

SECTION 2 INVENTORY AND ANALYSIS

A comprehensive inventory of the Waterfront Revitalization Area is a necessary step to identify important resources, problems, and opportunities relating to the Hudson River. The inventory identifies water dependent and water related or enhanced uses; surface water use; flooding, erosion, and siltation problem areas; underutilized, deteriorated or vacant properties; non-point source pollution; scenic resources; historic resources; water quality; public access and recreation; and natural habitats. An analysis of the key waterfront issues in the Village can be then be determined.

A. COMMUNITY PROFILE

The Village of Haverstraw is located along the west bank of the Hudson River, in the picturesque Hudson River Valley (refer to [Map 1A, Regional Setting](#)). The Village is approximately 35 miles north of New York City and within New York City's large metropolitan region, and about 15 miles south of Bear Mountain State Park. Routes 202 and 9W are the main access routes to the Village, and there is indirect access to the Palisades Interstate Parkway and the New York State Thruway. Its location along the Hudson River has been a major influence in its past development, and continues to play a leading role in land use and development. From pre-colonial days to the present, the Hudson River Valley has been the main route of travel for people and commerce.

The Village of Haverstraw, located in the east-central portion of Rockland County, covers an area of approximately two square miles. Rockland County is separated from Westchester County by the two largest bays of the Hudson River's course: Haverstraw Bay and the Tappan Zee. The length of the Village's shoreline along the Hudson River is 3.2 miles. According to the 2000 Census, the population of the Village was 10,117. The Village is bordered by the Hudson River on its east, by the Town of Haverstraw to the north and west, by the Village of West Haverstraw to the northwest, and by the Town of Clarkstown to the south.

A portion of the Palisades Interstate Park is located along the Village's western border. This portion of the Park is called High Tor State Park, and is largely undeveloped. The Long Path runs through High Tor, with hiking as a major activity.

Physical Features and Land Characteristics

Nestled between the Palisades Interstate Park on the west and the Hudson River on the east, the topography within the Village of Haverstraw is characterized by generally rolling lowland area (which occupy approximately one half of the area of the Village), rising moderately from sea level at the Hudson river to the steep slopes in the western portion of the Village. The highland area is part of the Palisades mountain range and is known as South Mountain.

This is a well-defined ridge rising to a height of 827 feet at High Tor. The ridge runs northwest to southeast and forms a sharp escarpment along the Hudson River as the ridge passes the south border of the Village.

The topography of the Village basically guides its development. All of the development that takes place in the Village is confined to the rolling valley area between the Palisades Interstate Park and the Hudson River. The moderate to steep slopes found in the western half of the Village constitute half of the land in the Village, and present severe limitations for development. Slopes within the Village's waterfront coastal area average at about 7.5 percent, and much of the past development of the Village has occurred within this area. Slopes from five to nine percent are generally equally good for both residential and commercial development. Slopes less than five percent are preferred for commercial and industrial development especially if they exist along good highway access. Refer to [Map 2, Development Considerations](#).

B. HISTORICAL DEVELOPMENT OF THE WATERFRONT AREA

Haverstraw began in the second half of the 17th century as a Dutch settlement known as Warren. In addition to significant agrarian origins including farms and orchards, Haverstraw's early industries are an important aspect of the history of the Village. Most notably, brickworks fueled the growth of the Village's economy and provided easily transportable building material for New York City from 1815 to 1950. By 1883, there were 42 brick yards in operation along the Hudson, which employed 2,400 workers and produced more than 300 million bricks annually. Thanks to the areas' natural yellow and blue clay deposits, the industry flourished for more than 100 years, during which time Haverstraw became known as "the brick making center of the world." Haverstraw's proximity to the Hudson River enabled it to fuel the growth of industrial activity into the 20th century.

Historic Resources

An inventory of historic resources in the Village of Haverstraw lists a substantial number of buildings or sites that have historic importance and architectural significance, most of which date from the early 1800's. Efforts to preserve many of the village's historic resources have already been successful and have utilized available regulatory techniques such as national and state historic designation.

State and National Registers of Historic Places

An examination of the computer inventory of the New York State Office of Parks Recreation and Historic Preservation (OPRHP) identified three properties listed on the State and National Registers of Historic Places located within the Village of Haverstraw, as follows:

1. King's Daughters Public Library, also known as the Fowler Library, dates to 1903 and lies at the corner of Main and Allison Streets;

2. United States Post Office of Haverstraw, located at 86 Main Street, which is described as a Colonial Revival brick post office with limestone and terra cotta trim; built in 1935-1936 and;
3. the Lynch Delveyelles Homestead located at 143 Hudson Avenue.

In addition, the Central Presbyterian Church located at 64 New Main Street has been deemed eligible for listing on the State and National Registers of Historic Places. ¹

Historical Society of Rockland County

The Historical Society of Rockland County has erected 59 historical markers identifying historic resources throughout Rockland County. The Historical Society list of sites does not necessarily reflect designations on the State or National Registers of Historic Places. Historical Society site markers identify the following historic resources within the proposed waterfront coastal area:

- Treason Site, Route 9W - - designated September 15, 1980.

For a complete listing of historical markers erected by the Historical Society of Rockland County, refer to the files of the Historical Society of Rockland County.

Historic Districts

The Village of Haverstraw does not have an Historical Resources Committee or Historic Review Board. However, two areas within the Village contain a number of properties that have been considered for designation on the State or National Register of Historic Places, as indicated in prior master plans of the Village. These include the following:

1. The proposed Haverstraw Downtown Historic District is located within the central business district in the downtown. Buildings included in the district extend along both sides of Broadway from Main Street to Grant Street and Clinton Streets and along both sides of Main Street from Broadway to Rockland Street on the north side of Main Street and up to and including the fourth building past Fourth Street on the south side of Main Street. Also included are the first five buildings from Broadway on the south side of New Main Street. These buildings represent commercial architectural types from the 1850's to the 1950's. The majority of the buildings represent a rich variety of Victorian Commercial stylistic features, including Second Empire and Italianate. Also present are Classical Revival and Greek Revival examples. The mix of period styles, vernacular types and the application of ornament illustrate the evolution of the Village and the History of prosperity in the commercial district. A listing and description of all buildings included in the proposed district are contained in the National Reporter Nomination Form in the office of the Village Clerk.

¹ Telephone interview with John Bonafide of NYS Parks Division for Historic Preservation 4/26/00.

2. The proposed Riverfront Historic District contains 22 buildings or structures located along Allison Avenue and First Street from Broad Street to Canal Street. Out of these 22 buildings, only two are listed on the State and National Registers of Historic Places: the King's Daughters Public Library located at the corner of Main and Allison Streets and the United States Post Office of Haverstraw located at 86 Main Street. According to New York State Parks Division for Historic Preservation, none of the other 20 buildings have been determined to be eligible for listing on the State and National Registers.² Architectural styles represented in this area include Queen Anne, Victorian Eclectic, Italianate, Romanesque Revival, Greek Revival, Hudson River Gothic, Federal and Second Empire.

Although there have been recent examples of renovations, many of the older buildings and structures in the community do not appear to receive special attention, nor are there any apparent efforts to preserve such resources. Creation and designation of these buildings within historic districts could encourage their renovation and preservation. An updated historic inventory is needed since some of the structures identified in OPRHP's 1990 building-structure inventory have since deteriorated or been destroyed by fire. (Refer to Section V of this plan for procedures to assure recognition of historic resources).

C. EXISTING LAND USE

Field surveys and previous studies were used to assemble an inventory of existing conditions and features in the waterfront coastal area. The results of this inventory and analysis are presented below.

Land Use Pattern

The predominant land uses within the Waterfront Revitalization Area are commercial, industrial and residential. In addition, the northerly and southerly ends of the Waterfront Revitalization Area consist of recreational uses (see [Map 1B, General Land and Water Uses](#)). Most of the privately-owned land along the Hudson are industrial sites. Starting at the northern boundary of the Village shoreline, a property owned by Southern Energy, located just west of Bowline Park, contains fuel storage tanks associated with the Bowline Power Plant.

The former Empire Chair Factory is located just south of Bowline Park, though separated by a small channel of water. This property contains the remains of a relatively large industrial building which was in operation until March 1995. A fire in the summer of 1995 destroyed most of the large structure. Vacant waterfront land locally known as the Damiani property separates the former chair factory site and Emeline Park. South of Emeline Park is an open space property and restaurant site jointly owned by the Village of Haverstraw and Scenic Hudson. The area further south contains single-family residences and several vacant lots. In the center of Haverstraw's waterfront are two local marinas: Rockland-Bergen Boat Club with 40 boat slips and a boat launch/ramp, and Haverstraw Elks Lodge with approximately 35 slips.

² Ibid

The formerly industrial site south of the marinas, known locally as the Keahon property, was vacant until recently. Currently it is the temporary site of the Haverstraw Ferry landing. It consists of approximately 256 parking spaces for commuters taking the trans-Hudson ferry service to Ossining. The ferry, a demonstration project, operated by New York Waterways under contract to the Metropolitan Transportation Authority, carries commuters across the Hudson River to Ossining where they take Metro North to Grand Central Station. Directly south, the Rockland Fuel site, vacant since 1995, was formerly used as a fuel storage depot. Adjacent inland sites in the area include two small machine shops, the Village Department of Public Works, and several single-family residences. South of this area is a large vacant parcel which was formerly used for the manufacture of concrete pipe. South of this area is the Tilcon Industries industrial complex, which includes a quarry, a rock processing facility, and an asphalt plant.

Other land uses within the Waterfront Revitalization Area include a restaurant immediately south of Emeline Park, and the Haverstraw Elks Lodge located about 500 feet south of the restaurant. As noted above, Bowline Park is located at the northerly end of the Waterfront Revitalization Area, while a portion of the Palisades Interstate Park is located at the southerly end of the Waterfront Revitalization Area.

Commercial uses within the Waterfront Revitalization Area are concentrated in the central business district, which consists of parts of Broadway, Main Street and New Main Street. The central business district primarily consists of a variety of small retail and personal service establishments. Most of these establishments are oriented to serve the needs of Haverstraw's residents, and do not serve the wider region.

Within the central business district are a number of upper story residences as well as first floor residences that were formerly street level commercial uses. A small area of residences is located along First Street, just west of the Hudson River. In addition, a neighborhood of just over 30 single-family residences is located south of the Tilcon Industries land holdings.

Existing Zoning

The area immediately adjacent to the waterfront, has been categorized into four zoning districts: SP - Special Purpose; WPD - Waterfront Development; PI - Planned Industrial; and R1 - First Residence. The remainder of the Village is zoned a variety of residential districts including a Planned Residential Development (PRD) and various business districts. There is a Central Business District (CBD), Professional Office District (PO), a Highway Business District (HB), and a Mountain Protection Overlay District (M), which works in conjunction with the underlying district to restrict development on areas with steep slopes. See [Map 9, Existing Zoning](#) of the Village of Haverstraw.

The northern and southern most areas of the waterfront have been placed into the SP zoning district. This zoning district was created to permit public parks and recreational facilities, public

schools, public and semi-public uses, and cemeteries. The two SP zoning districts along the Hudson River contain Bowline Park and the large wetland just west of the park, and State parkland in the southerly portion of the Village.

The CBD zoning district is located along Main Street and New Main Street between Maple Avenue and Third Street, and between Main Street and Jefferson Avenue along Broadway. A small area extends just south of Main Street along Broadway, and there is an additional area along Maple Avenue, just south of New Main Street. The purpose of this zoning district is to serve as the primary retail and service center of the community and, as such, to provide employment for Village residents, essential goods and services, and a strong economic base. Permitted uses include:

- Office buildings for professional, government and business use
- Banks
- Social halls, meeting rooms, convention halls and catering facilities, whether commercial or nonprofit facilities
- Schools of special instruction
- Retail stores, newsstands, laundry and dry cleaning establishments, shoe repair establishments, liquor stores, barbers and beauty parlors, photographer's studios, restaurants; and other retail stores and service establishments.

Special permit uses include:

- Dwelling uses located above nonresidential uses
- Temporary trailers for business, office and commercial purposes
- Bars and other establishments serving alcoholic beverages
- Theaters
- Parking lots and parking garages
- Public utility structures and rights-of-way.

The WPD Waterfront Planned Development district is located in the central portion of Haverstraw's waterfront. The purpose of this zoning district is to facilitate the implementation of the Urban Renewal Plan for the Village's Waterfront Urban Renewal Area and this LWRP by permitting uses properly sited and designed in accordance with the Village's objectives as set forth in those plans.

Uses permitted by right and permitted density of development:

The WPD Waterfront Planned Development District is divided into five land use areas - as shown on [Map 9, Existing Zoning](#). The types of uses permitted by right and the maximum density of development of such uses are different in each land use area; provided, however, that in no event shall the maximum aggregate density of residential development on all land use areas exceed 890 dwelling units, of which five percent (5%) of the total aggregate number of dwelling

units constructed shall be affordable rental housing under Village guidelines. The land uses permitted by right and permitted densities are as follows:

1. Land Use Area "A"

a. Uses permitted by right - maximum permitted density of development:

- (1) Multiple dwellings for rental or sale having a clubhouse which may be made available for use by the public and which may include concierge facilities, business offices (for residents only), meeting rooms, recreational facilities including a pool, health and fitness facilities and dry-cleaning drop off only.
 - Maximum permitted development of dwellings: 490 dwelling units; maximum permitted development of clubhouse: 15,000 square feet of floor area.
- (2) Office space and facilities within multiple dwelling buildings and/or within the clubhouse for use by residents of the multiple dwellings on a temporary, as needed basis.
 - Maximum permitted development: 3,500 square feet of floor area.
- (3) Boat club including boat hauling, launching and mooring, and related uses such as boat service facilities, equipment sales facilities, meeting rooms, locker rooms, and eating and drinking facilities including cafes and restaurants.
 - Maximum permitted development: 10,000 square feet of upland floor area.
- (4) Water-dependent uses which are not part of a boat club including boat hauling, launching and mooring, and related uses such as boat service facilities and equipment sales facilities.
 - Maximum permitted development: 5,000 square feet of upland floor area.

2. Land Use Area "B"

a. Uses permitted by right - maximum permitted density of development:

- (1) Multiple dwellings for rental or sale with or without a clubhouse which may be made available for use by the public and which may include concierge facilities, business offices, meeting rooms, recreational facilities including a pool, health and fitness facilities, dry cleaning drop-off only, and automatic teller machines.

- Maximum permitted development of dwellings: 250 dwelling units;
 - Maximum permitted development of clubhouse: approximately 3,000 square feet of floor area.
- (2) Office space and facilities for use by residents of multiple dwellings on a temporary, as needed basis.
- Maximum permitted development: 3,500 square feet of floor area.
- (3) Passenger ferry service with docking facilities and related parking.
- (4) Water-dependent uses including boat club, boat hauling, launching and mooring, and related uses such as boat service facilities and equipment sales facilities.
- Maximum permitted development: 10,000 square feet of floor area.
- (5) Temporary sales/rental center for dwelling units under construction on Land Use Area A, B and C.
3. Land Use Area "C"
- a. Uses permitted by right - maximum permitted density of development:
- (1) Multiple dwellings for rental or sale.
- Maximum permitted development: 150 units.
- (2) Restaurants with or without catering, cafes, and inns for short-term lodging.
- Maximum permitted development: 50,000 square feet of floor area.
- (3) Water-dependent uses including boat club, boat hauling, launching and mooring, and related uses such as boat service facilities and equipment sales facilities.
- Maximum permitted development: 10,000 square feet of floor area.
4. Land Use Area "D"
- a. Uses permitted by right - maximum permitted density of development:
- (1) Multiple dwellings for rental or sale.

- Maximum permitted development: 50 units.
- (2) A children's museum or similar use. [Similar use shall mean an educational or cultural facility that reflects the character and interests of the Village, region and Hudson Valley and will enhance the Village's tourist economy.]
 - Maximum permitted development: no maximum.
- (3) Municipal parking garage.
 - Maximum permitted development: no maximum.
- (4) Retail uses.
 - Maximum permitted development: 15,000 square feet of floor area.
- (5) Permanent municipal commuter ferry docking facility with related parking and a combined ferry, fishing and recreational pier.
 - Maximum permitted development: no maximum.

5. Land Use Area "E"

- a. Uses permitted by right - maximum permitted density of development:

- (1) Multiple dwellings for rental or sale.
 - Maximum permitted development: 10 units.

Waterfront land within the Planned Industrial (PI) zoning district consists of the Tilcon Industries facility. This zoning district permits the following selected uses: light industrial uses, research and development laboratories, offices, and automotive uses as-of-right. Heavier industrial uses including quarries, concrete plants, and bulk oil storage among other uses are permitted by special permit. However, the waterfront area will continue to be used in conjunction with the existing quarry operation into the foreseeable future.

Just south of the PI zoning district is a small pocket of residences in a R-1 zoning district. This zoning district is intended to permit the development of single-family dwelling units, along with a number of compatible uses that include churches, parks and playgrounds, schools, museums, libraries, community centers, and fire, police and similar public buildings.

The zoning regulations of the Village are a significant tool in the implementation of the Village of Haverstraw LWRP. The WPD Waterfront Planned Development District, that covers much of the Village's waterfront area, provides a coordinated planned approach for redevelopment that recognizes the traditional residential and commercial uses in the surrounding residential and

downtown business district neighborhood and the potential for redevelopment on vacant, underutilized or deteriorated waterfront sites.

D. VACANT, UNDERUTILIZED OR DETERIORATED SITES

The following is a listing and description of vacant, underutilized and deteriorated sites within the Village's waterfront area. These sites are identified on [Map 4, Selected Existing Conditions](#).

1. The Warren Court property, formerly a residential site, requires approximately \$300,000 in environmental remediation prior to redevelopment. A Brownfields pilot grant has been applied for under the Environmental Protection Agency.
2. The former site of the Empire Chair Factory is currently not in use. The company was closed for business in March, 1995, and the site is currently for sale. The site contains the remains of a relatively large industrial building, which occupies much of the property. It is ideal for a mixed-use, residential, commercial/retail development that would allow public access to the waterfront and enable the greenway path/or riverfront promenade to reconnect the Village, particularly the downtown, with its waterfront.
3. There is a vacant 1.5-acre parcel located between the former Empire Chair factory property to the north, and Emeline Park to the south, known as the Damiani property. The property is currently vacant, although there are some old pier footings that extend about 250 feet into the Hudson River. The property does not have direct access to the public street system, but rather appears to have an easement over adjacent land owned by the local library. While the Parks and Open Space Implementation Plan of 1995 recommends the acquisition of this property by the Village to expand the area of Emeline Park, the goal of park expansion has been accomplished with the site immediately south of the park acquired by the Village and Scenic Hudson.
4. The site south of Emeline Park, owned by the Village and Scenic Hudson, offers opportunities for expansion of the waterfront park. A portion of the site is occupied by Civile's Restaurant, a tenant of the Village.
5. The 6.5-acre property just north of the Rockland Fuel Company, in the industrial area east of West Street, was vacant and deteriorating until recently. In the summer of 2000, the site was developed for parking for 250+ cars to serve ferry service being provided by New York Waterways as a demonstration project of the Metropolitan Transportation Authority (MTA) between the Village of Haverstraw and the Village of Ossining with connection to New York City via Metro North or to the rest of Westchester County by bus.

These uses will be directly affected by transportation improvements to Short Clove Road, which has traffic volume limitations due to its alignment with respect to Route 9W. The New York State Department of Transportation is in the process of advancing the

improvement project which calls for the provision of a climbing lane on Short Clove Road, the widening of Route 9W and signalization of the Short Clove Road/Route 9W intersection.

6. The Rockland Fuel site, used as a fuel storage depot until 1995, still contains deteriorated buildings and tanks that contribute to the general appearance of blight and deterioration in the waterfront area.
7. The Village Department of Public Works (DPW) site is an underutilized site at a waterfront location. It is proposed as part of this LWRP that the DPW facility be relocated to a non-waterfront location with all appropriate measures taken to ensure alignment with DPW's existing programs and proper relocation including the storage of salt and other materials.
8. The property that lies between the above-noted waterfront industrial area and Tilcon Industries is currently vacant. The site was formerly used for the manufacture of concrete pipe. The site was approved for a townhouse development a few years ago, but the project was not constructed. The County at one time considered the site for a County recycling facility. This site provides an opportunity to improve public access to the waterfront and create public amenities that would benefit the entire Village.
9. The 7.2-acre property owned by Tilcon Industries, located east of the CSX railroad tracks and west of West Street/Short Clove Road, is vacant and underutilized. Part of this site could be utilized for the new DPW facility.
10. A variety of small parcels located in the local waterfront area are vacant and underutilized or contain deteriorated, dilapidated, and obsolete buildings. These parcels contribute to the general appearance of blight and deterioration in the waterfront area.

E. WATER DEPENDENT AND WATER ENHANCED USES

Water-dependent uses are those uses which require waterfront sites, while water-enhanced uses are uses that have no critical dependence on a waterfront location but where inherent

value, both economically and aesthetically, increases significantly when located adjacent, or has visual access, to the waterfront.

Water-Dependent-Uses

1. The commuter passenger ferry provides a water-dependent use. Haverstraw-Ossining ferry service and related parking is available during morning commuter peak hours with return service available during evening commuter peak hours. From Ossining, Metro North commuter train service is available directly to Grand Central Station in New York City.

2. The Southern Energy Power Plant is a water dependent use because it requires large amounts of water for its operation. A portion of the facility containing fuel tanks is located in the northerly portion of the waterfront area. On March 20, 2000, Southern Energy Bowline, L.L.C. filed an Article X Application for the construction of an additional 750 megawatt combined cycle generating unit in the Town of Haverstraw's coastal area. The proposed Bowline Unit No. 3 facility would be built on the existing Bowline Point Power Plant site, adjacent to the existing Bowline Units 1 and 2 located at the northern boundary of the Village shoreline. The power plant is generally a negative aesthetic and environmental factor in the Village. Intakes in Bowline Pond may be causing accelerated shoreline deterioration.
3. The two local marinas in Haverstraw provide a water-dependent use. The Rockland-Bergen Boat Club has 40 boat slips and a boat launch/ramp. The Haverstraw Elks Lodge has approximately 35 slips. Neither of these marinas have fueling capabilities or pump-out facilities. Use of these marinas is restricted to club members. The Rockland-Bergen Boat Club has approximately 40 members and the Haverstraw Elks Lodge has approximately 1,300 members.
4. The Tilcon Industries site is a water-dependent use because it utilizes shipping facilities on the Hudson River.

Water-Enhanced Uses

5. Bowline Point Park is a water-enhanced use. Residents of the community use the park for passive and active recreation.
6. Emeline Village Park is a water-enhanced use. Village residents use the park for passive and active recreation. The Village is completing the first phase of its projected improvements to the park including reconfiguring walkways and parking areas. Funding will come from the Village's capital improvements program and from the New York State Department of Parks and Historic Preservation for improvements and park expansion to the south. Refer to Appendix D, Emeline Park Improvements Plan.

F. WATERFRONT ACCESS

Public access to the Hudson River is essentially limited to three different types: Village parkland, local marinas, and commuter ferry service. See [Maps 5 and 5A](#). Each type of facility offers a different range of facilities.

Riverfront Access and Recreation Sites

1. Bowline Point Park - picnicking, tennis, swimming pool, handball courts, scenic vistas and panoramic views. Both Town residents and non-residents must pay a fee to use the

facilities. While located in the Village, this park is owned and maintained by the Town of Haverstraw. The Bowline Pond Trailway allows the general public to come right up to the Hudson River's course. A feasibility study should be conducted to evaluate the potential for development of a pedestrian bridge over Bowline Pond connecting Bowline Park and the former chair factory property to the south.

2. Jefferson Street Park - also known as Landslide Memorial Park. The one-half acre site located at the end of Jefferson Street contains a children's playground, sitting benches, and two handball courts.
3. Emeline Village Park - exhibits, hiking, picnicking, scenic views, unofficial walking trail to the Hudson River and beach (south side), unofficial dock and fishing (north side).
4. Local marinas - There are two marinas located in a small cove just north of the Village Department of Public Works Facility. These marinas provide moorings for about 75 privately owned boats. Use is restricted to individuals that rent the use of the facility.
5. Ferry - The Haverstraw Commuter Ferry with docking facilities and related parking is convenient and accessible to local residents and to the downtown area. The pilot service began in September of 2000, offering passenger ferry service between the Village of Haverstraw and the Village of Ossining in Westchester County during weekday peak commuter hours. From Ossining, train service is available directly to Grand Central Station in New York City. The availability of commuter ferry service is an opportunity to draw new residents and visitors to the Village and its waterfront.
6. Dutchtown Playground - The playground consists of approximately one acre located along Riverside Avenue immediately south of Tilcon's overhead conveyors. The site contains children's playground equipment and a basketball court. This recreation site provides residents of the residential area located immediately south along Riverside Avenue a place in which to relax and play along the waterfront.
7. Palisades Interstate Park, land located in the extreme southern end of the Village along the Hudson River shoreline, includes a Greenway path connection to Hook Mountain State Park. The undeveloped parkland includes a stone beach. The Village proposes improved lighting and overall maintenance of State Park land surrounding the path and consideration of erosion control measures.

G. SOILS

The formation of soils is affected by five factors. These are: parent material, climate, time, topography and biologic activity. In the Village of Haverstraw, the parent material from which the soils were formed was deposited by the glaciers, which covered this part of the world some ten thousand years ago. This material was a ground-up mixture composed primarily of sandstone

and granite. The particles vary in size from boulders two feet or more in diameter to microscopic grains. Where the ice was relatively thin, as on the top of the Ramapo Mountains, the deposit varied from tens to hundreds of feet in thickness.

As the weather warmed up and the glacial ice melted, the waters from the melting ice eroded some of this material and deposited it in layers of varying extent and thickness along the channels that were being established. The speed at which these waters moved was influenced by the topography at the time and the amount and nature of the vegetation that developed. The speed of the waters determined the nature of the soil material removed from one place and deposited in another.

The soils in the Village of Haverstraw today are a result of this prehistoric activity and the intervening time in which development took place. Since the development of the Village, the natural soil conditions have been altered and, in some places, are no longer present.

The soils in the Village can be divided up into four general patterns or soil associations. Knowledge of these patterns, along with the nature, advantages, and limitations of soils, is invaluable for broad-based advanced planning. Through this information, conclusions can be drawn as to depth to bedrock, drainage, and perhaps the availability of construction material.

Each of the soil associations is identified by the name of the dominant soil, which form a pattern. These soils comprise at least half of the area in each pattern. Soils that vary from the dominant ones, in one or more characteristics, do exist in each pattern. Some of these variations are indicated in a general manner, but their extent can be obtained only from a more detailed soils study.

The two soil types found within the waterfront coastal area are as follows:

1. Holyoke-Wethersfield-Rock Outcrop:

Predominantly rolling to very steep, somewhat excessively drained and well drained soils that are shallow and very deep over basalt, red sandstone, or shale; and areas of rock outcrop on uplands. They have brown or reddish brown friable surface soils and subsoils. The rock fragment content is very high and bedrock outcrops occupy up to fifty percent of the surface. The slope is mainly 8 to 35 percent but ranges from 5 to 50 percent. The water table is at a depth of more than six feet. They are found on the sides of hills and ridges, along with the ridgetops.

2. Udorthents-Ipswich:

Nearly level and gently sloping, somewhat excessively drained to moderately well drained and very poorly drained soils formed in mixed material of organic material along the Hudson River. Slopes are predominantly 0 to 3 percent, but are as much as 8 percent in some areas. Udorthents soils are used for landings and industrial sites located along the Hudson River. Ipswich soils are

in tidal marsh areas and are subjected to daily inundation by tides. The water table for most of the year is between one foot below the surface and one foot above the surface. Areas of Ispwich soils have good potential for wetland wildlife habitat. The Udorthents areas are so variable that on-site investigations are required to determine tier suitability for any use.

To utilize a site properly, it is necessary to know as much as possible about the soils that are present. Detailed soils maps portraying the individual soils are available at the Rockland County Soil and Water Conservation District office. The ultimate purpose of a detailed soil survey is the application of the acquired soil knowledge to guide proposed land use and development. Since much of the land within the waterfront coastal area is disturbed land, the descriptions of soils should serve as a guide to the type of structures that can be supported. Existing development suggests that soils do not pose any insurmountable restrictions for development within the waterfront coastal area. However, substantial clay content in soils along the Haverstraw waterfront is a significant factor affecting the cost of waterfront redevelopment.

H. FLOODPLAINS

Floodplains, which often coincide with wetlands, are protected under regulations promulgated by the Federal Emergency Management Agency (FEMA) and local municipalities. According to maps produced by FEMA, several 100-year floodplains exist within the Village. The largest coincides with the Minisceongo Creek basin, located east of Samsondale Avenue and west of Bowline Point Park. An additional 100-year floodplain includes a significant portion of Bowline Point Park. Another significant area is located in the vicinity of the former Rockland Fuel Company site. The remaining 100-year floodplains are narrow strips of land adjacent to the Hudson River.

All development within the Village's flood hazard areas is regulated by the Village's Flood Damage Prevention Law, which is in accordance with all provisions of the National Flood Insurance Program Standards. Any future development within flood hazard areas should be undertaken in accordance with local and national requirements, some of which are incorporated into the Village's Zoning Code. Refer to [Map 2, Development Considerations](#).

I. SURFACE DRAINAGE

Several major drainage basins lie partially or wholly within the Village of Haverstraw. The Minisceongo River Drainage Basin is the largest drainage basin in Rockland County, covering an area of approximately 19 square miles. The river runs along the northern boundary of the Village and flows along the gentle slope of the Village into the tidal marshlands along the Hudson River.

The Minisceongo Creek - Sparkill Creek Drainage Basin consists of a narrow strip of coastal land bounded by the outlets of the Minisceongo Creek and Sparkill Creek and the eastern part of the Hackensack Basin. On the whole the Minisceongo Creek - Sparkill Creek Drainage Basin

covers 5.6 square miles and drains the southern and eastern part of the Village of Haverstraw as well as parts of Clarkstown and Orangetown.

The Hackensack River Drainage Basin lies outside the Village of Haverstraw, but has its northern boundary on South Mountain in the Village of Haverstraw.

These areas have little affect on developed areas of the waterfront area. Care should be taken to ensure that any future development does not disrupt any remaining existing natural drainage channels.

J. WETLANDS

Wetland areas of greater than 12.4 acres are mapped by the New York Department of Environmental Conservation (DEC), and are protected under State freshwater wetland laws and regulations. There are no DEC designated wetlands within the Village. Smaller wetland areas are subject to regulations of the Army Corps of Engineers. The Village of Haverstraw does not have a wetlands ordinance.

The only wetland area within the Village lies in the northeast section, along the Hudson River to the west of Bowline Point Park, adjacent to the facilities of Southern Energy. This wetland is part of a larger tidal marsh, which extends into the Towns of Haverstraw and Stony Point, and corresponds to the 100-year floodplain. The wetland is permanently saturated and is flooded for most or all of the year, and therefore acts as a natural retention basin for the storage of floodwaters. The wetland area generally abounds with wildlife, being a natural habitat for many species of bird life, insect, amphibians, and reptiles. Generally, wetland areas are considered unsuitable for development as any alteration can damage the sensitive ecology of the area. This wetland area is surrounded by an undeveloped strip of land owned by Southern Energy. The narrow width of this property precludes any future development within this area, therefore, wetlands appear to pose little limitations for development within Haverstraw's local waterfront area.

K. UTILITIES

Energy

Orange and Rockland Utilities, Inc. (O&R) is the service provider for both electrical and natural gas service in the Village. Southern Energy is the energy provider. The principal generating plants are the Lovett facility in Tompkins Cove and the Bowline facility located just west of Bowline Park in the northern portion of the Village, which is owned by Southern Energy. Both plants use fossil fuels.

Southern Energy is currently in the application stage to site a 750 megawatt combined cycle generating unit at the Bowline Point site. The proposed Bowline Unit 3 facility would be built on the existing Bowline Point Power Plant site, adjacent to the existing Bowline Units 1 and 2.

Water Supply

Water is supplied to the Village by United Water Resources, a publicly-owned utility company and the largest supplier of water in Rockland County. Most of the water supplied by the company comes from area streams and underground wells. Sources of water located throughout the County can provide adequate reserves to meet the present demand.

Sewage Treatment System

The Village of Haverstraw lies entirely within the Haverstraw Joint Regional Sewer District service area. All inhabited areas in the Village are served by sanitary sewers. The Palisades Interstate Park, in the western portion of the Village, is unsewered. The sewage is collected by gravity through an underground pipe network to a sewerage pump station on Dr. George Girling Drive. From there the sewage is pumped to the Joint Regional Sewerage Treatment Plant in the unincorporated section of the Town of Haverstraw, with the effluent discharged into the Hudson River. The design capacity of the Joint Regional Sewerage Treatment Plant is 8 million gallons per day. It is presently operating at an average daily flow of about 5.34 million gallons. The Haverstraw Joint Regional Plant serves approximately 34,100 people. The plant has a capacity to service a population of up to about 51,100 people.

Existing water and sewer infrastructure within the Village is generally adequate to support further development and redevelopment within the Village.

L. TRANSPORTATION

The main arteries which carry traffic through the Village and connect it with major population, commercial and industrial centers outside the Village include Route 9W which passes through the Village from south to north, and Route 202 which enters the Village on the west and intersects with 9W at Westside Avenue. Route 9W connects to the New York State Thruway and Route 287 just west of the Tappan Zee Bridge, about ten miles south of the Village. Route 202 provides a connection to the New York State Thruway and Route 287 in the Suffern area, which is about 15 miles west of the Village. Route 9W connects the Village with Newburgh and other communities further north along this route, and also connects with Route 6 in the vicinity of the Bear Mountain Bridge. Route 202 crosses the Hudson River at the Bear Mountain Bridge, providing a connection to the northerly portion of Westchester County as well as Putnam and Dutchess Counties.

There are four roads that provide access to the waterfront area from highways that connect Haverstraw to its neighboring communities. These are Short Clove Road, New Main Street, Westside Avenue, and Gurnee Avenue with a one-way railroad tunnel available for cars to pass under. The first three are at-grade crossings, while there is a bridge that carries the rail lines over Gurnee Avenue. Access to the waterfront is also available from Samsondale Avenue through West Haverstraw. Access to the waterfront area is impeded at times while the railroad is in use.

The West Shore rail line, operated by CSX Transportation, transports rail freight through the Village between upstate New York and points in New Jersey where freight either continues along connecting rail lines or is transferred to warehousing points or truck transport for distribution to New York City. At times, trains stop and idle for up to 20 minutes, significantly restricting access to the waterfront area by blocking all at-grade crossings but one.

These roads are in good condition with the exception of Short Clove Road, which is in need of repair due to its constant use by heavy trucks. In addition, the intersection of Short Clove Road and Route 9W is awkwardly laid out, which restricts access from Short Clove Road. The New York State Department of Transportation is in the process of advancing an improvement project for the Route 9W/Short Cove Road intersection. This project calls for the provision of a climbing lane on Short Clove Road and signalization of the Short Clove Road/Route 9W intersection. This will significantly improve the operation of this intersection.

The Village of Haverstraw is served by two New York State Highways, Routes 9W and 202, which have the highest annual daily traffic volumes of Village roadways, over 15,000 vehicles per day. The majority of the remaining principal roads in the Village carry relatively light traffic loads, averaging less than 1,000 vehicles per day.

Traffic volume within the Village is heaviest during the peak commuter hours from 7-9 a.m. and from 4-7 p.m. At present, local roads and streets are generally capable of handling existing traffic; however, in some areas because of the presence of steep grades, narrow roadways, and sharp curves, travel speeds are often slow.

Public Bus Transportation

Public bus transportation includes passenger bus service provided by the Red and Tan Lines, Transport of Rockland and Transportation Resources Intra-County for Physically Handicapped and Senior Citizens, Inc. (T.R.I.P.S.); operated by the County of Rockland. Bus service is available only within the central business district. The Red and Tan Lines provide service on route number 11A and route number 49. Route 11A provides service from Stony Point through Haverstraw, New City, Nanuet and Pearl River to the Port Authority Terminal in Manhattan. The nearest bus stop from the downtown area is located near the intersection of Broadway and Main. Frequent service occurs on a Monday through Friday basis, with hourly service on the weekends. Route 49 is an express bus route for 11A. There are no park and ride facilities in the Village; the nearest facility is the Mt. Ivy area at the intersection of Route 202, Route 45 and the Palisades Interstate Parkway.

The Transport of Rockland provides passenger bus service from all Towns and many Villages, including the Village of Haverstraw, to other areas of the County. Routes 91 and 95 provide service from the Village of Haverstraw. The Route 91 bus stop is located at the intersection of New Main Street and Maple Avenue and the Route 95 bus stop is located at the Intersection of Main Street and Broadway.

Route 91 westbound provides service between Haverstraw and Spring Valley, with several stops in between; running time is one hour and nine minutes. Route 91 eastbound provides service between Haverstraw and Nyack, with several stops in between; running time is thirty-one minutes. Route 95 provides service between Mount Ivy and Haverstraw, with stops in Garnerville and West Haverstraw; running time is seventeen minutes. Buses for all routes operate frequently throughout the day.

During morning rush hours, the Tappan Zee Express Route TZX2 provides service between Stony Point and White Plains in Westchester County with stops in West Haverstraw; Haverstraw; Congers; Valley Cottage; Westchester County Center; White Plains TransCenter (with connecting service available to BEE Line Shuttles and MetroNorth Commuter Railroad); and downtown White Plains. Return service is available during evening rush hours.

Transportation Resources Intra-County for Physically Handicapped and Senior Citizens (T.R.I.P.S) bus service is operated by the County and provides transportation for handicapped and elderly people. Service is provided on a reservation basis.

The Short Line bus company operates a route between New York City and Newburgh. However, the nearest stop is at Samsondale Plaza in West Haverstraw.

Rail/Ferry Transportation

The Metro-North Commuter Railroad, a division of the Metropolitan Transit Authority, in cooperation with New Jersey Transit, provides rail service from Rockland County to New York City. The closest stations to the Village of Haverstraw are located in Spring Valley and Nanuet. This line is the Pascack Valley Line, which feeds into the Secaucus transfer. Passenger ferry service operates between the Village of Haverstraw and the Village of Ossining in Westchester County, from which train service is available directly to Grand Central Station in New York City. The service began operation in September 2000, and currently services approximately 400 riders daily. The possibility of restoration of passenger rail service is under study on the now freight-only West Shore Line, operated by CSX Transportation, which runs through the Village of Haverstraw.

M. SCENIC RESOURCES

Amongst the widespread development in the Village remain a number of features of outstanding visual quality. Awareness of these scenic resources by Village residents is vital in any effort to preserve these unique areas of Haverstraw. Specifically, these features are the Hudson River and South Mountain.

Local Scenic Resources

The primary opportunities for scenic views of the Hudson River are found close to the river itself, especially at Emeline Park and Bowline Park, where the general public can come right up to the Hudson River's course. The view at this point, which is partially obscured by vegetation, cannot be regarded as panoramic. Views to the river are also found along Shore Clove Road, in the southerly part of the Village, and occasional views to the river are found along some stretches of Route 9W, in the central portion of Haverstraw. Long views to the river are provided by some streets, such as Main Street, that act as view corridors. Opportunities for viewing the Hudson River can be obtained from virtually any area along the River.

South Mountain / High Tor

Haverstraw's highland area is part of the Palisades mountain range and is known as South Mountain. This is a well-defined ridge rising to a height of 827 feet at High Tor. The ridge runs northwest to southeast and forms a sharp escarpment along the Hudson River as the ridge passes the south border of the Village. The scenic resources of South Mountain form a stunning backdrop for the Village. Views to and from South Mountain should be protected.

Long Path / High Tor State Park

A view of almost the entire Village is possible from the Long Path as it passes through High Tor State Park.

Route 9W Scenic Overlook

In the southerly portion of the Village, vehicles can pull over along the northbound shoulder of Route 9W to gain a widespread view of Haverstraw Bay, the widest portion of the Hudson River, and Westchester County beyond. The scenic overlook has a parking area approximately 500 feet in length that can accommodate up to 50 cars. During the spring, summer and fall months, a hot dog truck is often present, where travelers and tourists stop for lunch.

Residential areas west of Route 9W

The residential areas of the Village, between Route 9W and High Tor State Park, have spectacular views of the river.

Negative Visual Elements

Recommendations to improve visual access to the river from parks and playgrounds are contained in the "Recreation and Open Space Program" in this document. These recommendations include the refurbishment of the Route 9W scenic overlook, which offers views of Haverstraw Bay and the Westchester County waterfront. Where new development or

changes in land use are proposed within sight of or adjacent to the Hudson River, the Village will diligently pursue the protection of visual access to the waterfront. (See [Map 6, Scenic Resources](#).) Further, through zoning and site plan review, view access corridors will be protected through the required submission of view protection plans.

The Rockland Fuel site once contained derelict buildings and above ground storage tanks. However, in May 2003, the Developer acquired and began dismantling the tanks. The site is now vacant with no remnants of the negative visual element. In addition, the plans are in place for a planted buffer or "vegetative berm" that will have a minimum width of 100 feet to screen all aspects of this Tilcon Mining Operations.

N. UNDERWATER LANDS

The Public Trust Doctrine is a set of American property law principles that defines the nature of public and private interests in lands beneath "navigable waters," including those subject to the ebb and flow of the tides. The Hudson River, which is tidal to the Federal Dam at Troy, falls under the Public Trust Doctrine. The doctrine, derived from ancient and English common law principles, provides the historic understanding that the air, the running waters, and the sea are common to all people, guarantees the public's right to reach and use tidal lands and waters. The doctrine serves two functions. The first is to define the geographic extent of public ownership of lands under water. In New York State, the boundary is the mean high water line. Therefore, the State has sovereign control and ownership of the foreshore, tidal waters and submerged land under tidal waters - below the mean high water line.

The second primary function of the Public Trust Doctrine is to define the nature of the State's ownership interest in these lands. The State holds title to these lands as trustee for the public, and must administer the use of these lands in the public interest. In New York State, the courts have established that uses including navigation, commerce, and fishing as well as recreation and ecological preservation, are valid uses of public trust lands and waters. When the tide is in, the public has the right to use public trust lands for swimming, fishing, boating and other lawful recreational activities. When the tide is out, the public has the right to gain access to these lands to lounge or walk along the foreshore.

Property owners whose lands abut public trust resources have rights such that the public cannot access public trust land across private land without the owner's permission. Additionally, these property owners possess riparian rights to the Hudson River entitling them to access navigable water. These rights are limited as to the type of use, which may be placed in the water, and they must be reasonably exercised. By the nature of location over the water, the exercise of these rights almost always interferes with public use of the water and lands subject to the Public Trust Doctrine.

In New York State, adjacent upland owners can also apply to purchase or lease underwater lands. During the 18th and 19th centuries, the State of New York sold large expanses of public trust

lands and waters to adjacent land owners to promote the development of commerce. In many cases, these owners placed fill in the Hudson River to create new land. In more recent years, private uses of public trust waters include marinas, commercial fishing operations, and docks and piers for shipping, and recreational boating. For the most part, grants were limited and a public interest in the underwater land remains intact. While the courts have consistently recognized the Public Trust Doctrine as a sovereign right held for the people, they have also recognized the validity of grants of public trust land to riparian owners. The courts have held that where some types of grants have been made by the State without any express reservation of the public rights, the public trust and accompanying public rights are extinguished, although the State may still regulate such lands under its police power and may authorize local governments to do so as well. The courts have also held that some grants may be invalid if the grant is not in the public interest.

There has been a recent emphasis on the importance of the public's right to access and enjoy Public Trust lands as a recreational resource and the use of the Public Trust Doctrine to better protect New York's coastal areas and their living resources. The use of trust lands by the public generates billions of dollars for the State economy. The foreshore and underwater lands of the coast are used for recreation, boating, fishing, swimming, and visual enjoyment. The tidal areas provide habitat and breeding areas for shellfish and finfish of commercial and recreational importance. Private actions that interfere with these activities diminish the public's use and enjoyment of these vital public resources.

In 1992, the NYS Legislature passed Chapter 791, codifying, in part, the public trust in underwater lands. The Legislature found that regulation of projects and structures, proposed to be constructed in or over State-owned land underwater, was necessary to responsibly manage the State's proprietary interests in trust lands. Additionally, the regulation would severely restrict alienation into private ownership of public trust lands owned by the State. The intent of the Act was also to ensure that waterfront owners' reasonable exercise of riparian rights and access to navigable waters did not adversely affect the public's rights. The Legislature stated that use of trust lands is to be consistent with the public interest in reasonable use and responsible management of waterways for the purposes of navigation, commerce, fishing, bathing, recreation, environmental and aesthetic protection, and access to the navigable waters and lands underwater of the State.

An accurate inventory of the public trust lands and those lands that have been leased or granted to private interests within the Village of Haverstraw is very important since the ownership of underwater lands may have an important impact on the ability to implement some of the policies of the Village's LWRP. Before considering any development activity or land purchases along the waterfront area, prospective developers and owners are advised to check on the ownership of the adjacent underwater lands. This must be done at the NYS Office of General Services (OGS) office in Albany. OGS is the administrator of State lands, including underwater lands, and maintains a series of "Water Grant Index Maps" that identify lands within State ownership, as well as grants, easements, and leases previously issued by the State to various public and private entities.

Municipal, State, and federal agencies should consider the public's rights under the Public Trust Doctrine during their regulatory review of development proposals. In many cases it can provide a rationale for modifying or denying permits when an activity would impair public trust resources or if the use is inconsistent with the Public Trust Doctrine. It is important to understand the nature of the ownership of underwater lands since existing State grants, easements and leases to upland owners for use of public trust lands do not necessarily extinguish the public's rights to use these resources. Remaining public rights depend on the specific grant, easement or lease and in some cases require judicial interpretations. In addition, the federal government has tremendous powers under the Federal Navigation Servitude to regulate, and even absolutely prohibit, activities in the navigable waters of the United States, which includes the Hudson River.

O. SIGNIFICANT COASTAL FISH AND WILDLIFE HABITATS

Haverstraw Bay is designated by the State as a “significant coastal fish and wildlife habitat”. It extends approximately six miles on the Hudson River, from Stony Point to Croton Point, in the Towns of Stony Point, Haverstraw, and Clarkstown, in Rockland County, and the Town of Cortlandt, in Westchester County. Refer to [Map 3, Haverstraw Bay Coastal Area](#).

This coastal fish and wildlife habitat encompasses the entire river over this approximate six mile reach, which is the widest section of the Hudson estuary. Haverstraw Bay has extensive shallow areas (less than 15 feet deep at mean low water), which deepen to a navigation channel (which is dredged to maintain a depth of about 35 feet) in the western half of the area. During much of the year, this area is the place where freshwater from the upper river mixes with salt water from the Atlantic, producing predominantly brackish water habitats, with salinities varying from 0-10 ppt. The land area surrounding Haverstraw Bay supports a variety of land uses, including industrial, commercial, residential, and recreational developments, as well as vacant and underutilized land, although undeveloped forestland also remains.

Habitat disturbances, such as dredging, shoreline filling and bulkheading, waste disposal, and pollution from upland and in-river sources, have all been significant at some time during the recent history of this area.

Despite various habitat disturbances, Haverstraw Bay possesses a combination of physical and biological characteristics that make it one of the most important fish and wildlife habitats in the Hudson River estuary. The regular occurrence of brackish water over extensive areas of shallow bottom creates highly favorable (if not essential) conditions for biological productivity within the estuary, including submergent vegetation, phytoplankton and zooplankton, aquatic invertebrates, and many fish species.

Although the location of the salt front varies annually (and seasonally), Haverstraw Bay regularly comprises a substantial part of the nursery area for striped bass, American shad, white perch, tomcod, and Atlantic sturgeon that are produced in the Hudson River. Other anadromous

species, such as blueback herring and alewife, spawn in upstream freshwater areas, but move south and concentrate in this area before leaving the river in the fall.

Haverstraw Bay is also a major nursery and feeding area for certain marine species, most notably bay anchovy, Atlantic menhaden, and blue claw crab. Depending on the location of the salt front, a majority of the spawning and wintering populations of Atlantic sturgeon in the Hudson River may reside in Haverstraw Bay. Shortnose sturgeon (E) usually winter in this area as well. Significant numbers of waterfowl may occur in Haverstraw Bay during spring (March-April) and fall (September-November) migrations, but the extent of this use is not well documented.

Haverstraw Bay is a critical habitat for most estuarine-dependent fisheries originating from the Hudson River. This area contributes directly to the production of in-river and ocean populations of food, game, and forage fish species. Consequently, commercial and recreational fisheries throughout the North Atlantic depend on, or benefit from, these biological inputs from the Hudson River estuary. New information regarding sub-aquatic vegetation beds and related habitat values at Bowline Pond and along the Riverfront has been studied by NYSDEC. At the time of this writing, such data is not yet available to the public. When it becomes available, the village will study and consider its impact on the Hudson River and Bowline Pond.

P. WATER QUALITY

Water Quality Standards for the Hudson River

The Hudson River is the dominant watercourse in the Village of Haverstraw. The river is a partially stratified estuary with hydrodynamics characterized by river geometry, freshwater inflow, tidal motion and a density induced circulation. Haverstraw Bay lies immediately offshore from the Village.

The Hudson River has been classified for water quality standards by two separate governmental agencies - the Interstate Sanitation Commission (ISC) and the New York State Department of Environmental Conservation (DEC). DEC requirements are more stringent than ISC standards and are directly applicable to the study area.

Interstate Sanitation Commission

This tri-state commission sets standards for Hudson River waters. Hudson River water is rated "Class A" and has the following requirements: designate used in recreation, shellfish culture and development of fish life. The ISC requirements for treatment of sewage discharged into "Class A" waters are less stringent than DEC requirements. The best usage of "Class A" waters is identified as a source for drinking water, culinary or food processing purposes, and any other usages. Such waters, subjected to approved treatment equal to coagulation, sedimentation, filtration and disinfectant, with additional treatment if required to reduce naturally present

impurities, would meet New York State Department of Health drinking water standards and would be considered safe and satisfactory for drinking water purposes.

Department of Environmental Conservation

The quality of water resources are defined in terms of chemical, physical, and biological characteristics which, in turn, relate to the water's acceptability for its intended use. The DEC has classified all streams, lakes and rivers according to best use. The classifications are used to regulate water quality and enforce water quality standards. The water quality classifications used by DEC are as follows:

Class AA Source of water supply for drinking, culinary or food processing purposes and any other usage.

Class A Source of water supply for drinking, culinary or food processing purposes and any other uses with treatment.

Class B Primary contact recreation and any other uses except as a source of water supply for drinking, culinary or food processing purposes.

Class C Suitable for fishing and all other uses except as a source of water supply for drinking, culinary or food processing purposes.

Class D Suitable for secondary contact recreation but will not support the propagation of fish.

The DEC has classified the reach of the Hudson River adjacent to Haverstraw as "SB." This classification is the same as "Class B" above, except that the "S" simply identifies that the water is brackish or saline.

Water quality standards established by DEC for particular constituents are presented below for "SB" waters.

Total Coliform: 2400/100 ML

Total Coliform: 200/100 ML

Dissolved Oxygen: 5.0 ML

Any uses along the Hudson River that would raise the coliform counts or reduce the level of dissolved oxygen would be in violation of these standards and subject to penalties. Under the present standard, the waters of the Hudson River in the vicinity of Haverstraw meet the standards for public swimming areas.

Rivers, streams and lakes in the planning area have been classified for water quality by the DEC. That portion of the Minisceongo Creek that is tidal is classified "I" indicating that the water is

suitable for secondary contact recreation and any other usage except for primary contact recreation and shellfishing for market purposes. The lower marsh and freshwater portions of the Minisceongo Creek are class "D" waters.

In general, sources of pollution to waterbodies may be classified as either point or nonpoint. Point sources are discrete sources of pollution sewage or industrial effluent. Nonpoint pollution enters the waterbody from more diffuse sources, such as runoff from streets. Historically, pollution control has focused on point sources since these are more often readily apparent. Since the Federal Water Pollution Control Act was passed in 1972, significant progress has been made in controlling pollution from point sources, yet more remains to be done.

Those point and nonpoint sources of pollution that have degraded and continue to degrade the water quality of the Hudson River include storm water run-off, industrial discharges and leaks from petroleum and chemical storage tanks, discharges from sewer treatment plants, pollution from marinas and boats, agricultural fertilizers and pesticides, and construction site run-off.

In the Village of Haverstraw water quality impairments could result from any of the above sources of pollution. The Village of Haverstraw recognizes the need to maintain high water quality in Haverstraw Bay and adjacent portions of the Hudson River.

Q. HAZARDOUS WASTE SITES

Two sites are located in the Town of Haverstraw, just north of the Village of Haverstraw: the former Haverstraw Village Landfill and the Hi-Tor Industrial Park. The former Haverstraw Landfill is located along Grassy Point Road and consists of a 40-acre sanitary landfill operated from 1969 to 1996. Hazardous waste deposition has not been confirmed at the site, though industrial waste and industrial sludge is suspected to be present. The Town has ceased operating on the site and municipal waste is now taken to Pennsylvania, where various sites are used. The Haverstraw Village Landfill and the Hi-Tor Industrial Park are located outside the Village's local waterfront area, and do not have a direct affect on its development.

The Hi-Tor Industrial Park consists of a 2 ½ acre open dump operated by U.S. Plastics from 1959 to 1971. Methyl methacrylate was manufactured at the site from scrap plastic. Chemical waste from the manufacturing operations was stored on site in slop tanks. On April 29, 1983, the new owners excavated the tanks and spilled the chemical sludge onto the ground. This caused severe odor problems in the area. A consent order was executed for a field investigation and monitoring wells have been installed.

Approximately 40 cubic yards of sludge and contaminated soil were removed on May 31, 1983, by the owner. Groundwater contamination has been suspected. Field investigation reports have been submitted and approved.

Inspections of this site by the DEC and Rockland County Health Department staff have indicated that the monitoring wells for this site may be damaged and additional drums of unknown contents may be on site.

Hazardous waste confirmed at the site include: methyl methacrylate, phenol, lead, benzene, ethylbenzene and chlorobenzene.

These areas are located well outside of the Village of Haverstraw, and do not pose any restrictions on the future development of its waterfront coastal area.

R. KEY WATERFRONT GOALS

The main goals prevalent in the Village of Haverstraw for waterfront revitalization and greenway development are:

- Restore and revitalize underutilized waterfront sites;
- Restore and revitalize the underutilized downtown area;
- Improve existing and provide additional public recreation facilities and provide additional public access and recreation opportunities to the waterfront and other areas of the Village;
- Link public sites along the waterfront and throughout the Village;
- Utilize the waterfront as a resource for alternative transportation modes;
- Protect and improve the Village's natural resources; and
- Provide opportunity to expand the range and diversity of housing and residential environments within the Village.

Redevelopment and Revitalization

It is economically advantageous to revitalize the underutilized and/or deteriorated waterfront industrial sites to new water-dependent and water-related or enhanced uses. Residential uses that would reconnect the Village of Haverstraw, particularly the downtown, with its waterfront should be considered.

The vacant 1.5-acre Damiani property is proposed for future development of a combination recreation and ferry pier and parking structure. This would establish a significant long-term water-dependent use along the Village's waterfront.

The Rockland Fuel site, formerly used as a fuel storage depot, still contains deteriorated buildings and tanks that contribute to the general appearance of blight and deterioration in the waterfront area.

The Village Department of Public Works (DPW) facility should be relocated to a non-waterfront location, with all appropriate measures taken to ensure proper relocation and storage of salt and other materials. The current site is underutilized and offers potential for redevelopment.

The property that lies between the former Rockland Fuel site and Tilcon Industries is currently vacant. The site provides an opportunity to improve public access to the waterfront and create public amenities that would benefit the entire Village.

Increased Public Access and Recreation Opportunities

Increasing public access and recreation opportunities will open up the use of the Village's waterfront for residents and tourists alike. Existing public access to the waterfront is limited to the public parks: Emeline Village Park, Bowline Town Park, and the small portion of Hook Mountain State Park located in the extreme southern end of the Village. Access to Emeline Park and the Palisades Interstate Park (PIP) land is limited by the availability of parking, and Bowline Park is accessible only through the Town of Haverstraw. Additional access is provided at the private marinas, but access is limited to the members of the public who moor their boats at these facilities. The Village does not have a public boat launch or a waterfront promenade. Bowline Pond offers potential for development as a marina location. A public recreation pier, which would provide additional fishing opportunities along the riverfront, may be combined together with the proposed ferry pier immediately north of Emeline Park.

The revitalization of Emeline Park is a key waterfront issue. The park needs to be updated with a tie-in to the recently Village acquired Civile's Restaurant site, south of the park. Additional parking on the expansion parcel will also enhance accessibility to the park and the Village's waterfront. The beach should be rehabilitated for sunbathing, swimming and other public uses. Improvements to Emeline Park are virtually complete. Work began in the Fall of 2000. Refer to Appendix D, Emeline Park Improvements Plan. This plan includes expanded and improved children's play area, and sitting and walking areas to enjoy the riverfront setting.

A recognition of the Village's historic character would help foster tourism opportunities. The Village needs to attract visitors on its own merits - as a destination point. Cultural activities should be encouraged including the relocation to the Village of Haverstraw of the Hudson Valley Children's Museum (HVCM). As of this writing, the HVCM is negotiating a 99-year lease with the Village for specific acreage in Emeline Park. Such land and the construction of a new approximately 35,000 square feet building will secure adequate space for their expanding educational and agricultural programs that focus on the Hudson River. Haverstraw was one of the pre-eminent brick making communities in the country. Its role in America's industrial history is well established and needs to be memorialized for future generations. The Haverstraw Brick Museum's continued operation in the area will also accomplish this purpose.

Link Public Sites Along the Waterfront

In addition to the redevelopment of derelict industrial sites with water-dependent and water-enhanced uses, the revitalization of the central business district or downtown should provide a pedestrian friendly streetscape and linkages between the riverfront and the downtown area. Linkages may include encouraging businesses that serve users of the waterfront to locate

within the downtown area, public improvements that accentuate visual connections between the two areas, signage that directs the general public to the central business district and the waterfront, and community activities that range between these areas such as street fairs or festivals. As part of any revitalization effort, the Village should capitalize on its many ethnic attributes. A building facade improvement program and parking improvements are important to this revitalization effort.

Physically, the riverfront promenade, recreation piers, and the various paths linking the waterfront to downtown will provide physical links as well.

Utilize the Waterfront as a Resource for Alternative Transportation Modes

The Keahon site, north of the former Rockland Fuel Company site, was recently prepared or use for a temporary ferry terminal and associated commuter parking providing Haverstraw to Ossining ferry service. This presents an opportunity to utilize the waterfront as a resource for alternative transportation modes and to draw new residents and visitors to the Village and its waterfront. The waterfront promenade would continue along the site and to the south. Improving infrastructure, as well as focusing on the historic aspects of the Village of Haverstraw is important in the waterfront revitalization effort and tourism development.

Protect and Improve Natural Resources

The protection of the Village's natural resources such as Haverstraw Bay and the scenic attributes of the High Tor area should be preserved. Haverstraw Bay is a State-designated Significant Coastal Fish and Wildlife Habitat. As such, it deserves special treatment from the upland uses. Non-point source pollution, particularly in the form of sheet erosion due to the topography of the Village, needs to be controlled.

The scenic resources of Haverstraw Bay and the ridge of South Mountain (High Tor) form a stunning backdrop for the Village. Any future development in the Village should be undertaken in a manner that recognizes these important scenic resources, and all reasonable efforts should be made to harmonize with the visual character of the landscape.