recreation. Wetlands remove pollutants such as soil particles, fertilizers, pesticides, heavy metals, and petroleum products, which contributes to the protection of downstream surface water and underlying groundwater. Water stored in wetlands during wet periods recharges groundwater and maintains stream flow during dry periods, thus protecting stream ecosystems.

Development has the potential to adversely affect wetlands by altering surface water and groundwater flow patterns, introducing pollutants, and filling wetland areas resulting in the destruction of habitat. Alteration of groundwater or surface water flow can also result in an increase or decrease in the volume of water in a wetland area. Pollutants from point and non-point discharges associated with development also have the potential to impact aquatic wildlife. Placement of fill in wetlands may alter the wetland habitat and flood storage characteristics as well as change surface and groundwater flow patterns.

In general, wetlands greater than 12.4 acres are regulated under the New York Freshwater Wetland Act. Smaller wetlands may be protected by the NYSDEC if the Department Commissioner determines that they are important locally in terms of the benefits described above. The boundaries shown in Map 7 are approximate and are intended by the NYSDEC for reference only. National Wetland Inventory (NWI) Maps produced by the United States Fish & Wildlife Service are also available. ~~however are not a substitute for NYSDEC maps. NWI mapping relies primarily on aerial photographs that have not been entirely ground truthed, while NYSDEC maps are more thorough and have been verified. NWI maps were updated for the west of Hudson portions of the New York City Watershed in 2005 (including the Town of Windham) using 2003 imagery, while the Freshwater Wetland Maps for Greene County are largely based on 1980's photography and methodology. NWI wetland maps can be helpful in identifying wetlands smaller than 12.4 acres. Parties interested in wetland use and permitting should consult the USEPA, the USACOE, the NYSDEC, and local government. Areas within 100 feet of NYSDEC wetland boundaries (adjacent areas) are subject to regulation pursuant to the New York Freshwater Wetlands Act; however, a local authority or the NYSDEC Commissioner, based on site-specific mapping and conditions, may extend these adjacent areas. It should also be stressed that, given the limitations of remote sensing, wetlands may be present in an area even though none are indicated in the NWI or NYSDEC wetland maps. As a result, for any project involving significant land disturbance, field verification may be necessary before commencing soil disturbance.~~

Regulated activities within NYSDEC designated wetlands and adjacent areas include direct or indirect draining, dredging, mining, excavation, dumping, and filling. Building, road construction, pile driving, and placement of any obstruction whether or not it changes the water flow are also regulated. Additionally, any activities that could result in pollution are regulated. These activities include, but are not limited to, septic tank installation, placement of sewer outfalls, discharging sewage treatment effluent or other wastes into or so as to drain into a wetland, and pesticide application. Finally, any other activity that substantially impairs any of the several functions or benefits of wetlands is regulated. New York State has a joint application procedure for wetland permits. When an application is filed with the NYSDEC, a copy of the application is automatically forwarded to the USACOE. For wetland areas not

regulated by the NYSDEC (wetlands smaller than 12.4 acres), an application must be filed directly to the USACOE.

The USACOE regulates activities involving the discharge of dredged or fill material in the water of the U.S. under Section 404 of the Clean Water Act (CWA) and the placement of structures in navigable waters of the U.S. under Sections 9 and 10 of the Rivers and Harbors Act of 1899. The USACOE has no size limitations to jurisdictional wetlands; therefore regulatory requirements exist for wetlands that are not protected by the NYSDEC. A NYSDEC Water Quality Certification (WQC) may be necessary if only a USACOE wetlands permit is required.

Additionally, the NYCDEP regulates activities within the NYC Water Supply Watersheds with the intention of minimizing the discharge of pollutants into the source waters from point and non-point sources, minimizing the impacts of erosion and limiting the discharge of phosphorous to source waters which may accelerate the eutrophication process. These regulations prohibit certain activities ~~from taking place within 100 feet from a watercourse or prohibit a direct discharge to a wetland~~ within 100 feet of a watercourse including NYS-regulated wetlands.

The principal federal laws that regulate wetland and buffer area activities include Sections 404 and 401 of the Clean Waters Act, Section 10 of the Rivers and Harbors Act, the National Environmental Policy Act, and the Swampbuster provision of the Food, Agriculture, Conservation, and Trade Act of 1990. New York State regulations controlling activities in and around wetlands in the Study Area include the Freshwater Wetlands Act, SEQRA, and the Use and Protection of Waters Program. The Town adheres to the USACOE, NYSDEC and NYCDEP regulations.

#### **5.3.1.2 Floodplains**

Adverse impacts from development on floodplains potentially result from projects that restrict or reduce the capacity of the floodplain and floodway. The placement of fill or structures within the floodplain can alter flow hydraulics and cause negative impacts such as increasing floodwater flow velocities, erosion, and the level of the flood stage. Local laws regulate and control development and/or other activity in floodplains and floodways.

Flooding and associated insurance problems are avoidable by encouraging new development and building outside of flood hazard areas. Floodways should be unobstructed by new buildings and fill placement to maintain the natural floodway.

### **5.3.2 Detailed Description of Surface Waters**

#### **5.3.2.1 Surface Water Classification**

Surface water within the Town has classifications assigned by the NYSDEC ranging from A through C. NYSECL Section 24 and regulations at 6 NYCRR Part 701 define the best usages of Class A freshwaters are for drinking, culinary purposes, primary and secondary contact recreation, and fishing. The A classification for fresh surface waters may be assigned to, "those waters that, if subjected to approved treatment equal to coagulation, sedimentation, filtration and disinfection, with additional treatment if necessary to remove naturally present impurities, meet or will meet [NYSDOH] drinking water standards, and are, or will be, considered safe and satisfactory for drinking water purposes."

Class B fresh surface waters are for primary and secondary contact recreation and fishing. Class C fresh surface waters are suitable for fishing. The regulation states that the Class C waters are suitable for primary and secondary contact recreation, however, other factors not listed may limit these uses. Classes

A through B are suitable for fish propagation and survival. Additionally, surface waters identified as trout habitat or trout spawning areas carry the additional classification of (t) or (ts). The Batavia Kill has classifications ranging from A(t), A(ts), C(t) and C(ts) (see Map 7).

Stream quality is, in part, protected by NYSECL Article 17 and regulations at 6 NYCRR Part 703, where surface water quality standards are established for each class. These regulations include narrative standards (turbidity; suspended, colloidal, and settleable solids; oil and floating substances; thermal discharges; taste-, color-, and odor-producing, toxic, and other deleterious substances), pH, dissolved oxygen, dissolved solids, odor, color, and coliforms. The actual quality standards to be observed for each surface freshwater class are listed in parts 703.2, 703.3, 703.4, and 703.5. Part 701.1 states that the discharge of sewage, industrial waste or other wastes shall not cause impairment of the best usages of the receiving waters as specified by the water classifications. The standards outlined in Part 703 should be used as the threshold criteria for evaluating new development. NYSDEC has the ability to, on a case-by-case basis, set more stringent groundwater standards or limitations under certain circumstances.

### 5.3.2.2 Wetlands

The Wetlands map (see Map 7) presents freshwater wetlands designated by the NYSDEC pursuant to NYSECL Section 24 (January 5, 1988). The majority of wetlands within the Town are associated with lakes, ponds and the Batavia Kill and its tributaries.

The USACOE evaluates characteristic wetland vegetation (hydrophytic vegetation), soil characteristics, and hydrology to delineate wetlands subject to federal jurisdiction. Trees with shallow and/or exposed root systems or swollen trunks are common hydrophytic indicators. Wetlands contain hydric soils developed under low oxygen conditions. Indicators of hydric soils include high concentrations of decomposed plant material (peats or mucks); a thick surficial layer of decomposing plant matter; dull, bluish gray, gray, brownish black, or black color; sulfur (rotten egg) odor; sandy soil with a surficial layer of decomposing plant material; and sandy soil with dark stains or streaks of organic material in the upper layer. Wetlands periodically have water at or above the soil surface which encourage hydric soil conditions and hydrophytic vegetation. Indicators of wetland hydrology include standing or flowing water during the growing season, waterlogged soil during the growing season, water marks on trees, drift lines and debris piles, and thin layers of sediments on leaves and other objects. However, the hydric soil indicators listed above are only a partial list of possible indicators, and not all of the indicators need to be present to demonstrate the presence of hydric soils.

### 5.3.2.3 Floodplain

Floodway and floodplain boundaries, available from the Federal Emergency Management Agency (FEMA), Town of Windham, Greene County, New York Flood Insurance Rate Map (FIRM) and the Greene County Flood Insurance Study are plotted on the Floodplain map (see Map 9). The digital floodmaps utilized in preparing Map 9 are based on preliminary FIRMs revised in 2006 as part of the Greene County Flood Insurance Study completed in 2004. The Floodplain map displays the zone designations according to flood hazard areas.

The Town of Windham has a Flood Hazard Mitigation Plan, which makes recommendations to protect floodplain areas. Some of these recommendations include improvements of roadway drainage features, maintenance and operation of flood control structures, and creation of a flood damage reporting system.

The FEMA floodway is defined as “that portion of the floodplain which is effective in carrying flow, within which this carrying capacity must be preserved and where the flood hazard is generally highest, i.e., where water depths and velocities are the greatest. It is that area which provides for the discharge of

Mitigation of impacts to the Batavia Kill and associated watershed should consider recommendations made by the GCSWCD in the Batavia Kill Stream Management Plan. The Town should promote programs, such as the CWC programs, to protect the floodplains, riparian buffers, water quality and fisheries.

Under the NYCDEP Watershed Rules and Regulations and NYSDEC stormwater regulations, runoff volumes and characteristics from new development are not significantly negatively altered from current conditions. This is accomplished by using infiltration, retention, or detention basins, swales, curbs, terracing, or other means. The New York Stormwater Management Design Manual and New York Standards and Specifications for Erosion and Sediment Control is consulted for the design of erosion and sediment control practices to protect the water quality.

The new FIRM maps are used in conjunction with the local Flood Hazard Mitigation Plan and other local regulations. The GCSWCD recommends creating management plans for the Batavia Kill flood control structures, which will address an inspection schedule and coordination and implementation of rehabilitation activities as necessary. The GCSWCD also recommends the development of a comprehensive Emergency Action Plan (EAP), which will include response and emergency warning for failure of any Batavia Kill flood control structures.

Funding sources for the septic rehabilitation, stormwater retrofit and stream corridor stabilization are available through the CWC and NYCDEP. While the NYCDEP currently has no plans to modify the program rules to expand the geographic extent of the program or allow funding for systems that are not failing, we recommend that the septic rehabilitation program should be expanded to include all failed systems and systems that need to be upgraded to meet the requirements applicable for new system. Also, where sewer extensions are practical, the sewer mains should be extended to presently unsewered areas with potentially failing or substandard septic systems.

Further recommendations regarding the Batavia Kill and associated watershed can be found in the referenced Batavia Kill Stream Management Plan written by GCSWCD.

The following sections relating to the Batavia Kill Watershed should be considered:

- Section 8.1, Planning;
- Section 8.4, Use of Full Environmental Assessment Forms under SEQRA;
- Section 8.7.d, Specific Mitigation Strategies: Techniques to Evaluate and Protect the Batavia Kill Watershed.

## **5.5 Wildlife, Plants and Important Habitats**

### **5.5.1 Issues and Impacts Related to Wildlife, Plants and Habitats**

The Town is rich in wildlife diversity and quantity. There is no reported endangered wildlife in the area; however there are species listed by the New York Natural Heritage Program (NYNHP) as Special Concern and an endangered plant species. Additionally, there are Significant Natural Communities as designated by the NYNHP. Habitats are not directly protected by the Town.

Terrestrial and aquatic wildlife habitats are characterized by an intricate combination of living (biotic) and non-living (abiotic) variables present in the natural land formations. Habitat conditions, on the land and in the water, must be present in the right form, quantity, and location to support self-sustaining populations of wildlife species. Stream and riparian habitats provide important shelter, breeding grounds,

corridors for movement, and food sources for wildlife. Stream and riparian habitats are dynamic in nature and may change due to the forces of weather, climate, fire, forest succession, or development pressure.

The NYCDEP regulates certain activities within 100 feet of watercourses, which indirectly protect a portion of the area's wildlife habitats by protecting riparian areas. These are important wildlife travel corridors. Shoreline or stream bank vegetation (called the riparian zone) also contributes significantly to the health of the creeks by shading water, absorbing pollutants, and slowing floodwaters.

Disruption of travel corridors along streams and lakes, and forested slopes and ridgelines can occur when undeveloped land is converted to some other land use. Migratory behavior of some animals can be disrupted by placement of buildings, fences, or roadways. Excessive nighttime lighting can interfere with nocturnal migrations of birds. Fragmentation of forests can disrupt migrations, act as physical barriers, and reduce critical habitats that both plants and animals need.

Large areas subject to cutting and filling may change the microhabitat may modify vegetation growth. These may also act as physical barriers to migrations or other movements. Some bird species, for example, the Scarlet Tanager, require large areas of unbroken forest cover in order to survive.

#### **5.5.1.1 Wetlands**

Several New York State and federally protected freshwater wetlands are present within the Town. These wetlands are primarily located along the Batavia Kill and its tributaries. Wetlands perform numerous functions, including providing habitat for wildlife. Wetlands provide food sources and water, nesting and breeding areas. Additionally, wetlands remove excess nutrients and decrease the velocity and erosive powers of runoff, which reduces levels of natural and human-induced pollution in water as it filters through the wetland. Map 7 illustrates NYSDEC and NWI freshwater wetlands identified within the Town.

### **5.5.2 Detailed Description of Wildlife, Plants and Habitats**

#### **5.5.2.1 Birds**

Data from the NYSDEC website (finalized March 2007, edited by Kevin J. McGowan and Kimberly Corwin) were collected and analyzed to offer an inventory of bird life in the area. This New York State program determines the identification, location, and breeding status of breeding birds. However, this program does not record migratory birds that may be using the area temporarily during the spring or fall migration periods. Numerous birding enthusiasts have recorded many other species in the area, especially during migration seasons.

Within the Study Area, 114 different species of breeding, or probably breeding birds, have been recorded. Of these, 55 are listed as having "possible breeding" status, 34 listed as "probably breeding", and 25 listed as having "confirmed breeding" status. Out of the 114 species, ten (10) are considered game species, 95 are protected species, five (5) are protected with special concern, one (1) is threatened, and three (3) are unprotected.

According to NYSECL Section 24 and regulation Part 6 NYCRR 182.5, and New York State Conservation Law Section 11-0535, endangered, threatened and special concern species are defined and listed. The one (1) threatened species, the Bald Eagle, is listed as being observed in possible nesting habitat, but no other indication of breeding is noted; the presence of singing male(s) (or breeding calls heard) has been noted in breeding season. Protected species are defined in NYSECL 11-0103, and include wild game, protected wild birds, and endangered species. Species listed as threatened have the

The majority of the residential properties, as well as some larger facilities within the Town, currently treat wastewater with individual on-site sewage treatment systems (septic systems). Typically these residential systems consist of individual on-site subsurface sewage treatment system receiving less than 1,000 gpd, without the admixture of industrial wastes or other wastes as defined in the NYSECL Section 17-0701.

Septic tanks in the Study Area have capacities ranging from less than 1,000 gallons for typical residences, to reported capacities up to 18,000 gallons for large commercial properties such as the Windham-Ashland School. Based on a 1998 report prepared by Malcolm Pirnie, a total of 77 individual sewage treatment systems within the Town failed from 1993 to 1998. A majority of these systems were reportedly repaired, retested, and accepted by the NYCDEP. The operation of septic systems in the Town obviously are impacted by a high groundwater table or poor soil conditions.

### **6.3.2 On-Site Wastewater Treatment Systems (Septic Systems)**

#### **6.3.2.1 Regulation of Septic Systems**

Installation of septic systems for individual households or businesses is regulated by the following entities within the Study Area:

- NYSDOH through Part 75;
- NYCDEP Watershed Regulations; and
- Town Building and Code Enforcement.

While the NYSDEC is a primary regulator for septic systems with a design flow over 1,000 gpd, the NYSDOH has overall responsibility for regulating the installation and modification of individual household septic systems. This is accomplished through implementation of Code 75 and especially through the requirements of Appendix 75A of that code. Generally, the NYSDOH relies on towns to carry out regulations relating to the construction of proposed new septic systems, and/or modifications to existing systems, through the Building Permit process.

New development in the nature of hotels, restaurants or other facilities to house tourists is not practicable in Windham unless there is an existing wastewater treatment plant to service such development. The cost and time it takes to design, permit and construct new sewage disposal facilities given the limited potential revenues estimated for such facilities makes new facilities not cost effective. The potential regulatory roadblocks are described below.

Under the NYCDEP Watershed Regulations, all forms of sewage disposal are regulated. Under the NYCDEP Watershed Regulations, a new commercial or residential facility with a discharge of more than 1,000 gallons per day (gpd) has two options for sewage disposal: (1) an intermediate size subsurface sewage disposal system under Section 18-38; and/or (2) a wastewater treatment plant under Section 18-36. An “intermediate size subsurface sewage disposal system is a subsurface sewage disposal system utilizing a septic tank for subsurface disposal, treating sewage or other liquid waste for discharge to the ground waters of the state and where a SPDES permit is required for such system.” (Section 18-16 (a) (55)). While an intermediate size subsurface disposal system may be practical outside the NYC Watershed, the restrictions imposed on such systems under the Watershed Regulations makes the installation of new systems challenging and less cost effective within the NYC Watershed (Section 18-38(a) and (b)). Outside the NYC Watershed, if adequate soil to install a conventional trench system is not present, an applicant can install a variety of other systems such as intermittent sand filters, galley systems, seepage pits, wide chamber gravel-less systems, mounds systems, evaporation-transpiration systems,

evaporation-transpiration absorption systems or add some form of pretreatment (see DOH, Part 75, Appendix 75-A.8, A.9 and A.10.). According to the NYCDEP's interpretation of the NYCDEP Watershed Regulations, none of the above options are allowed within the NYC Watershed. While these technologies are prohibited for new construction, these technologies are often employed in septic system repairs or as part of a variance application. However, NYSDOH in their proposed revisions to Appendix 75-A will be prohibiting evaporation-transpiration systems and/or further restricting the standards for these systems. Currently within the NYC Watershed, the inclusion of some form of mechanical pretreatment results in the system being regulated as a wastewater treatment system under Section 18-36 which triggers an entire set of additional treatment requirements. However, recent revisions to the Watershed Regulations allow mechanical pretreatment for septic systems without changing the treatment requirements. Within the NYC Watershed, the soil percolation rates must be slower than three (3) minutes per inch (Section 18-38(b)); outside the NYC Watershed, soil percolation rates only need to be slower than one (1) minute per inch (Part 75-A.4(a)(3)). Within the NYC Watershed, an additional area of at least 100% of the primary absorption field shall be set aside as a reserve absorption field; outside the NYC Watershed, it is recommended that an additional area of 50% be set aside for future expansion or replacement, if possible (Part 75-A.4(a)(5)). While intermediate size subsurface sewage disposal systems that existed as of May 1997 are grandfathered, the City takes the position that upon any alteration, modification (such as a new bedroom) or failure, the regulations applicable to a new system apply (Section 18-38(a)(8)). Under the NYCDEP Watershed Regulations, the City also takes a position that if the system is not used for a year, the system loses its grandfathered status and the facility cannot reopen without complying with the regulations applicable to new systems (Section 18-38(a)(9) and 18-27(a)(4)). Since many existing residential and commercial lots do not meet the requirements for an intermediate size subsurface sewage disposal system under the Watershed Regulations (i.e., depth to groundwater, set back from a watercourse, depth to bedrock, maximum slopes, adequate reserve area, soil permeability, percolation rate), many existing businesses could be precluded from making any alteration, modifications or changes to their existing facility or business. An alteration or modification includes "any change in physical configuration, intensity of use, location, plans, design, site, capacity, treatment standard or method or other changes." For many property owners of commercial lots, the only technologically feasible alternative is connection to an existing treatment works or to build their own treatment plant.

~~Under the Watershed Regulations, a wastewater treatment plant is essentially any treatment system that requires a SPDES permit (Section 18-16(a)(110)).~~ The Watershed Regulations define a new wastewater treatment plant in Section 18-16(a)(111) as "any facility which treats sewage or discharges treated effluent in the Watershed, and which requires a permit under Titles 7 or 8 of Article 17 of the Environmental Conservation Law, installed for the purpose of treating, neutralizing, stabilizing or disposing of sewage by removal of contaminants accomplished by unit operations or processes or by a combination of such operations and processes, including any combination of the following: preliminary treatment, flow equalization, primary settling, biological treatment, chemical treatment, secondary settlement, filtration, aeration, disinfection, sludge processing, or any other processes as may be applicable to a given design for wastewater treatment plant." Wastewater treatment plants include plants that discharge subsurface and/or to a water course. Section 18-36 of the Watershed Regulations regulates the design and operation of all wastewater treatment plants in the NYC Watershed. With a few minor exceptions, Section 18-36 of the Watershed Regulations subjects the design and operation of all wastewater treatment plants to the same stringent requirements regardless of the flow rate. As a result, any wastewater treatment plant built to meet the requirements of the Watershed Regulations (no matter whether it is serving 20 homes, a small restaurant, a 30 room hotel or 300 homes) will cost in excess of \$1,500,000. Section 18-36(a)(10) requires all existing wastewater treatment plants to be upgraded to meet the requirements of Section 18-36 by May 1, 2002 (five years from the effective date of the regulations). The regulatory upgrades are listed in Section 18-36 and in Section 141 of the MOA. In addition to mandatory effluent limitations, the regulatory upgrades include the following: phosphorus removal, sand filtration, disinfection, microfiltration or an equivalent technology, stand-by power, power

alarm, automatic start-up capability, disinfection back-up, back-up sand filtration, recording flow meters, and alarm telemetering. Under NYSDEC regulations, the more equipment in your plant, the greater the staffing requirements. Also, under the Watershed Regulations, the NYCDEP must review and approve of the design of each new or modified wastewater treatment plant. The cost to design and construct an upgrade to an existing wastewater treatment plant within the Watershed ~~to~~ which meets the City Watershed Regulations for a typical household ranges from a low of approximately \$10,000 per residential unit to approximately \$200,000 per residential unit. The operating cost after the upgrade typically increases between 100% to 300%. However, since the NYCDEP pays for upgrade costs of existing (as of 1995) private WWTPs and all public WWTPs and the incremental O&M associated with the City's Watershed Regulations for such facilities, MOA existing wastewater users in the watershed will not face fees above those found elsewhere in the State. The O&M cost and the capital costs for small commercial operations (i.e., restaurants, small-hotels, small-resorts, not-for-profit organizations) with systems installed after 1995 and/or new commercial operations may be cost prohibitive ~~is generally much worse~~. Moreover, under the upgrade program, it has taken, on average, over five years to design, permit and construct an upgrade for a typical facility.

### **6.3.2.2 NYSDOH Policies and Approval Procedures**

The NYSDOH requires that percolation tests (perc tests) and deep-hole examinations be conducted by individuals proposing construction of new homes or added bedrooms to existing homes. The perc test determines if the soils on-site will allow the wastewater to pass through it at the proper rate to accomplish the required biological breakdown. The deep-hole examination is required to determine the presence of bedrock, very low or high permeability layers, a high groundwater table, or other issues that could prevent the proper functioning of a septic system.

The NYSDOH requires that, in every case, either the local Building Inspector or a qualified professional engineer should oversee both the perc test and the deep-hole examination.

If the perc test or deep-hole examination reveals that a conventional system cannot be installed, the property owner must have an alternative system designed by a qualified professional engineer. The completed design must be submitted to the NYSDOH and NYCDEP for final review and approval.

### **6.3.2.3 Catskill Watershed Corporation (CWC) Programs**

As stated above, the NYCDEP requires property owners to properly maintain individual on-site septic systems. This entails paying for periodically pumping out the settling tank and sometimes repairing or entirely reinstalling an improperly functioning system. By being in the NYC Watershed west of the Hudson NYC Watershed, homeowners within certain priority areas that have systems that are in failure are eligible for funding through specific CWC programs to repair or replace a home septic system. This program protects only a subset of property owners.

One alternative to address the high cost of septic systems is for the Town to form a septic maintenance district to assume responsibility for maintaining septic systems for those households that do not have access to a municipal or private sewer system. The Town would work with CWC to manage the septic systems within the district and to obtain funding from the CWC's Septic Rehabilitation Fund. In the meantime, under Public Health Law Section 1104, the Town may be able to obtain funding for the rehabilitation of the septic system required by the NYCDEP.

### **6.3.3 Soil Suitability for Septic Systems**

## 8.5 Required Permits, Approvals and Authorizations by the Town

Although this GEIS does not evaluate any specific proposed land use or project, it is appropriate to identify those required permits, approvals and authorizations needed for potential development in the Town. The following table identifies the approvals required and procedures followed. Future applicants should contact the Town to confirm which of the following are required and to obtain specific administration and process information.

**TABLE 29**  
**Description of Permits that May be Needed for Future Development**

Permit/Requirement	Needed For	Required/Issued By
Archaeology/Historic Review	Required when any state or federal agency undertakes, funds, or approves an action.	NYS Department of Parks, Recreation and Historic Preservation
Building Permit	Erection, construction, enlargement, alteration, improvement, removal, demolition of structure.	Town
Certificate of Occupancy	Required before any structure can be used, and issued after compliance with laws is checked.	Town
Construction in Highway ROW	Construction, reconstruction within the right-of-way of a public highway, including construction and repair of driveways, side roads, utility lines, drainage facilities.	County Routes – Greene County;  State Routes – NYS DOT
Construction in Navigable Waters	Any construction or reconstruction affecting navigable waters.	USACOE
Discharge of Materials into Water Bodies	Placement or discharge of dredged or fill materials into specified waters, including wetlands.	USACOE
Freshwater Wetlands Permit	Draining, dredging or excavating, building a structure or road, placing fill or introducing any form of pollution in designated wetlands and 100 foot adjacent area. (Please note that many activities are considered ‘incompatible’ with wetlands and may not be permitted.)	NYSDEC and/or USACOE
Historic District	Demolitions, changes in exteriors, and new construction in local historic districts.	Town
Junkyard	Receiving, storing, keeping junk.	Town
Mining	Mining and excavation of over 1,000 tons per year.	NYSDEC

concentrate on the ability of the soil to allow for a septic system, and the ability of the soil to accept the type of building being proposed. Secondary factors should include the runoff rate and erodibility of the soils for stormwater controls or BMPs. When a project is reviewed, specific soil information to be analyzed includes a discussion of the physical characteristics of the soil that may pose limitations and identification of the capabilities of the soils on-site.

The NYSDEC SPDES General Permit (GP-0-0810-001) authorizes stormwater discharges to surface waters of the State ~~U.S.~~ (including wetlands) from construction activities. An owner or operator must develop a SWPPP required by the General Permit and must submit a Notice of Intent (NOI) to the NYSDEC for authorization.

The New York Stormwater Management Design Manual and New York Standards and Specifications for Erosion and Sediment Control should be consulted for the design of erosion and sediment control practices. Erosion and sediment control practices range from the placement of hay or silt fence for containment of soil to the construction of impoundments and drainage ditches for the containment of water and soil. Seeding, netting, mulching and covering excavated or stockpiled soils are vital to prevent erosion and sedimentation. These are normally specified within a SWPPP for projects where more than one (1) acre of soil is or will be disturbed.

b. Techniques to Evaluate and Protect Aquifers and Well Recharge Areas – All Projects:

During project review of all new construction within Water District No. 1, the impact of the proposed construction and use on the Town water system should be assessed and mitigated where necessary.

The amount of water required for new development varies substantially depending on the project. The water requirements for an area to be developed as single-family residences are considerably different than the requirements for a commercial or industrial project. In the Town, private wells are predominantly bedrock wells. The location of proposed development to the existing private and municipal drinking water wells needs consideration.

The location of the unconsolidated aquifers (see Maps 6A and 6B) should also be taken into consideration to protect groundwater discharging to streams within the NYC Watershed, and ultimately the NYC drinking water supply. Placing limits on well yields may be necessary under certain conditions to allow for proper recharge of the aquifer. These limits can be determined only on a case-by-case basis and are both location and project specific.

For development of proposed water supply wells, site-specific hydrologic research, testing and verification are important considerations during the planning process. Project sponsors must determine whether the required volume of water for the project is available. Further, during project design and review, aquifer testing is necessary to determine the safe yield that can be withdrawn. Appropriate limits on well yields can only be determined after such a study so that pumping at a well on one property does not decrease the yield from wells on surrounding properties. Proposed projects should detail the basic water supply needs at the project site.

The Planning Board should start the project review by comparing proposed project water needs with the recharge areas (see Maps 6A and 6B). This will aid in making a determination if further hydrological studies are appropriate. The Planning Board should, however, be aware that projects may individually and cumulatively impact the overall aquifer. Use of heavy construction equipment, paving over large areas with impervious surfaces, and significant compaction of soils over large areas should be avoided or minimized in known aquifer recharge areas.

c. Techniques when Streams, Wetlands, and Floodplains are Present:

The NYSDEC regulates land use activities within a 100-foot area adjacent to wetlands that are greater than 12.4 acres or have a significant value as determined by the NYSDEC. The NYCDEP prohibits certain activities from taking place within 100 feet from a stream. The Watershed Regulations also regulate certain activities within 100 feet of watercourses and NYS-regulated wetlands. The mitigation strategies presented herein will require that wetland be field-verified in proposed project areas.

During the project review process, the Town should be aware of State regulations contained in 6 NYCRR Part 608 (Use and Protection of Waters) that require a permit from NYSDEC for all activities that disturb protected streams, use dams and impoundment structures, place docks and moorings, and excavate or fill in navigable waters. Protected streams within the Study Area have been mapped by NYSDEC and are also contained in the GIS developed for this impact statement. They include streams with the designation of A, A(t), A(ts), B, B(t), C(t), or C(ts) (see Map 7).

In addition, the USACOE regulates activities involving the discharge of dredged or fill material in the water of the U.S. under Section 404 of the CWA and the placement of structures in navigable waters of the U.S. under Sections 9 and 10 of the Rivers and Harbors Act of 1899. The USACOE has no size limitations to jurisdictional wetlands; therefore regulatory requirements may exist for wetlands that are not protected by the NYSDEC. A NYSDEC WQC may be necessary if only a USACOE wetlands permit is required.

Additionally, the Town should continue using the Town's Flood Hazard Mitigation Plan, adopted in 1999, which makes recommendations to protect floodplain areas. The recommendations include: "landowner assistance with the interpretation of Flood Insurance Rate Maps (FIRM), the establishment of a flood protection library, flood hazard disclosure, creation of a flood damage reporting system, updates to the FIRMs, improvement of roadway drainage features, maintenance and operation of the flood control structures, and the Batavia Kill Stream Management Pilot Project" (Town of Windham Comprehensive Plan). The pilot project produced the Batavia Kill Stream Management Plan prepared by the GCSWCD. This plan recommends stream management practices to improve the stability, ecology, and water quality of the Batavia Kill. The Town should also consider updating the Flood Hazard Mitigation Plan to include recommendations made in the in the Batavia Kill Stream Management Plan.

d. Techniques to Evaluate and Protect the Batavia Kill Watershed

The majority of the Town is located within the Batavia Kill Watershed which is part of the NYC Watershed. The NYC Watershed Rules and Regulations protect the watershed from impacts and pollution sources generated by certain land uses and activities and should be referenced when certain land uses and activities are taking place in the proximity of a watercourse or wetland. Most regulated activities are prohibited by the NYCDEP within the limiting distance of 100 feet of a watercourse or wetland.

The CWC provides assistance through Watershed Protection and Partnership Programs. Additionally, the NRCS and the GCSWCD can provide information on soils characteristics and BMPs that can be used to properly place structures and systems within the watershed.

e. Techniques to Evaluate and Protect Historical and Archaeological Resources – All Projects: