

2.4. NATURAL RESOURCES

Briarcliff Manor's image and character is shaped as much by the high quality of its natural setting as by its built environment. The Village's character is created by large privately owned open space parcels and golf courses, parkland, brooks, streams and the Hudson River and an abundance of trees. The protection of these features is essential to the preservation of Briarcliff Manor's unique community character.

2.4.1 Natural Resource Features

Significant environmental systems and features are steep slopes, floodplains and freshwater wetlands, fragile soils, and other prominent natural features. Each of these features is and should be a unique community resource.

Topography

Briarcliff Manor is generally hilly with moderate to steep slopes. Land rises from an elevation of between 0 and 99 feet above sea level, adjacent to the Hudson River in the Scarborough area, to a maximum of between 500 and 599 feet in two small areas in the northern part of the Village, east and west of Old Briarcliff Road. Land in the central part of the Village is between 400 and 499 feet in elevation. Further east, the terrain is not as steep, with elevations between 200 and 299 feet. The Village's topographical variations are shown in Figure 2-6.

Soils

The physical properties of soil have, to a great extent, determined land use in given areas and have important implications for future development. Consideration of the engineering properties of the soil present on a site should be an integral part of site design. Misinterpreting the characteristics of soil cover or geological

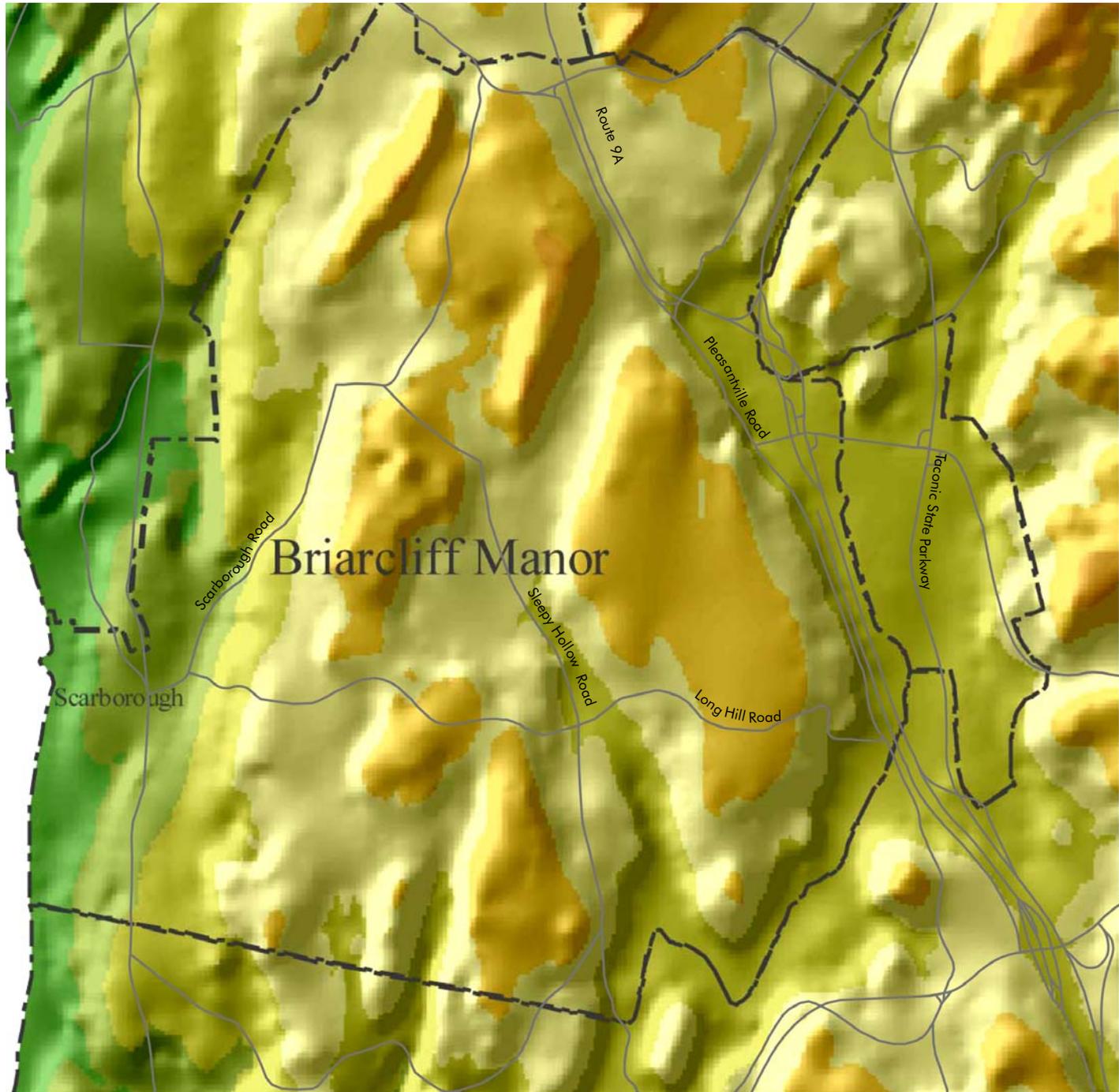
foundations may result in structural failures or higher construction and maintenance costs.

Soils are classified by the Natural Resource Conservation Service into four Hydrologic Soil Groups (HSG) based on the soil's runoff potential. The four Hydrologic Soils Groups are A, B, C and D; A's generally have the smallest runoff potential and D's the greatest. Soils in the Village are shown in Figure 2-7. The characteristics of the Village's predominant soil types by HSG are described below:

Group A is sand, loamy sand or sandy loam types of soils. It has low runoff potential and high infiltration rates even when thoroughly wetted. This group consists chiefly of deep, well to excessively drained sands or gravels and has a high rate of water transmission. Little of the soil in the Village is of this type. Woodbridge loam (WdA) is located in five small scattered areas of the Village: the area around Dalmeny Road, two locations in the Chilmark neighborhood west of Old Briarcliff Road, and vertical bands in the central and east central parts of the Village. The soil is very deep and nearly level, with slopes between 0% and 3%; thus the likelihood of erosion is slight.



Road Descending toward Hudson River



Elevation in Feet

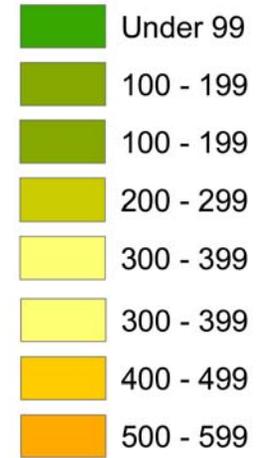


Figure 2-6: **TOPOGRAPHY**



 Slopes 15-25% and over



Figure 2-7: **SOILS**

Group B is silt loam or loam. It has a moderate infiltration rate when thoroughly wetted and consists chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. Paxton fine sandy loam (PnB) and Woodbridge loam (WdB) are located in bands down the western and eastern portions of the Village. PnB is found on gently sloping broad ridges and small hills with slopes between 2% and 8% and WdB is on the lower parts of hillsides with slopes between 3% and 8%. The risk of erosion of these soils is slight to moderate.

Group C soils are sandy clay loam. They have low infiltration rates when thoroughly wetted and consist chiefly of soils with a layer that impedes downward movement of water and soils with moderately fine to fine structure. **Most of the soil in the Village is this type.** The Charlton-Chatfield complex (CrC) is located throughout the central and northern parts of the Village on the tops and sides of hills underlain by highly folded bedrock, with slopes between 2% and 15%. Paxton fine sandy loam (PnC) with 8% to 15% slopes is located in bands along the eastern and western parts of the Village on the sides and tops of broad ridges and small hills. The risk of erosion of these soils is slight to moderate.

Group D soils are clay loam, silty clay loam, sandy clay, silty clay or clay. This HSG has the highest runoff potential, as it has very low infiltration rates when thoroughly wetted. It consists chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. Large areas of Chatfield-Charlton complex (CsD; not to be confused with CrC soils) are located throughout the Village on the tops and sides of hills underlain by highly folded bedrock. Swaths of Paxton fine sandy loam (PnD) are located along South State Road, Sleepy Hollow Road and the Old Croton Aqueduct. The slopes are between 15% and 25% (PnD) and 15% and 35% (CsD); thus the runoff rate for these soils is rapid and the risk of erosion is severe.

Drainage

A drainage basin is the land area whose water runoff flows into a particular stream or tributary. One drainage basin is separated from the next by the crests of hills. Briarcliff Manor is located within four basins (See Figure 2-8). Runoff from a particular parcel of land can have an impact on other parcels within the same basin. Most land in the Village lies within the Pocantico River Basin. Major streams in this basin are Gory Brook, which runs parallel to Andre Way, and Caney Brook, which runs east and west of Sleepy Hollow Road. Both drain into the Pocantico River and ultimately into the Hudson River. The southwest part of the Village is within the lower Hudson River Basin, with its major stream draining directly into the river. The western and northern parts of the Village are in the Sparta Brook Basin. Sparta Brook, located west of Old Briarcliff and Scarborough Roads, winds its way across Route 9 and drains into the Hudson River. Some land in the northernmost part of the Village near Pleasantville Road is within the Oliver Pond Basin which extends north into Ossining.



Streams in the Spring and Winter

Wetlands

Briarcliff Manor's wetlands are largely clustered in the eastern part of the Village, adjacent to the Pocantico River and Lake, Route 9A, and the Taconic State Parkway (See Figure 2-9). One significant wetland

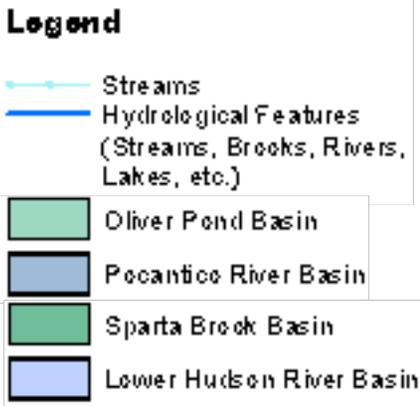
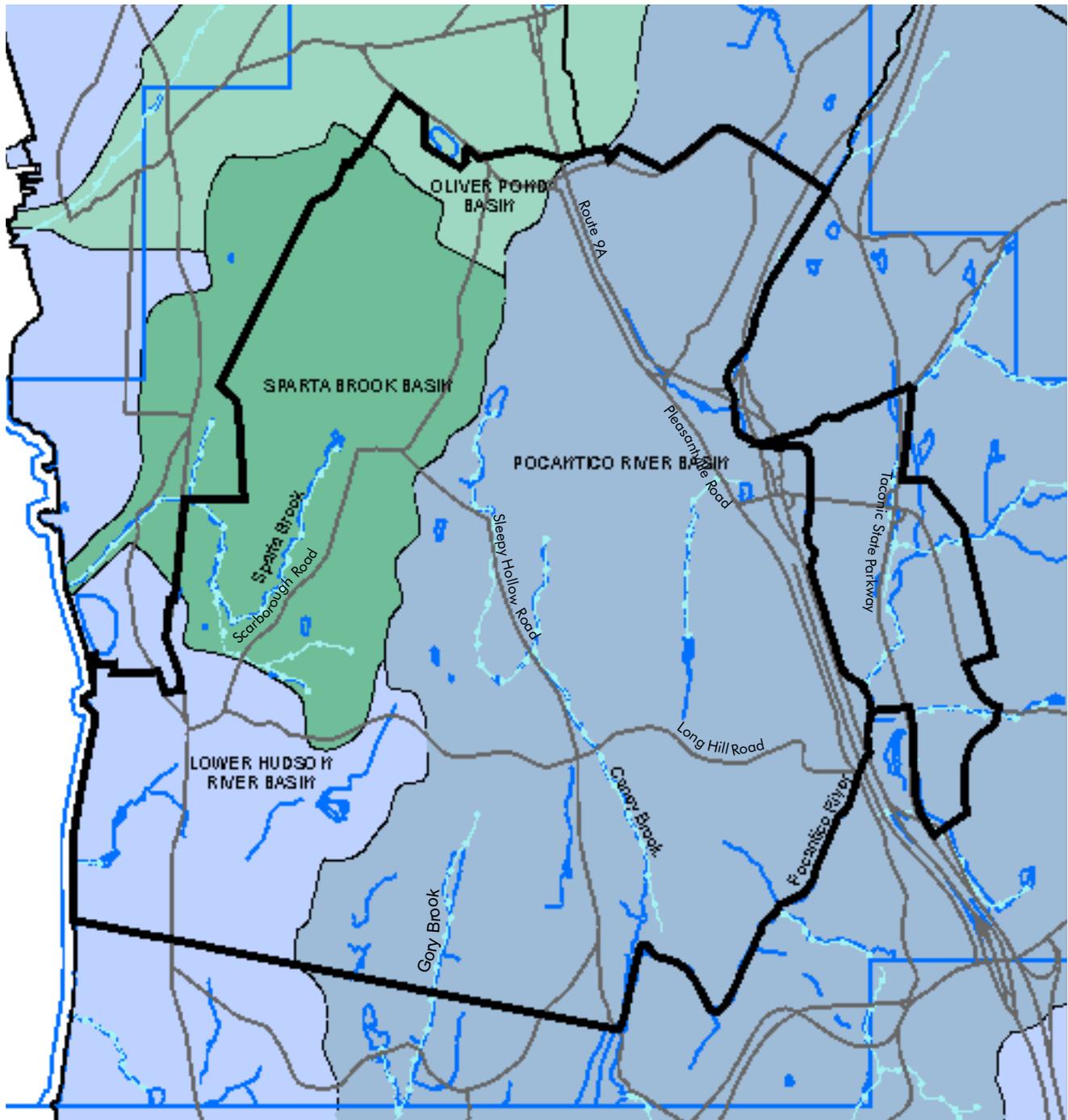


Figure 2-8: **SURFACE HYDROLOGY**

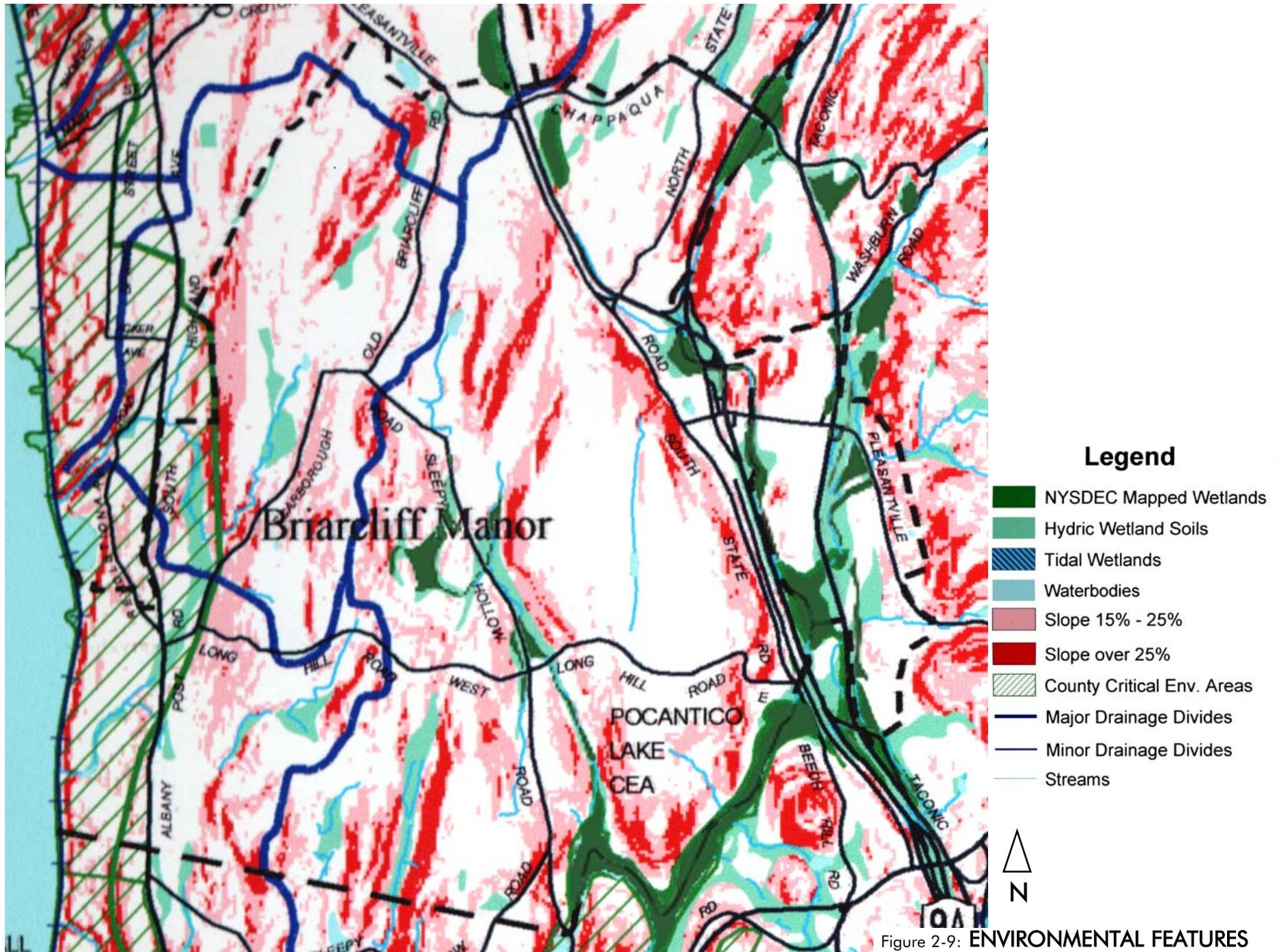


Figure 2-9: ENVIRONMENTAL FEATURES

EXISTING CONDITIONS

Natural Environment

system is located in the central part of the Village, extending north from the Pocantico River, along the Caney Brook, to an area west of Sleepy Hollow Road and south of Scarborough Road.



Wetland alongside Sleepy Hollow Road

Wetlands are important wildlife habitats. They also serve many functions which make them critical for sustainable development:

- Protecting subsurface water resources
- Treating pollutants by serving as biological and chemical oxidation basins
- Controlling erosion by serving as sedimentation areas and filtering basins, absorbing silt and organic matter
- Serving as a source of nutrients for freshwater fish and
- Creating open space corridors which can maintain the natural character of the community.

The most important functions are water retention and flood control. Upland wetlands retain runoff from surrounding developed areas and gradually discharge it into their outflow streams, thus preventing a rush of water and increased flooding in low lying areas.

Critical Environmental Area

A Critical Environmental Area (CEA) is land designated by the New York State Department of Environmental Conservation (NYSDEC) requiring special protection under State Environmental Quality Review

(SEQR) regulations. To be designated as a CEA, an area must have an exceptional or unique character with respect to one or more of the following:

- A benefit or threat to human health
- A natural setting, such as fish and wildlife habitat, forest and vegetation, open space and areas of important aesthetic or scenic quality
- Agricultural, social, cultural, historic, archaeological, recreational, or educational values or
- An inherent ecological, geological or hydrological sensitivity to change that may be adversely affected by any change.

In Westchester County, all land adjacent to the Hudson River is designated as a CEA. In Briarcliff Manor, all land west of the Old Croton Aqueduct as well as an area east of the Old Croton Aqueduct and west of the southern section of Route 9 is within the Hudson River CEA. A very small southern portion of the Village is also in the Pocantico Lake CEA (See Figure 2-9). The potential impact of any Type I or Unlisted Action on the environmental characteristics of land within the CEAs is a relevant area of environmental concern and must be evaluated in the determination of significance prepared pursuant to Section 617.7 of SEQR. Identification of environmental impacts and associated methods of mitigation are necessary prior to local and state agencies committing to, funding, or approving any proposed action.

Flood Hazard

The 100-year flood boundary has been determined for all of the waterbodies in Briarcliff Manor by the Federal Emergency Management Agency (FEMA). For land use planning purposes, the regulatory floodplain is usually viewed as all lands within reach of a 100 year flood, defined as a flood event that has a one percent chance of occurring in any given year. FEMA produces floodplain maps, defining which land is in and out of the 100-year floodplain in order to implement the National Flood Insurance Program. These flood hazard areas are shown in Figure 2-10.

The Pocantico River Flood Study identified areas in the Village that are prone to flooding (See Figure 2-11). These areas are largely located in the Tree Streets neighborhood:

- Areas west of Route 100 and north of Pleasantville Road encompassing the youth center and adjacent municipal property
- Areas west of Todd Lane, north of the Pocantico River
- Areas just north of Pleasantville Road, between Washburn Road and Horsechestnut Road, east and west of the river
- An area south of Pleasantville Road, west of the Pocantico River and east of Route 9A
- Areas south of Pleasantville Road, east of the Pocantico River along Ash Road, the western end of Oak Road and Jackson Road Park



Jackson Park

2.4.2 Local Controls Protecting the Environment

A number of steps were taken by the Village to protect its natural resources and preserve open space. Laws regulating flood damage prevention (1987), wetlands (1976), tree preservation (1996), creation of a Conservation Advisory Council (1972) and adoption of the Westchester County Greenway Compact Plan (2004) were adopted to ensure protection of the Village’s key natural features. Other controls, such as steep slope protection (1984) and conservation subdivision provisions (1999) have been incorporated into the zoning regulations.

Flood Damage Protection

The flood damage protection ordinance regulates uses that may cause erosion or significantly increase flood heights or velocities. The ordinance also controls the alteration of natural floodplains or other hydrological features, and regulates the construction of flood barriers which may unnaturally divert floodwaters or increase flood hazards. Areas of special flood hazard are identified in Flood Insurance Rate Maps and Flood Boundary-Floodway Maps as prepared by FEMA in 1977. Land within designated special flood hazard areas is subject to construction standards described in Chapter 127 of the Village Code Flood Damage Protection. Conformance to standards is the responsibility of the Code Enforcement Officer who has authority to grant or deny development permit applications.

Remaining large parcels for development have hydrological features (steep slopes and varying drainage characteristics) that must be evaluated for specific development which may influence the extent of future development.

Freshwater Wetland Protection

The Village adopted wetland legislation to recognize the invaluable benefits of wetlands. In the past, wetlands in the Village were lost or impaired due to unregulated draining, dredging, filling, excavating, construction and pollution. The legislation addressed these activities to protect and even increase the designated acreage of Village wetlands.

The Village and the Department of Environmental Conservation (DEC) have different wetlands regulations. The Village requires a 50-foot wetland buffer within which no building is permitted. DEC requires a 100-foot wetland buffer within which some construction is allowed. Wetland boundaries are indicated on the Wetlands Control District Map (1971) on file with the Village Clerk. The Village’s Conservation Advisory Council (CAC) makes recommendations on wetlands permit applications prior to their issuance by the Village. Discrepancies related

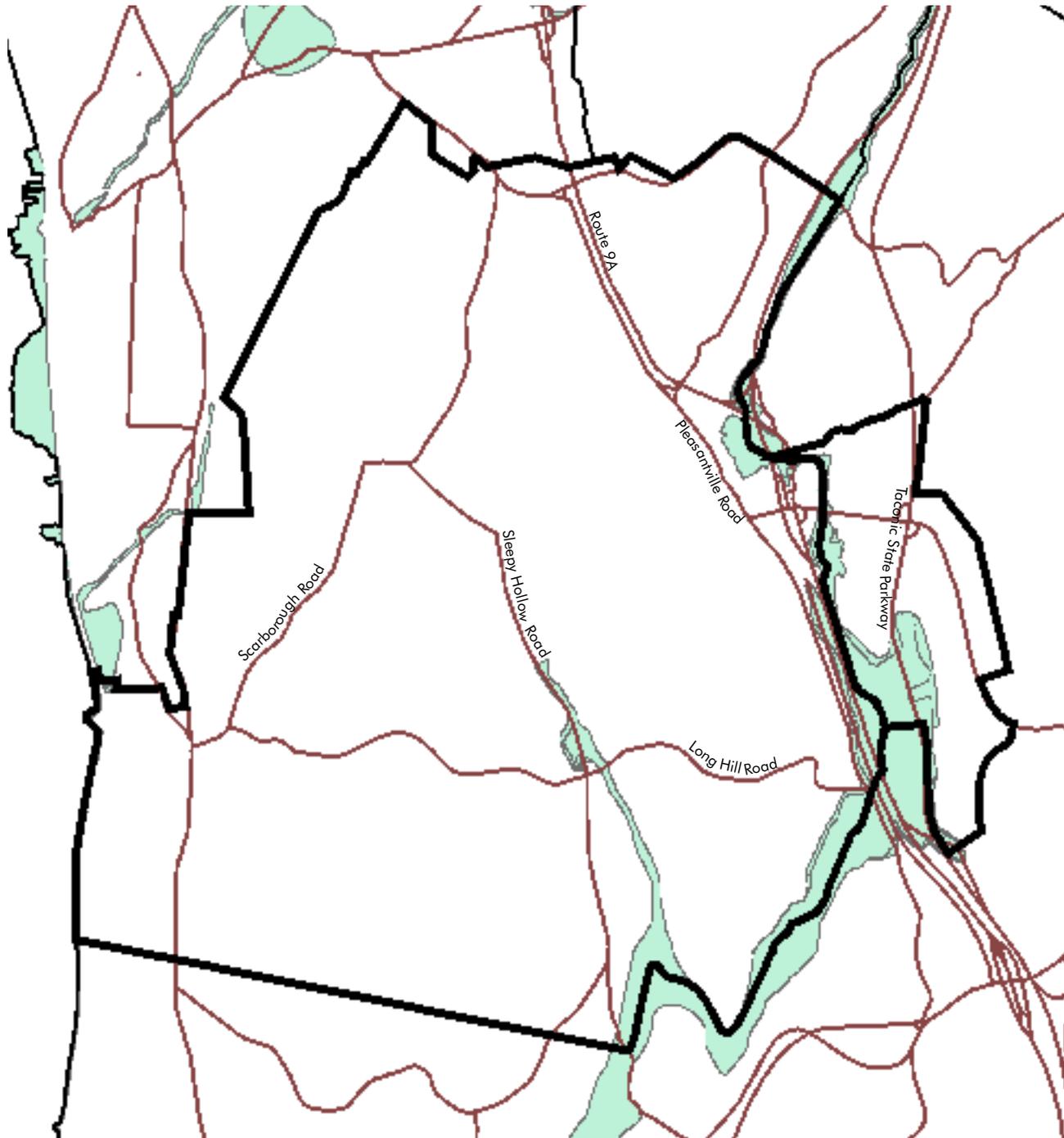


Figure 2-10: FLOOD HAZARD AREAS

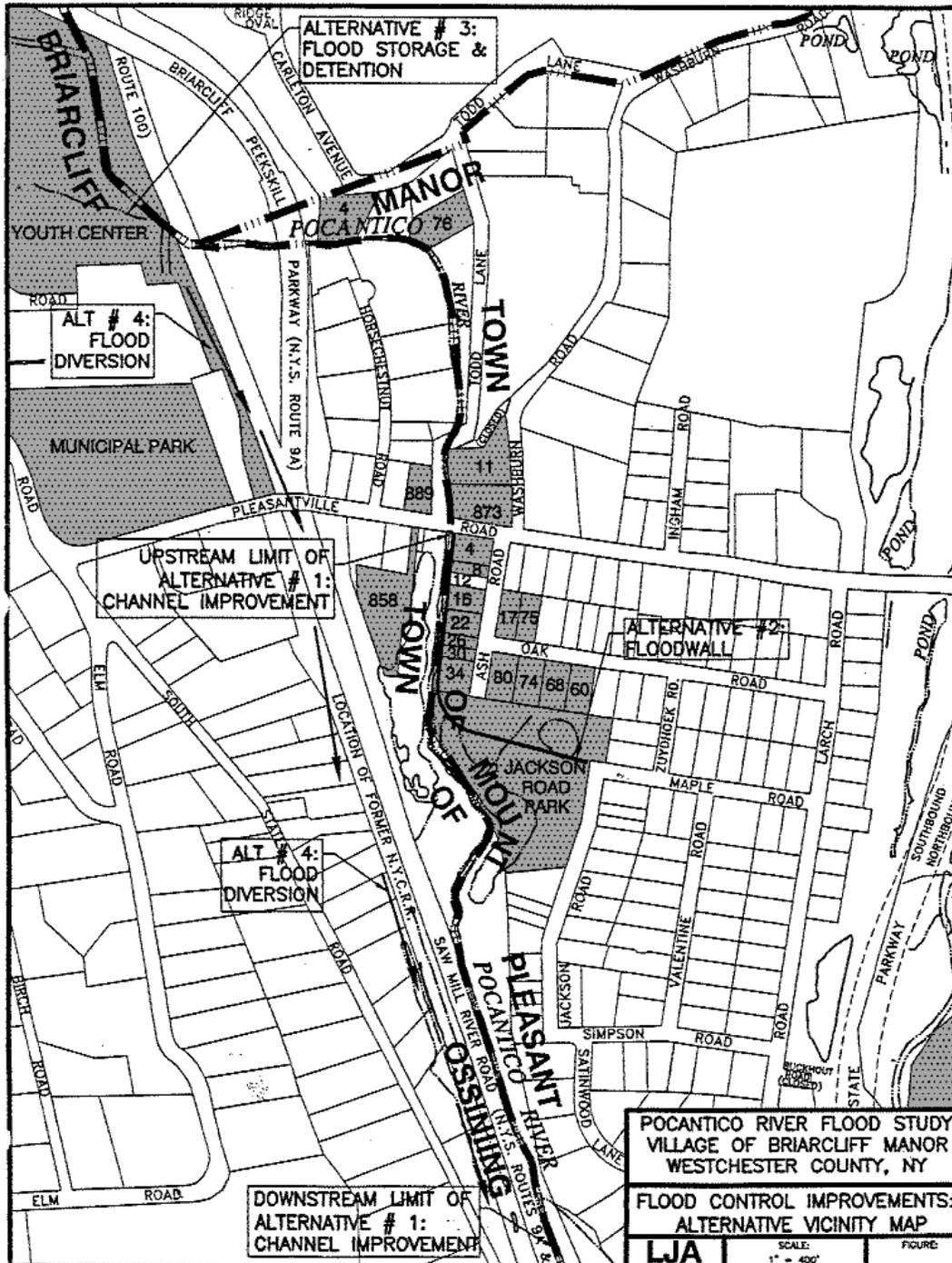


Figure 2-11: AREAS PRONE TO FLOODING

EXISTING CONDITIONS

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to the location or designations of wetlands are referred to the DEC and the Soil Conservation Service of the U.S. Department of Agriculture.

Tree Preservation

The abundance of trees creates the bucolic character of the village. In addition to their aesthetic quality, trees provide shade, natural habitats, water absorption and retention, and prevent soil erosion. Trees also reduce the greenhouse effect (created when heat from Earth is trapped in the atmosphere due to high levels of carbon dioxide [CO₂] and other heat-trapping gases) by removing and storing the carbon from CO₂ while releasing oxygen back into the air.

On privately-held developed property, the tree preservation regulation (Section 202-3) allows the removal of two or fewer trees in the regulated setback zone (10-foot width along the perimeter on the rear and sides of a house) within each calendar year without a permit, provided they are not



Linden Circle

significant trees, meaning they are not unique due to location, aesthetic properties, species or historical value. Significant trees require a permit for removal. The removal of a tree on a property is not regulated if the tree has a DBH (diameter at breast height) of less than seven inches, a DBH of less than four inches when located on slopes under 15%, or if the tree endangers adjoining property, is diseased or threatens the health of other trees.

The Code Enforcement Officer has the authority to issue permits for tree cutting and removal, subject to the Tree Preservation Board. This board is comprised of the Village Manager, the Chairperson of the Conservation Advisory Council and the Planning Board. Approval of

site plan or subdivision applications and special permit applications by the Planning Board and Board of Trustees requires either a tree removal permit or a tree preservation plan. These identify trees to be removed and/or planted and set forth measures to protect trees before, during and after construction.

Conservation Development

According to the Village code, a conservation subdivision is a subdivision whose density (houses per acre) and housing type remains determined by the site's zoning but where the lots are allowed reduced setbacks, overall area, and parking requirements so that they can be clustered. The land that is not a road or house lot is then set aside as open space; thus the

"conservation" aspect of this type of subdivision. The code states that such land shall be "open space areas having meaningful scenic, ecological, environmental and /or recreational characteristics." Further, such open space must be legally preserved, with development rights removed. The land is either held in common by the private lot owners, deeded to a "recognized conservation organization," or offered for dedication to the Village for public ownership. It is at the applicant's discretion whether to submit an application as a conventional or conservation subdivision. Section 220-7 of the Village code's zoning chapter defines and regulates such conservation subdivisions.



Briarbridge Conservation Development

Steep Slopes

The Village amended the zoning ordinance in 1984 to add provisions to restrict development on slopes of 15 percent or greater.



Trump Golf Course

The Planning Board determines the impacts of development on the sloped area and is empowered to mitigate the impacts. Development on slopes between 15 and 25 percent is prohibited except when, in the opinion of the Planning Board, the use is permitted within the zoning district, and will not create an adverse impact on the natural resources of the Village (e.g. land erosion and flooding). Development on slopes 25 percent or greater is prohibited unless the Planning Board determines that such development is deemed necessary for access, land or natural resources preservation or enhancement or some other necessary purpose. With these exceptions, the Planning Board may require additional precautions during development to protect steep slopes.

Conservation Advisory Council (CAC)

The Village created a CAC to advise the Village on matters relating to environmental protection. The specific powers and duties of the CAC, described in Chapter 18 in the Village's Code, are:

- Advising the Board of Trustees on matters affecting the preservation, development and use of the natural and man-made features and conditions in the Village
- Developing a program of public information to foster increased awareness of environmental issues in the Village
- Maintaining an up-to-date inventory of all open spaces in public or private ownership within the Village
- Working in conjunction with the Planning Board to recommend plans and programs relating to environmental improvement for inclusion in the Village's Master Plan, recommend changes in existing local laws and ordinances related to environmental control and recommend new local laws and ordinances
- Submitting an annual written report to the Board of Trustees concerning the activities and work of the Council over the course of the year

Westchester County Greenway Compact Plan

The Hudson River Valley Greenway (HRVG) is a voluntary regional strategy for preserving scenic, natural, historic, cultural and recreational resources while encouraging compatible economic development and maintaining the tradition of home rule for land use decision-making. In June 2005, the Hudson River Valley Greenway approved Westchester County's own Greenway Compact Plan, entitled *The Greenprint for a Sustainable Future*.

Westchester County is one of only two counties in the 13-county Greenway region that has an approved Compact Plan. Briarcliff Manor is one of many Westchester municipalities to have taken action to become a Compact Community. The Village adopted the compact in November 2004. A Compact Community must adopt a local law amending the local zoning ordinance to state that consideration will be given to *Greenprint* policies when certain land use decisions are made.

Briarcliff's local law states that the Village adopts the statement of policies and principles detailed in the Compact Plan. These are:

- **Natural and Cultural Resource Protection:** Protect, preserve and enhance natural and cultural resources including natural communities, open spaces, historic places, scenic areas and scenic roads.
- **Regional Planning:** Encourage communities to work together to develop mutually beneficial regional strategies for natural and cultural resource protection, economic development, public access and heritage and environmental education.
- **Economic Development:** Encourage economic development that is compatible with the preservation and enhancement of natural and cultural resources with emphasis on agriculture, tourism and the revitalization of existing community centers and waterfronts.

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- **Public Access:** Promote increased public access to the Hudson River through the creation of riverside parks and development of the Hudson River Valley Greenway Trail System with linkages to the natural and cultural resources of the Valley.
- **Heritage and Environmental Education:** Promote awareness among residents and visitors about the Valley's natural, cultural, scenic and historic resources.



Potential Kayak Launch Site at Scarborough Park

Participation in the Compact qualifies the Village to receive benefits such as technical and funding assistance from HRVG and possible scoring preference over non-compact communities in the evaluation of applications for other state grants. Grant money can be used for projects such as updating a comprehensive plan and zoning ordinance or the undertaking of special land use studies.

Phase II Stormwater Management Programs

Land development often eliminates features that moderate stormwater runoff, exposing soil to erosion. Intensified runoff carries soil and other pollutants into streams, lakes, rivers and estuaries. It can cause bank erosion and flooding to downstream communities and cause road washouts and flooded basements to upstream communities. Excessive stormwater runoff can become a costly and sometimes dangerous problem. Preventing these problems requires precautions during and after land development. Because local governments have principal responsibility for controlling land use and development, federal and state law requires urbanized communities, including Briarcliff Manor, to establish Phase II stormwater management programs. The goal is to retain or absorb stormwater on developed sites to the maximum extent possible. The quantity, rate and quality of runoff should not be

significantly different from what they were before the sites were developed. Local stormwater programs which incorporate the Stormwater Phase II Minimum Control Measures must be fully functional by January 8, 2008.

The New York State Department of State recommends adopting a regulation for stormwater management as a local law under the Municipal Home Rule Law, rather than as an ordinance under New York General City Law or Village Law. (When adopted under the Municipal Home Rule Law, a local law has the same status as an act of the New York State Legislature. Enactment by local law has the benefit of constitutional and home rule authority.) Stormwater management is a necessary part of all land development projects. Thus, the most straightforward way to establish local control of stormwater impacts during and after construction is to amend the existing local laws and ordinances that govern zoning, subdivision and site plan review to address impervious surfaces and excessive stormwater runoff. Making use of existing local land use controls avoids the need to create a new permit for stormwater management. In one example, conservation subdivisions may be an effective development tool to reduce the percentage of impervious surface and provide open space and natural areas that are useful for managing stormwater runoff. Second, low-impact development may be used to complement other land use tools. Its goal is to mitigate construction and post-construction impacts to land, water and air. By integrating site design and planning techniques such as narrower streets and bioretention areas, the Village could conserve hydraulic functions and natural systems on site and reduce stormwater runoff from the site.

The local law must include the requirement that developers submit a Stormwater Pollution Prevention Plan (SWPPP) to the Village with any application for a land use approval. It must also include sanctions for non-compliance. An effective Village stormwater management program will require the development of procedures for inspections and enforcement. The Village is currently working toward compliance with the Phase II regulations. As part of its commitment to the Department of Environmental Conservation (DEC), the Village is

required to enact an ordinance and obtain a permit under GP-02-02. Stormwater runoff on new lots and subdivisions are regulated by existing local controls and will be further controlled by the new Phase II Stormwater regulations. However, stormwater runoff on existing lots in the older parts of the Village is not regulated under The Phase II mandate. Preventing runoff from lots pre-existing onto nearby lots may require stronger enforcement of Section 127, Flood Damage Prevention, of the Village code, Section 161, Property Maintenance, and/or the final approval requirements for subdivision, under chapter 190, Subdivision of Land.

2.4.3 Planning Issues

While Village regulations protect the natural environment, more can be done.

Steep Slopes

Provisions to control development in areas with steep slopes (e.g. slopes of 15% or greater) are described in the zoning ordinance, Section 220-15 Protection of Natural Resources. Many of the major remaining undeveloped or underutilized properties contain steeply-sloped land. Pressure to build may

strengthen because of the limited amount of available land in the Village. Building on steep slopes can result in stormwater sheet flow impacts into neighboring lots downhill and soil erosion, which can



Steep Slopes along Scarborough Road

lead to a loss of habitat and vegetation. The current regulations provide the Planning Board with some flexibility in administering the regulations. However, this exercise of discretion is not clearly defined.

Tree Preservation

The Village's tree preservation regulation controls the cutting of trees on the perimeter of privately-held developed properties, consisting of an area 10 feet deep, measured from the side and rear property lines. However, tree cutting is not regulated on the front of a property or in its interior, provided the tree is not considered significant or does not have a diameter at breast height (DBH) that would require a permit. While some concern was expressed about this, the Village government may wish to identify the depth of the concern and the problems that have been created by allowing homeowners to cut trees. It appears clear that the code's penalty and enforcement provisions are minimal. Village-imposed fines are constrained by state law: the maximum fine of \$350 (\$700 for two or more offenses in the same year) may not be a deterrent.

Open Space Resources

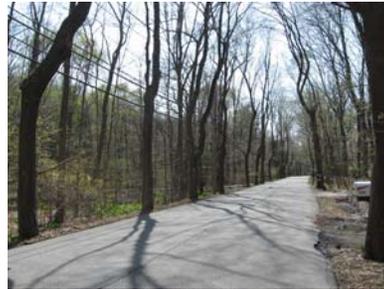
Section 220-7 of the Village code includes some criteria for determining types of land that should be Village-designated as open space. This would be land that has meaningful ecological, scenic, environmental and/or recreation features. The code does not identify particular parcels and areas in the Village that should be dedicated as open space (e.g., have no further development rights). Such identification, for example in an open space inventory, would assist the Planning Board when determining open space requirements of subdivision applications.

EXISTING CONDITIONS

Natural Environment

Views

While many areas of Briarcliff Manor are lovely, the southern portion in particular is known for its views, given the greater hilliness here. One area along Ridgecrest Road ascends from Scarborough Road up to Long Hill Road West and provides views of the Hudson River. Many houses are situated on lots with steep slopes. Some residents feel that views to the river are obstructed by new construction and evergreen trees planted as privacy screens. In other hilly areas throughout the Village, some houses appear in scale from the front, but out of scale from the back of the property which sometimes face adjacent developments.



Deep View along Tree-Lined Street

Wetlands

The Village's wetland buffer requirement differs from NYSDEC. The Village currently requires a 50-foot no-build buffer while the state requires a 100-foot wetland buffer. The state recommends one hundred feet as the *minimum* buffer width for water quality and wildlife protection.