

7. NATURAL RESOURCES, PARKS AND OPEN SPACE

Nyack's image and character is shaped as much by the high quality of its environmental setting as by its built environment. These assets contribute significantly to the quality-of-life of Nyack's residents and to its attraction for visitors and businesses alike. The protection and enhancement of these resources are essential to the preservation of the Village's special community character.

7.1 NATURAL RESOURCES AND SUSTAINABILITY

Since the 2007 Comprehensive Master Plan, sustainability planning has taken center stage in Nyack, as it has across the region and the world. This reflects a number of factors, including more development pressure on a diminishing supply of land; greater awareness of the environmental impacts of human activities; and broader issues such as water quality, flood impacts and global warming.

In 2013, Nyack established a Sustainability Desk in its Planning Department and the volunteer position of Sustainability Coordinator, charged with implementing actions recommended in the Village's *Green Infrastructure Report* and that align with regional initiatives such as the New York State Energy Research and Development Authority's (NYSERDA) Cleaner Greener Communities program and the New York State Department of Environmental Conservation's (NYSDEC) Hudson River Estuary Program. That same year, Nyack adopted the pledge to become a Climate Smart Community, tapping into a State program that provides education and technical support to local communities in dealing with the causes and effects of climate change.

The Village has enjoyed great success in receiving grants to carry out its sustainability planning efforts, which have supported initiatives including the *Sustainable Nyack Action Plan* and this Comprehensive Plan. It has also enlisted the assistance of local and regional partners such as Scenic Hudson, NYSERDA, Keep Rockland Beautiful and the Towns of Orangetown and Clarkstown.

This chapter builds on the work of these prior plans and studies, as well as regional initiatives such as the *Mid-Hudson Regional Sustainability Plan (2013)*, the Hudson River Estuary Program, the Hudson River Sustainable Shorelines Project and the Hudson River Comprehensive Restoration Plan (*The Hudson We Share*). The chapter also identifies significant environmental systems and features including steep slopes, floodplains and wetlands, fragile soils and other prominent natural features. Each of these is and should continue to be a unique community resource that is preserved and enhanced for future generations.

7.1.1 Topography

Nyack is located just southeast of the Palisades Ridge, which runs along the Hudson River linking High Tor and Hook Mountain State Parks, before turning and heading south to the southernmost tip of Rockland County at Palisades State Park. Overall, elevations throughout the Village slope upward from the Hudson River shoreline to a high of about 550 feet at the northwestern portion of Nyack. As Figure 7.1 illustrates, significant portions of steeply sloped areas are found in Nyack.

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There are particularly steep areas near the waterfront within Memorial Park and east of Gedney Street from Main Street to Fourth Avenue. In addition, the northern section of the waterfront is very steep right at the water's edge in the backyards of residential homes north of Ackerman Place. The east-west streets that meet Gedney Street are also quite steep, especially Ackerman Place. Near the downtown, there is a steep slope that falls from Catherine Street east of Midland Avenue, channeling the Nyack Brook parallel to Main Street. In the southwestern portion of the Village, there are significantly steep slopes west of I-87/I-287, creating a basin that forms the Village's only substantial area within the 500-year floodplain.

Some of the steepest roadways in the Village are the east-west streets in the northern section of Nyack, in particular, Fifth and Sixth Avenues from Hart Place to Francis Avenue, and Tallman Avenue west of Grand Avenue. Farther west, there are several steep ridges within Oak Hill Cemetery that continue to the southwest within the Tappan Zee Manor and Warren Hills Apartments parcels.

Generally, development of steep slopes greater than 15% is difficult, though not impossible, due to construction costs and the undesirability of road grades that exceed 10%. In addition, during construction, soil erosion and surface water runoff can increase as a result of clearing vegetation from steep slopes. Nyack regulates development on areas with slopes of at least 25% for single-, two- or three-family homes, and at least 50% for other types of development.

7.1.3 Flooding, Watercourses and Wetlands

Most of Nyack is located within the Sparkill Creek-Hudson River subwatershed, which encompasses the southeastern corner of Rockland County extending into Bergen County, New Jersey (see Figure 7.2). Approximately one-third of the Village (the northeasterly portion) lies within the Sparta Brook-Hudson River subwatershed, which runs to the north along the Hudson River shoreline and includes all of Upper Nyack.

In terms of flooding, small pockets of Nyack's Hudson Riverfront, as well as the southwestern corner of the Village west of I-287, are located within areas of moderate flooding (see Figure 7.3). The Federal Emergency Management Agency (FEMA) has classified these areas as Flood Zone X, which is typically the area between the limits of the 100-year and 500-year flood zones. FEMA produces these floodplain maps in order to implement its National Flood Insurance Program (NFIP), which allows property owners in participating communities to purchase flood insurance in exchange for state and community floodplain management regulations that reduce future potential flood damages. If a community adopts and enforces a floodplain management ordinance for new construction in floodplains, the federal government will make flood insurance available within the community to mitigate flood losses.

Chapter 205 of the Nyack Village Code establishes standards for construction within areas of special flood hazard, which are defined as the land in the floodplain subject to a 1% or greater chance of flooding in any given year (commonly referred to as the base floodplain or 100-year floodplain). Based on the FEMA mapped as illustrated in Figure 7.3, the Village has limited exposure to the 100-year floodplain due to steep topography along the Hudson River waterfront. There is a State-owned

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wetland area at the southern boundary of Nyack that is largely within the 100-year floodplain, along with a portion of the Rockland Rowing Association site and Memorial Park directly to the north. A portion of the Nyack Municipal Marina site is also in the 100-year floodplain, but most of the parking area and former River Club site are at a higher elevation. Much of the Clermont Condominium buildings are in the 100-year floodplain, but sites further north, including the vacant brownfield parcel at the corner of Main and Gedney Streets, the Nyack Boat Club site, West Shore Towers, Rivercrest, and the Hook Mountain Yacht Club, have very limited exposure to the 100-year floodplain.

Although most of Nyack is outside a designated flood zone, the Village has experienced flooding from major rain events, particularly in the downtown area. Much of the flooding arises from overflows of the Nyack Brook, which flows primarily through underground culverts along Main Street. Chapter 5 discusses this issue and recommendations to address it.

Wetlands act as natural storage basins for floodwaters and aid in groundwater recharge. In addition, wetlands provide habitat for many types of wildlife and contribute to natural and scenic beauty. There are three levels of wetland protection: national, state and municipal. The U.S. Army Corps of Engineers is responsible for regulating national wetlands, and issues permits for regulated activities under Section 404 of the Clean Water Act, which regulates the disposal of dredged or fill material into waters of the United States. The Hudson River falls into this category. At a State level, wetlands over 12.4 acres in size are mapped and regulated by the NYSDEC; no such wetlands are found in Nyack.

At a local level, in Section 360-4.4 of the zoning ordinance, the Village prohibits construction (including introduction of impervious surfaces, roads, utility and other infrastructure) within 100 feet of the upland boundary of a freshwater or tidal wetland. Wetland boundaries and the 100-foot setback are required to be identified on plats as “conservation areas,” with notes provided on plats and deeds that prohibit accessory structures and uses in those areas.

7.1.4 Soils

The physical properties of soils have a direct impact on land use and have important implications for future development, based on their ability to absorb stormwater runoff, filter out pollutants carried by runoff, support structures and sustain plant and animal life. Other key characteristics include their rate of water percolation, stability and inclination to erode. Consideration of the engineering properties of the soil present on a site is an integral part of site design. Figure 7.4 shows the general pattern of soils by hydrologic group in Nyack, based on the following hydrologic group definitions:

- **A** – High infiltration rate, low runoff potential when thoroughly wet; very deep, well drained to excessively drained; sands or gravelly sands; high rate of water transmission.
- **B** – Moderate infiltration rate, moderate runoff potential when thoroughly wet; moderately deep or deep; moderately well drained to well drained; moderately fine to moderately coarse; moderate rate of water transmission.

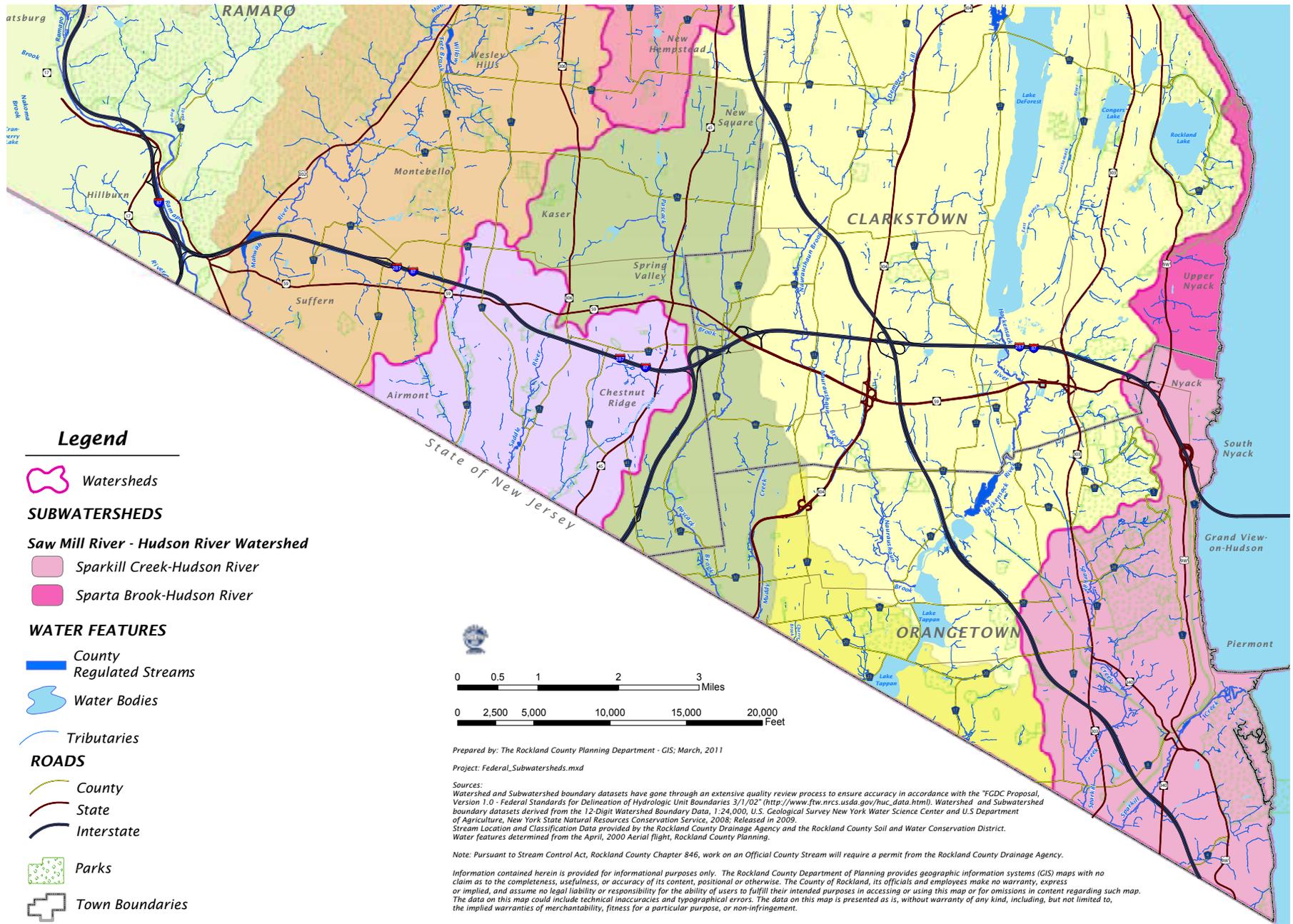


Figure 7.2: Sparkill Creek-Hudson River Subwatershed

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- **C** – Slow infiltration rate, slow runoff potential when thoroughly wet; has layer that impedes downward movement of water; moderately fine to fine; slow rate of water transmission.
- **D** – Very slow infiltration rate, high runoff potential when thoroughly wet; has permanent high water table; claypan or clay layer at or near the surface, or shallow over nearly impervious layer; clayey soil that has high shrink-swell potential; very slow rate of water transmission.

As illustrated in Figure 7.4, Nyack consists of more poorly-drained soils with a slow to very slow infiltration rate. A small portion of soils at the far western edge has greater runoff potential, which has implications for stormwater management.

7.1.5 Stormwater Management and Drainage

Land development often eliminates natural features that moderate stormwater runoff and exposes soil to erosion. Stormwater runoff carries soil and other pollutants into streams, lakes, rivers and estuaries. In severe storm events, bank erosion, flooding, road washouts and flooded basements are a direct result of uncontrolled stormwater runoff. This is a very costly and sometimes dangerous problem, as Nyack's residents and property owners have witnessed firsthand.

Federal and state law requires urbanized communities, including the Village, to establish Phase II stormwater management programs aimed at controlling stormwater on developed sites to the maximum extent possible. This means that the quantity, rate and quality of runoff should not change significantly between pre- and post-development.

New York Phase II stormwater regulations are limited to areas over 1 acre, but Nyack opted for a more stringent regulation, requiring a Stormwater Pollution Prevention Plan (SWPPP) for development activities involving at least 10,000 square feet.

One of the leading contributors to stormwater runoff is impervious surfaces, defined as any material that prevents the infiltration of water into the soil. Roads, rooftops, parking lots, driveways, sidewalks and other paved areas all fall into this category. As shown in Figure 7.5, approximately 235.69 acres, or 12.3% of Nyack's total land area, is covered with impervious surfaces. Some 67.7% of that amount is coverage from roadways, parking areas and sidewalks, with the remaining 32.3% consisting of buildings and structures.

In addition to generating stormwater runoff that can lead to contamination of water bodies and groundwater, large paved areas can also contribute to the "urban heat island" effect, in which a developed area may be significantly warmer than surrounding rural areas due to a prevalence of dark surfaces that absorb more heat. There are several ways that municipalities can reduce impervious coverage, including regulatory changes to control the amount of lot coverage, design of parking areas to incorporate landscaped areas and use of permeable pavements that allow water to infiltrate.

Nyack is also a member of the Stormwater Consortium of Rockland County, a collaborative initiative comprised of the five towns and 19 villages in the County, together with Cornell Cooperative Extension and the Rockland County Soil and Water Conservation District (SWCD). The consortium has developed model local laws on illicit discharge detection and elimination and stormwater management/erosion and sediment control, and also offers grant assistance and training to municipalities.

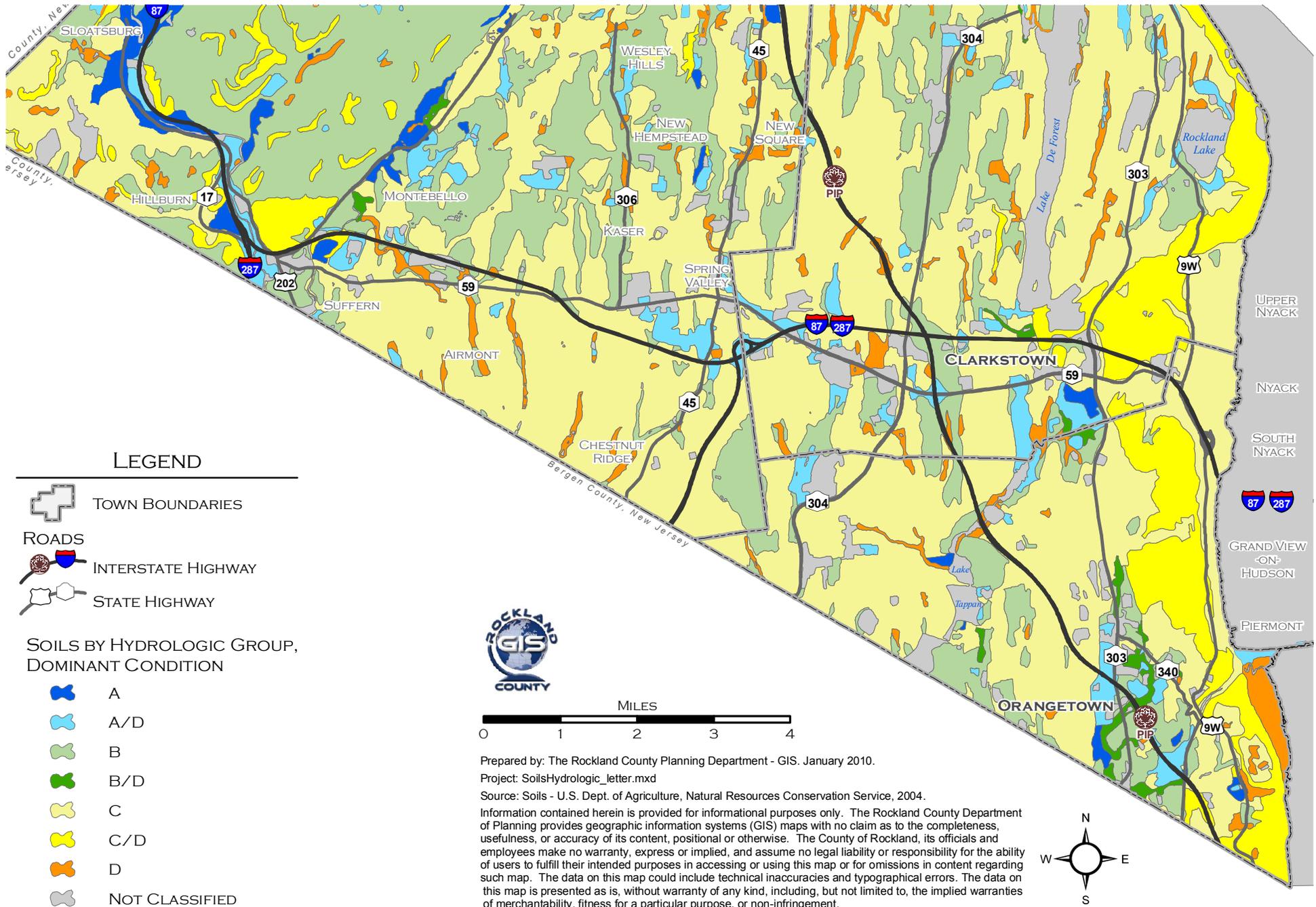


Figure 7.4: Soils



Figure 7.5: Impervious Surfaces

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7.1.6 Trees

Mature trees are an important part of Nyack's neighborhood character, provide habitat areas for a variety of wildlife and also play a critical role in stormwater management. In many ways, they can be considered natural green infrastructure.

The Nyack Tree Committee has been working to develop a community forestry management plan including education, outreach and a planting and maintenance program for trees on Village property. The advisory committee has conducted a complete inventory of all street trees and planting sites and created a list of recommended trees by size and type (deciduous vs. evergreen). The street tree inventory found that Nyack's inventoried urban forest provides an annual benefit of approximately \$107,712 in energy savings, stormwater reduction, increased property values and overall air quality improvements. The inventory determined that the Village's overall street condition is fair, but that Nyack is somewhat below generally accepted standards for the number of large trees (18 inches in diameter or greater). The report identified nearly 60 sites in the Village that would be suitable for tree planting with site modifications. These sites are known as "engineered planting sites" and generally require removal of impervious surfaces near the site to provide more room for trees to thrive.

With the street tree inventory and recommended tree list, the Tree Committee has started a pilot project for establishing a nursery and planting program, and the Village plans to apply for a cost-share grant from the New York State Urban Forestry Council in 2016 to create a management plan. All of these actions represent significant steps in preserving and enhancing Nyack's public trees, and the Tree Committee should continue to explore other tools and opportunities as they arise.

7.1.7 Water, Air, Noise and Light Pollution

Water Quality

Water quality is a major issue for Nyack, as its drinking water comes from the Lake DeForest Reservoir via the Hackensack River, and more than one-third of respondents to the public survey indicated water quality as a major environmental concern. The Hackensack River is one of 14 County-regulated streams, subject to restrictions on development and related activities within their 100-year floodplain. Chapter 5 discusses the Village's drinking water infrastructure in more detail.

Water quality is also a concern for non-drinking uses of surface waters, such as swimming and fishing. While there are no official public beaches along the Hudson River in Rockland County, unofficial swimming sites are used all along the shoreline, and fishing and kayaking are also quite common. One of the primary goals of the NYSDEC's Hudson River Estuary Program is to make the river and its tributaries consistently safe for swimming. The environmental advocacy group Riverkeeper regularly monitors water quality in the Hudson River Estuary, and has noted that the key sources of contamination include combined sewer overflows, sewage infrastructure failures and runoff from impervious surfaces and agricultural uses.

All waters in New York are assigned a letter classification denoting their best use. Classifications AA or A are assigned to waters used as a source of drinking water, swimming and other recreation or fishing, while Classification B indicates a best usage for swimming and other recreation. Classification C is for waters supporting fishing, and Classification D is appropriate for fishing but not for supporting fish propagation. As of 2008, the NYSDEC classified the Hudson River in the vicinity of Nyack SB (the "S" denotes marine waters). Riverkeeper, which regularly

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gathers data on the Hudson River and its tributaries, determined the same classification in 2015.

Air Quality

Poor air quality can cause a range of health issues, including respiratory illness and asthma. Air pollution can also cause haze and smog; reduce visibility; damage buildings; and harm water bodies, plants and wildlife. Nearly 60% of respondents to the public survey for this Plan indicated that air quality or traffic (which can include impacts on air quality) were of concern.

Air pollution can stem from point (stationary) sources, such as power plants; area sources, the cumulative impact of small individual sources; mobile sources, such as automobiles; and biogenic sources that occur naturally in vegetation. The most significant sources of carbon monoxide emissions, by far, are single-occupancy vehicles.

A major air quality issue for Nyack is traffic congestion on I-287. Stop-and-go traffic creates as much as four to five times the air pollution as traffic that flows smoothly. Two potential improvements to this situation are 1) The gradual introduction of hybrid and electric vehicles, and 2) capacity improvements to I-287 to relieve traffic congestion (see Chapter 2).

As part of the Sustainable Nyack Action Plan and the Climate Smart Communities Program, the Village has completed a greenhouse gas inventory of municipal operations and is working on a community-wide inventory. The Village then intends to take steps to reduce municipal GHG emissions and promote reductions in community-wide GHG emissions. The Climate Action Plan, expected to be completed later in 2016, will include greater detail on specific GHG reduction goal and strategies to achieve those goals. Initial strategies that the Village has identified to reduce GHG emissions include installing

solar panels, conducting energy audits and replacing lights and windows in Village-owned buildings.

Noise Pollution

Noise can be defined as undesirable or unwanted sound that interferes with quality-of-life, and can also cause hearing loss and have an adverse effect on mental health. Environmental noise is considered with regard to several factors, including level – which relates to perceived loudness of a noise – but also its character, duration, time of day and frequency of occurrence.

Chapter 238 of the Village Code regulates activities that may result in adverse noise impacts, including the playing of instruments or bands, outdoor dining and sidewalk cafes, and the operation of tools used in building construction or repair or lawn and garden maintenance.

Light Pollution

Light pollution is excessive or obtrusive artificial light. While it is most often associated with heavily populated areas with significant development, even relatively small amounts in more rural or low-density areas can create problems. Light pollution can generally be grouped into the following categories, although some sources of light may fall into more than one category:

- *Light trespass* occurs when unwanted light enters one's property, such as when a strong light enters the window of one's home from the outside.
- *Over-illumination* is the excessive use of light.
- *Glare* can range from being blinding to causing temporary visual impairment to producing discomfort.
- *Light clutter* refers to excessive groupings of lights.
- *Skyglow* is the effect that can be seen over populated areas, and results from the combination of all light sources in an area reflected into the sky.

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Adverse effects of light pollution include energy waste, impacts on public health and disruption of plant and animal ecosystems. One of the most effective ways to reduce light pollution is by using full cutoff lighting fixtures that prevent light from shining in unwanted areas and may allow lower wattage lamps to be used. Use of these fixtures should be appropriate to the area of the Village and the level of activity. For example, representatives from the NAACP and other stakeholders raised concerns about sufficient lighting in neighborhoods in the western portion of the Village, as well as in the downtown. In areas that see substantial pedestrian activity, streets and sidewalks should be well-lit to ensure safety and quality-of-life.

7.1.8 Climate Change and Sea Level Rise

According to the NYS DEC's policy for assessing energy use and greenhouse gas emissions in environmental impact statements (EISs), global climate change is a significant environmental challenge, and one that will continue to affect the State's natural resources. There is scientific consensus that human activity is increasing the concentration of greenhouse gases in the atmosphere, and that this, in turn, is leading to climate change. The potential impacts of climate change range broadly, but it is generally expected to cause more frequent extreme weather events such as heavy rainfall, floods, heat waves and drought conditions, and sea level rise in coastal communities.

Around the world, ocean sea levels are rising at an accelerating pace. Along the Hudson River, from the Battery in Manhattan to the Federal Dam at Troy, sea level has risen approximately 1

foot over the past century. As outlined below, there is evidence that annual rates of sea level rise along the Hudson have accelerated over the past two decades and will continue to outpace the global average.

According to a 2014 report by the Piermont Waterfront Resilience Task Force, sea level rise projections on the Hudson River and elsewhere in New York have been provided in various reports from NYSERDA's ClimAID report, the New York State Sea Level Rise Task Force and the NYS2100 Commission. These projections are based on empirical data, predictions of future climate conditions and estimates of ice sheet melt behavior from current observation and models. For the lower Hudson River, they are as follows:

Table 1: Sea Level Rise Projections, Lower Hudson River

	2020s	2050s	2080s	2100
Sea Level Rise	2-5 inches	7-12 inches	12-23 inches	15-30 inches
Sea Level Rise with Rapid Ice Melt	5-10 inches	19-29 inches	41-55 inches	56-72 inches

Source: Piermont Waterfront Resilience Task Force, September 2014

The baseline sea level rise in the top row of the table is based on the central range of values from model-based probabilities, while the scenario in the lower row is based on acceleration of recent rates of ice melt in the Greenland and West Antarctic ice sheets and paleoclimate studies.¹ Section 7.4 discusses ways for the Village to consider sea level rise in planning decisions.

¹ *Resilience Roadmap: Planning for Piermont's Future. Report of the Piermont Waterfront Resilience Task Force, September 2014.*

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Fortunately, Nyack was built on topography sloping up from the Hudson River, and the vast majority of the Village would not be affected by sea level rise to the same extent as a low-lying community like Piermont, for the foreseeable future. As shown in Figure 7.6, the maximum extent of Sea Level Rise in Nyack under the Rapid Ice Melt scenario of 72" by 2100 indicates that only a narrow portion of the waterfront would be inundated.

7.2 VILLAGE PARKS AND OPEN SPACES

The quality, quantity and variety of parks and open spaces are important attributes that help define a community's character. The benefits of parks and open spaces are varied, in that they provide opportunities for social interaction and healthful activity; help preserve natural features and environmentally sensitive areas; serve drainage and stormwater management functions; and enhance community aesthetics, increasing property values and the marketability of neighborhoods.

7.2.1 Public Parks and Open Space

Nyack's main park is the 11-acre **Memorial Park**, which lies at the southeastern corner of the Village along the Hudson River and was designated in 1935. The western portion of the park is deed-restricted for passive recreation and contains landscaped areas, open lawns and the Memorial Stairway leading from the upper part of the park to the foot of the Nyack Brook. The eastern portion of Memorial Park is composed of fill deposited in the river, which was added in the 1950s in connection with the construction of the Tappan Zee Bridge.

Memorial Park has a range of active recreational options including a baseball field, basketball courts and a children's playground. The park also has passive spaces such as a butterfly garden and walking paths, and offers spectacular views of the Hudson River and Tappan Zee Bridge. It is also the site of many community events, including the Mostly Music summer program and holiday fireworks.

The nonprofit citizen group Nyack Park Conservancy (NPC) has led efforts in recent years to improve Memorial Park. NPC hired the landscape architects Quennell Rothschild to design a new, expanded park to include the Village-owned marina to the north. A key aspect of the Memorial Park Master Plan (see Figure 7.7) includes the relocation of most of the parking areas along the park's waterfront to the marina site, with a pedestrian bridge to the park across the narrow inlet. The Village has received a grant to fund the bridge and is working to secure an easement over the privately owned inlet. Memorial Park is also the site of a new skate park, funded by private donations and opened in the fall of 2015, located just east of the basketball courts.

The other key designated Village park is the 1.1-acre **Nyack Marina**, located just south of the foot of Burd Street and across the inlet from Memorial Park. The marina is on a small peninsula consisting primarily of paved parking for vehicles and boat trailers. Two boat ramps are at the end of the peninsula, as is a breakwater that protects a small cover with floating docks that accommodate approximately 40 boat slips.

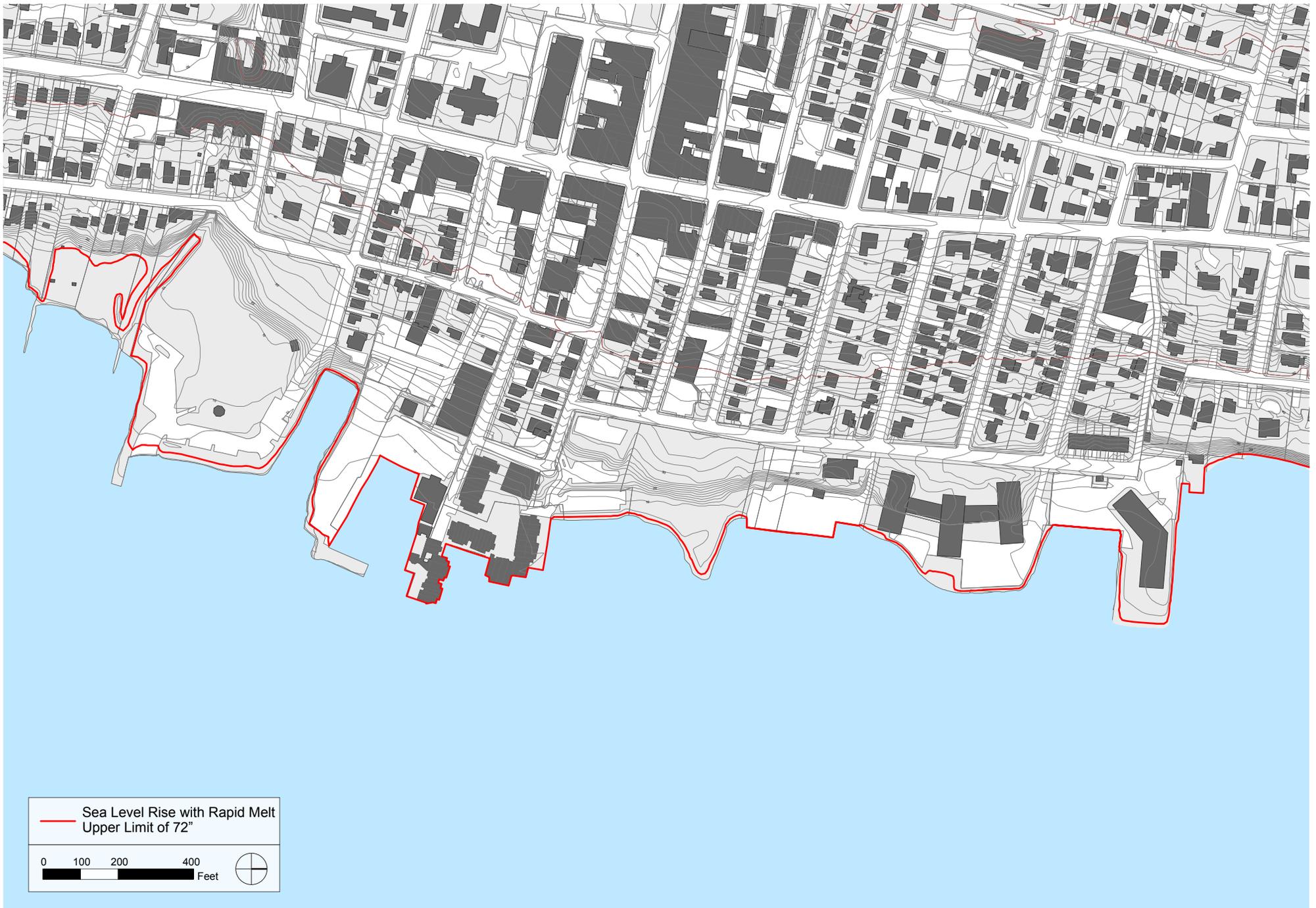


Figure 7.6: Sea Level Rise

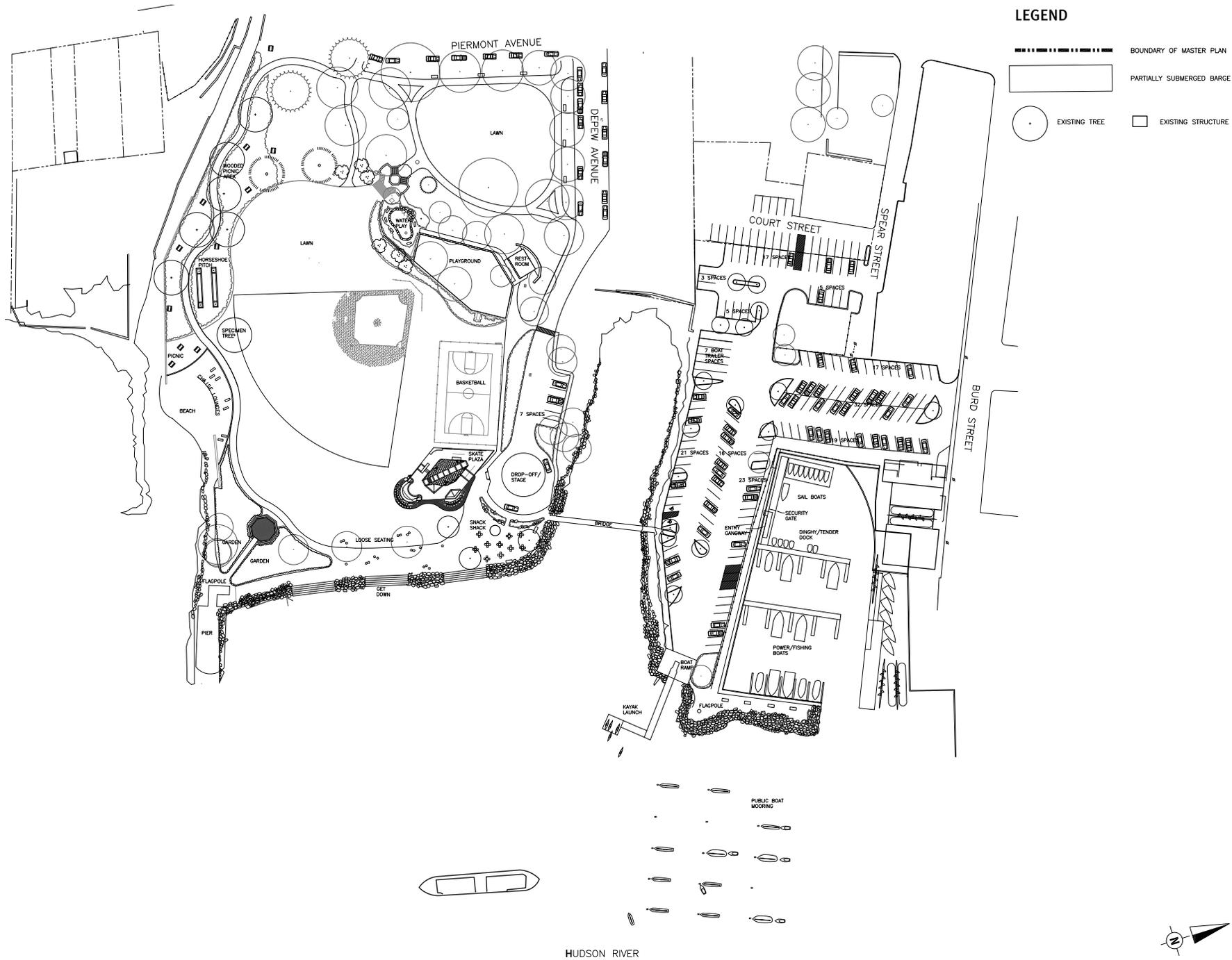




Figure 7.8: Open Space and Natural Resources

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The marina sustained significant damage in Hurricane Irene in 2011 and Superstorm Sandy in 2012, and was closed for several years pending repairs to the bulkhead and docks. It is planned to reopen for the 2016 season; however, the marina still needs to be dredged, as current water levels can reach below 2 feet during low tide, depending on the location of the slip. The Village is working through the permitting process and expects to complete dredging in early summer 2016. Also located on the Village-owned marina parcel is the former River Club restaurant, which closed in October 2015 after more than 30 years in business. The Village is preparing to issue a request for proposals for an operator for the restaurant, in conjunction with the reopening of the marina.

In addition to these key park spaces, other public or quasi-public open space in Nyack includes **Veteran's Memorial Park**, at the southwest corner of Main and Cedar Streets; the **Rockland BOCES athletic fields** (former Nyack High School) on North Midland Avenue between Fifth Avenue and Haven Court; and the **Community Garden** on South Franklin Avenue. Neither the Community Garden nor Veteran's Memorial Park is officially designated as a park. The BOCES fields, though not under Village control, are an important community resource and are protected via a permanent recreational easement.

Other publicly owned spaces include a portion of the County-owned Mountainview Nature Park. Most of this 83-acre forested tract is in Central Nyack and accessed from Strawberry Hill Lane; however a small area east of Mountainview Avenue connects to the larger area via a hiking trail, and is planned to connect to the Long Path. Also, a State-owned parcel at the southeastern corner of the Village, at the South Nyack border, is vacant with no road access, and the State has expressed interest in granting it to Nyack for passive open space.

7.2.1 Private Open Space

Several privately owned areas in Nyack provide recreational or open space benefits either to members or the surrounding neighborhoods. The largest of these is the 38-acre Oak Hill Cemetery, located on Highland Avenue across from Nyack Hospital. This property provides substantial green space and offers sweeping views of the Hudson River thanks to its steep topography.

Four waterfront sites provide recreational access for their members: the Nyack Boat Club on Gedney Street between First and Second Avenues; Hook Mountain Yacht Club at the intersection of Ackerman Place and Gedney Street, next to the Rivercrest condominiums; the Clermont condominium marina at the foot of Main Street; and the Rockland Rowing Association (formerly the River Rowing Association) on Piermont Avenue just south of the American Legion. The Nyack Boat Club and Hook Mountain Yacht Clubs are anticipated to remain operational in their current locations, and the Village supports their function as water-dependent uses. However, the Rockland Rowing Association is reportedly seeking alternative sites, as water access at its current location is problematic and it has experienced displacement due to the Tappan Zee Bridge construction. The Clermont property provides public access to the Main Street pier via permanent easements, but the pier sustained significant damage in Superstorm Sandy and requires repairs. In addition, access to the pier is gated, and the entry is next to the private Clermont parking lot, lessening the "public" nature of the pier.

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7.3 PUBLIC WATERFRONT ACCESS

7.3.1 Planning Context

There are several plans and studies, both on a local and regional level, that have relevance for Nyack's future planning decisions along its Hudson River waterfront.

Local Waterfront Revitalization Program (1992)

Nyack's most defining natural feature is the Hudson River. The Village has a three-quarter-mile long riverfront rich in history and beauty. Recognizing the importance of this resource to Nyack as well as to the region, the Village adopted an LWRP in 1992. The LWRP program is part of New York State's Coastal Management Program, administered by the Department of State's (NYDOS) Office of Planning and Development, and seeks to address regulation and development of coastal resources through implementation of 44 State coastal policies.

Nyack's LWRP covers the entire Village, extending east to the Hudson River shoreline. For most of the waterfront area east of Gedney Street (between Second and Depew Avenues), the LWRP recommends moderate density mixed uses with a water orientation. The rest of the waterfront is recommended to be consistent with the existing development pattern: low-density residential south of Memorial Park, parkland for the park itself or high-density residential between Tallman Place and Second Avenue. Most of the waterfront area is regulated under the provisions of the Waterfront Development (WF) zoning district.

Projects recommended by Nyack's LWRP include preparation of a Memorial Park Master Plan (subsequently completed), removal of the sunken barges in front of the park, construction

of a fishing dock in place of the barges, development of riverfront walkways, maintenance dredging at the mouth of Nyack Brook and expansion of parking at Memorial Park.

In December 2015, the Village was awarded a \$75,000 grant from the New York State Consolidated Funding Application (CFA) program to update the 1992 LWRP. The update process is anticipated to begin in 2016.

The State of the Hudson (2015)

The NYSDEC launched the Hudson River Estuary Program in 1987 with a mission of protecting and revitalizing the river for greater enjoyment and use by the public. The program periodically publishes reports on the status of Hudson River water quality, habitats, fish and wildlife populations and public access. The 2015 status update noted the impacts of climate change and invasive species as key challenges to be addressed.

Hudson River Estuary Action Agenda (2015-2020)

The Hudson River Estuary Program produces five-year action agendas to identify implementation items based on current trends, issues and opportunities. For the 2015-2010 period, the Action Agenda is built around six key areas of benefit: clean water; resilient communities; a vital estuary ecosystem; estuary fish, wildlife and habitats; natural scenery; and education, river access, recreation and inspiration.²

Hudson River Comprehensive Restoration Plan (Ongoing)

This region-wide restoration plan for the Hudson River Estuary, from the Tappan Zee Bridge to the Federal Dam at Troy, seeks to improve the function and health of natural systems, enhance regional economic potential and increase community resiliency. The plan will be centered on 12 Ecosystem Goals, quantifiable

² http://www.dec.ny.gov/docs/remediation_hudson_pdf/dhreaa15.pdf

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project targets for habitat restoration with a framework to track progress. The Comprehensive Restoration Plan, also known as *The Hudson We Share*, has solicited project ideas to implement the Ecosystem Goals, from municipalities throughout the study area. For Nyack, the suggested project opportunities are:

- Completion of the improvements identified in the Memorial Park Master Plan;
- Expansion of public waterfront access in connection with the proposed TZ Vista development;
- Repair and improvements to the Nyack Marina;
- Habitat restoration and invasive plant removal at properties south of Memorial Park;
- Improvement to the sewage pumping station adjacent to the Nyack Marina; and
- Completion of a ferry feasibility study connecting the Nyack waterfront to the Tarrytown train station.

Hudson River Sustainable Shorelines Project (Ongoing)

This project is led by the NYSDEC Hudson River National Estuarine Research Reserve, in cooperation with the Greenway Conservancy for the Hudson River Valley, and aims to provide scientific data on the best shoreline management options for preserving the Estuary's natural functions, especially in light of sea level rise and expected stronger storms.³

7.3.2 The Future of Nyack's Waterfront

The waterfront is one of Nyack's most significant economic, tourism, recreation and ecological resources. Increasing public

access to the water, improving its environmental quality and resiliency and supporting and enhancing the existing water-dependent uses are all critical steps in solidifying the connections among the Village's key opportunity areas, and in branding Nyack as a major local and regional waterfront destination. Chapter 9, Economic Development and Planning Focus Areas, will include a focus on the waterfront as a driver of economic opportunity, and recommend specific actions, including creation of a continuous waterfront walkway, for the Village to pursue in unlocking its full potential.

7.4 ISSUES AND OPPORTUNITIES

Nyack has worked hard in recent years to improve its stewardship of its natural resources and open spaces. Those efforts should continue, and the Village should take advantage of new opportunities to address environmental issues and enhance recreational opportunities for its residents. The following discussion highlights some of these opportunities.

7.4.1 Improve Regulation of Natural Resources

Steep Slopes

Nyack prohibits development on areas with slopes of at least 25% for single-, two- or three-family homes and of at least 50% for other type of land development. In addition, on lands with slopes of less than 25% but composed of highly erodible soils, development proposals must consider the load-bearing capacity

³ <https://www.hrnerr.org/hudson-river-sustainable-shorelines/hudson-river-sustainable-shorelines-project/>

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of the soils and demonstrate that they can be stabilized with a minimum of on-site disturbance or adverse impacts to neighboring properties.

The Village may consider whether this portion of the zoning ordinance (Section 360-4.4D) could be strengthened to encourage the use of development and construction techniques that enhance the condition of steep slopes, such as low-impact development that maintains the natural hydrology of a site and retains trees and other natural landscape features. The Village may also explore whether the threshold for steep slopes for other multifamily and nonresidential development should be reduced from 50%.

Wetlands

The Village regulates development activity within 100 feet of the upland boundary of a freshwater or tidal wetland. However, the zoning ordinance does not define wetlands, so it is not clear how development applicants identify and locate wetlands. It appears that the only wetland in Nyack is the Hudson River itself, and the 100-foot boundary is not enforced. There do not appear to be any freshwater wetlands present in Nyack. The Village should consider reducing the wetland buffer to 50 feet.

Trees

Nyack has been proactive in establishing procedures for tree preservation and planting, by requiring a permit for removal of any significant tree, and by providing for street trees in the mixed-use and CC zones. However, these regulations should be clarified to improve their functionality and to ensure that they meet the objectives of tree preservation but are not onerous for private property owners. The Village should also consider creating a separate section of the code dealing with trees, rather

than as a part of the zoning code. This would be consistent with the approach taken by many communities of establishing one location in which tree preservation and standards for street trees can be addressed.

Village staff report that tree removal permits make up a substantial portion of the Planning Board's activities, but the board does not have the most effective tools to make informed decisions about these permits. For example, the definition of significant trees appears to be overly broad and confusing, and the penalty for violation of the tree regulations (\$10,000 per instance) appears to be excessive and is likely not enforced.

The Tree Committee has begun to discuss many of the issues raised above, and should be supported in its efforts to improve Nyack's tree protection initiatives. In particular, the Village should retain a landscape architect to review site plans, certain tree removal permits, planting of street trees and other green infrastructure practices. Landscaping plans should be required for non-single-family development applications. Reasonable thresholds for review should be established for tree removal permits, to avoid unnecessary burdens on single-family homeowners. The consultant fees for the landscape architect could be paid out of escrow fees in development applications.

Together with code improvements regarding trees, the Village should consider ways to encourage homeowners to retain trees on their properties and plant additional vegetation. One effective tool could be creation of a complimentary or low-fee tree planting program in which property owners can request a tree to be planted by the Village either on the municipal right-of-way on in the front yard beyond the right-of-way (with permission of the owner). The exact tree would be suggested by the Tree

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Committee from the list of recommended trees and the specifics of the property, and the committee could suggest an optimal planting location. Village funds would be required for the tree itself and the planting, but the owner would be responsible for future maintenance. This approach has been used in other municipalities in the region, and the NYS DEC's Hudson River Estuary Program also runs the Trees for Tribes program, which offers free native trees and shrubs to landowners for qualifying streamside buffer planting and restoration projects.

The Village should also focus efforts on overall education and outreach on the benefits of trees, including the financial advantages resulting from energy savings, improved stormwater management and enhanced property values. In addition, the Tree Committee should identify properties where increased tree plantings would be most beneficial, including those adjacent to the Hudson River and Nyack Brook, within a floodplain or containing steep slopes. Targeted outreach should be conducted to these property owners to encourage them to keep or increase the number of trees on their lands.

View Preservation

Nyack has established a View Protection Overlay District to preserve and improve views from "key locations" within the Village to the Hudson River waterfront. For any construction or alteration of buildings in this district, the Architectural Review Board must provide a recommendation to the Planning Board to ensure proper siting, dimensions and configuration of structures to mitigate impacts on views. However, the View Protection Overlay District designates every east-west street within Nyack as a View Protection Corridor. It is unlikely that all of these streets provide a view of the river, much less one that is significant. Designating all of these streets as view protection

corridors may serve to weaken the mechanism for scenic preservation and take focus away from those views that truly are significant and worthy of attention. The Village should reassess the View Protection Corridors and identify which specific public views are the most important scenic resources that should be protected. Establishing clear public views, and procedures for protecting them, would provide greater clarity and predictability for future development applications.

7.4.2 Address Sources of Pollution

Air Pollution

Nyack's efforts to reduce GHG emissions will extend to both municipal and community-wide emissions. GHG emissions reduction targets should be set in association with the Nyack Climate Action Plan, expected to be completed in 2016/2017. The Village has more direct control over municipal GHG emissions through capital programs, purchasing and procurement and ongoing maintenance of Village-owned facilities. Municipal GHG emissions can be reduced by improving energy efficiency of municipal buildings through physical and operational improvements. Strategies to reduce energy consumption and GHG emissions in municipal facilities could include renewable energy such as solar panels, lighting retrofits, energy efficient mechanical systems and energy auditing and retro-commissioning of existing buildings to identify low-hanging fruit. The Village could also consider requiring LEED equivalency for any new construction of Village-owned buildings.

Community-wide emissions can be reduced through local regulations on new construction, informational campaigns on

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state and federal incentives programs, enlisting lenders to provide low-interest loans on energy upgrades, incentives to encourage property owners to reduce energy use and infrastructure upgrades to promote alternative transportation. New regulations, such as zoning for sustainability, can reduce GHG emissions from new construction and can ease implementation of renewable energy installations. However, it is critical to acknowledge that Nyack is largely built-out and the vast majority of the Village's housing stock—even looking forward 10 to 15 years—has already been built. Since the Village has limited authority to require energy upgrades in existing buildings, it must identify strategies that educate property owners on the cost savings and environmental benefits of reducing GHG emissions and provide information on State and Federal programs that provide financial assistance, rebates, and tax credits for conducting energy upgrades.

Noise Pollution

One area in which the Village frequently sees noise issues is the use of garden tools such as leafblowers, which are currently prohibited in residential areas between the hours of 9 p.m. and 8 a.m. Recognizing the potential for noise impacts as well as a preference for reusing leaves for mulch rather than blowing them into piles, the Village's Sustainability Desk has explored a range of actions to manage leaf blowers. These include reducing the hours during which leaf blowers are permitted to operate, restricting leaf blower use in summer, promoting the conversion to electric or cleaner-burning four-stroke engines, and continuing to educate property owners about the benefits of mulching in place through the "Love 'Em and Leave 'Em" program. The Village should also consider expanding its regulations on the timing of leaf blowers to include commercial areas, since these areas may abut residential neighborhoods.

Light Pollution

As noted above, an effective tool to reduce light pollution is by using full cutoff lighting fixtures that prevent light from shining in unwanted areas and may allow lower wattage lamps to be used. While the types of lighting proposed for new development is typically addressed in the site plan review process, the Village could consider adopting a policy promoting dark sky-friendly lighting (and implement that policy on municipal facilities). As discussed, the use of lower-wattage lighting should be appropriate the area and function of the Village, balancing concerns about light pollution with the need to ensure safety.

7.4.3 Incorporate Climate Change in Future Planning

At a minimum, the Village and its land use boards should consider the most current climate science in designing, constructing or repairing infrastructure and in reviewing development applications. In addition, the Piermont report, although created specifically for that municipality, contains a number of recommendations for climate change adaptation that may be applicable to Nyack, including:

1. Develop a comprehensive emergency management plan and improve emergency communications in the Village.
2. Work with local utilities, especially electric, gas, water, sewer and telecommunications, to improve resilience.
3. Advocate and coordinate with Rockland County and the Towns of Orangetown and Clarkstown to increase infrastructure, access and stormwater resilience.

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4. Work through the Rockland County Multi-Jurisdictional Natural Hazard Mitigation Plan to position Nyack for resiliency actions and funding opportunities.
5. Incorporate sustainability and resilience considerations into a revised Local Waterfront Revitalization Program (LWRP, see discussion below).
6. Adopt and regularly update sea level rise and flood projections recommended by the State and FEMA for municipal decision-making and planning purposes.

As of April 2016, the Nyack Board of Trustees were considering revisions to the Waterfront Development (WF) zoning district that incorporate a set of design guidelines to be met in exchange for development incentives. These guidelines include a required minimum 50-foot setback from the high-water line of the Hudson River (30 feet of which should be designated public space), which helps to enhance resiliency along the waterfront. To further protect against sea level rise and storm surge, the Village may consider promoting “soft” (vegetated) shoreline treatments or riprap except where engineered bulkheads are required for the docking of vessels.

7.4.4 Enhance Existing Village Open Spaces and Explore Targeted Opportunities for Creation of New Spaces

Nyack’s publicly accessible open spaces are valuable recreational and aesthetic assets, and should continue to be maintained and enhanced. In addition, there may be opportunities to create new open spaces in a targeted, fiscally responsible way. Given that more than 60% of respondents to the survey for this Plan indicated support for maintaining or

upgrading existing parks rather than acquisition of new park land, any newly created parks would have to balance community needs against the fiscal realities of maintaining open space. The major emphasis for Nyack should be on maintaining and upgrading its existing open spaces.

Implement Memorial Park Master Plan

The primary mechanism for implementing the Quennell Rothschild Master Plan for Memorial Park is construction of the planned pedestrian bridge, which would allow parking to be relocated from the park to the marina site. The Village has received a grant to fund the bridge and is working to secure an easement over the privately owned inlet. Once the parking has been relocated, the Village should proceed with the remaining park improvements. Chapter 8 discusses some concepts and recommendations for the marina site that may require some minor changes to that portion of the Master Plan. These include reconfiguration of the marina parking area to accommodate a walking path and boat trailers, and possible relocation of the kayak site so that it is not affected by potential introduction of ferry service near the boat ramp area.

Enhance the Marina Through a Public-Private Partnership

The marina will be reopening for the summer of 2016, and the Village plans to seek proposals for a new tenant at the former River Club. These changes present opportunities to re-activate this important Village space for residents and visitors alike. Chapter 8 discusses some concepts that should be considered as part of this public-private partnership.

Revitalize Veteran’s Memorial Park

Veteran’s Memorial Park is a key feature of downtown Nyack, but is underutilized due to its location next to a municipal parking lot and the Riverspace site. The fact that this area is not

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officially designated as a Village park could provide some flexibility to relocate the space and establish it as a “Village Green,” as part of an overall redevelopment of Riverspace and the municipal lot. This concept is discussed in Chapter 8.

Facilitate the Repair and Reopening of the Clermont Pier

The Clermont Pier is intended to be publicly accessible, and easements are in place to provide that access. However, the pier is currently not usable due to Sandy damage, and the present configuration of the entrance from Main Street is not conducive to an inviting place. The Village should work with the condominium association to improve the pier and make it more publicly accessible. Some access improvements may be considered as part of creation of a waterfront walkway, as described in Chapter 8.

Explore the Potential Creation of Pocket Parks

There are several isolated Village-owned parcels that may present opportunities for the creation of small neighborhood parks. These include the end of Laveta Place at the Hudson River and a small triangular lot on the southeast corner of Depew and Highland Avenues. The Laveta Place street-end could be a small scenic viewing area of the river, while the triangle at Depew and Highland could be a small pocket park. Creation of such parks would require careful coordination with adjacent residential property owners, and, given a lack of space for parking, the parks should be designed to target neighborhood walkers, not drivers from other parts of the Village or the larger region. Both areas are most appropriate for neighborhood-focused amenities such as benches and flowers. The parcel on Depew and Highland, in particular, given its topography, may be difficult for a functioning open space. While it is not clear that this parcel is buildable, the Village could also

consider offering it for sale, as the adjacent residential property owner may be interested in the potential to enlarge their lot.

In addition, a large parcel on the south side of Dickinson Avenue, just north of Nyack Middle School, is currently used as a water reservoir. This site could be used for a public use, including some combination of a small park, solar array or link to the school, if the existing utility use can be accommodated without compromising its function or security.

In considering any creation of new public space, the Village would need to carefully balance the relative benefits and costs. The DPW should be closely involved in this process, to ensure that the Village has the capacity to maintain its open spaces on an ongoing basis.

Consider Ecological Restoration and Passive Space for Southern Waterfront Parcels

The Village should consider facilitating wetland and habitat restoration of the State-owned parcel at the southernmost end of the waterfront, working with the State or a nonprofit third party for the restoration and ongoing maintenance. In addition, if the Rockland Rowing Association property were to become available, the Village could consider designating its wetland areas for passive open space, and encouraging the State, Scenic Hudson or another entity to acquire it.

7.5 RECOMMENDATIONS

7.5.1 Natural Resource Protection

- Consider strengthening the regulation of steep slopes to encourage the use of low-impact development and other

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development techniques to preserve or enhance the condition of sloped areas.

- Explore whether the threshold for regulation of multifamily and nonresidential development on steep slopes should be reduced from 50%.
- Improve and streamline the regulation of tree removal by revising the definition of significant trees, reducing the penalty for violation and improving enforcement.
- Consider creating a separate section of the Village Code to cover trees, including the portion currently part of the zoning code as well as standards for street trees.
- Explore ways to encourage homeowners to retain trees and plant additional vegetation, including education and outreach and potentially providing free trees for planting in municipal rights-of-way or front yards.
- Reassess the View Protection Corridors to better establish the Village's scenic resources and provide greater clarity in their protection.

7.5.2 Water, Air, Noise and Light Pollution

- Develop GHG emissions reduction targets in association with the Nyack Climate Action Plan.
- Consider changes to the regulation of leaf blowers to reduce their noise and other environmental impacts, and continue to educate property owners about the benefits of mulching in place.

- Adopt a policy promoting dark sky-friendly lighting that can be considered in land-use approvals and implemented on municipal facilities. Also, study areas where more lighting may be necessary for safety, particularly in the downtown area.

7.5.3 Climate Change

- Consider the most current climate science in designing, constructing or repairing infrastructure and in reviewing development applicants.
- Develop a comprehensive emergency management plan and improve emergency communications in the Village.
- Work with local utilities to improve resilience.
- Advocate and coordinate with Rockland County, Orangetown and Clarkstown to increase infrastructure, access and stormwater resilience.
- Work through the Rockland County Multi-Jurisdictional Natural Hazard Mitigation Plan to position Nyack for resiliency actions and funding opportunities.
- Incorporate sustainability and resilience considerations into a revised LWRP.
- Adopt and regularly update sea level rise and flood projections recommended by the State and FEMA for municipal decision-making and planning purposes.
- Consider promoting “soft” (vegetated) shoreline treatments or riprap except where engineered bulkheads are required for the docking of vessels.

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7.5.4 Parks and Open Spaces

- Implement the Memorial Park Master Plan.
- Enhance the marina through a public-private partnership.
- Consider relocating Veteran’s Memorial Park as part of a revitalization of the Riverspace site and municipal parking lot, and officially designating the new space as a Village park.
- Work with the Clermont Condominiums to facilitate repairs to the Clermont Pier and improve its accessibility to the public.
- Explore the potential to create pocket parks at Village-owned spaces, including the end of Laveta Place, the triangular lot at Depew and Highland Avenues and the reservoir site on Dickinson Avenue, in coordination with adjacent property owners to minimize impacts and DPW to ensure that ongoing maintenance costs can be managed.
- Consider implementing an ecological restoration project for the State-owned parcel at the southern end of the waterfront.
- Consider designating the Rockland Rowing Association property for passive open space, and encourage its acquisition by the State, Scenic Hudson or another third party.