

3. Street trees

Street trees form an ecological community. In villages where true forests no longer exist, street trees are the urban forest. Recent studies show that the root systems of street trees form symbiotic partnerships. Above ground, trees planted together conserve moisture and experience less dessication. Some sections of the Village streets that were planted many years ago have been in decline and a higher rate of replacement planting may be needed to catch up with the aging street tree population. However, the grandeur of older trees makes cabling, wiring, pruning and other means of prolonging tree life worthwhile.

4. Ravines and old river bluffs

The higher ground sloping toward the Hudson River just east of the railroad tracks is densely vegetated and supports, in many places, very old trees that seem to have outlived their surrounding forest communities. Other oddities, dry ravines that seem to have been sculpted by water that has since been diverted, are found along this edge. The best example is found behind the River Glen co-operatives complex. A combination of factors such as construction of the railroad, storm water diversions, and other activities may have killed off the forest community which required moisture and less light. However, many of the mature hardwoods were left to survive. Their survival is good for the slopes, most of which would need to be protected by giant retaining walls in the absence of tree roots. At the base of these giant trees, and filling the ravines, are a combination of plants. Most are exotic invasive vines, but some are native grapes and other beneficial plants which support a very healthy thicket habitat heavily used by songbirds. All of this area falls within the State and Westchester County-designated Hudson River Critical Environmental Area which is displayed on Map 14, Westchester County Designated Critical Environmental Areas.

Map 14A identifies steep slopes areas in Hastings along with the lot lines in order to indicate the developed and potential development areas that they impact. The map legend also inventories the number of lots in various size ranges starting with up to 2,500 square feet (170 lots) and ending with more than 2 acres (59 lots). Most of the sloped area range from 10 to 15 percent, however, these areas tend to gradually increase to 15 to 25 percent slopes as Map 14A shows by the intermixed pink and red areas. The few areas with slopes over 265 percent are near the southwest Village boundary with aome small areas interspersed near Ridge Street and on Cliff Street. The Village Board of Trustees and the Planning Board are reviewing the existing Steep Slopes law and plan to amend the law in 2007 so that it will be more effective in implementation.

2.11 TRANSPORTATION

A. Vehicular Access

The extent to which people can move to and from the Hastings waterfront by car in a safe and efficient manner is crucial to determining the nature and extent of waterfront revitalization. The narrow, hilly, streets (indicated on Map 14A just east of the Hudson River waterfront area) that are an asset in terms of village ambiance provide a challenge to waterfront automobile traffic. Waterfront access is influenced by a generally isolated condition. Public vehicular travel between the waterfront and the rest of the village is truncated by active railroad tracks and steep bluffs.

There is only one two-lane bridge across the Metro-North railroad at Dock Street. All traffic to or from this bridge must use one of three east-west local streets, all of which intersect with the only north-south street through the business district. While there are multiple north-south routes to and from the village, east-west access is limited.

There is a second private one-lane bridge between the Village and waterfront known as Zinsser Bridge which serviced the Zinsser Paint company. After Zinsser Paint Company closed, the bridge served the Uhlich Color Company and the Mobil / Exxon site. Zinsser Bridge was closed to vehicular traffic in 2003 and the buildings that it once served have been demolished to prepare for remediation. The NYS Department of Transportation Transportation Improvement Plan (TIP) has its reconstruction listed along with fourteen other bridges that cross Metro North railroad tracks. Design and engineering of the Zinsser Bridge reconstruction is scheduled to begin in 2009. This will occur only if a project sponsor, which must be a governmental agency, agrees to undertake the project.

1. Parkways and Highways

The parkway closest to Hastings-on-Hudson is the Saw Mill River Parkway, a four-lane, divided roadway that traverses Westchester County in a northeast-southwest direction. and connects with the Henry Hudson Parkway to the West Side Highway in New York City. When leaving the Saw Mill River Parkway to enter Hastings, the main exit is onto Farragut Parkway which intersects Farragut Avenue west of the Parkway. This exit is used to reach most village residences, the main business district and nearby villages. There are three less-used exits farther north for southbound traffic and another farther north for northbound traffic. Some northbound Saw Mill Parkway traffic traveling to downtown Hastings exits in Yonkers at Executive Boulevard which intersects with Broadway (NYS Route 9) to the west of the Parkway.

The Sprain Brook Parkway is a 6-lane divided highway which runs north-south about one mile east of the Saw Mill River Parkway. Its Jackson Avenue exit provides access to Hastings from the Sprain along Jackson Avenue/Ravensdale Road, which ends at its intersection with Farragut Avenue.

Automobiles also travel to Hastings via the north-south NYS Route 9A, turn onto Ravensdale Road, and then drive west to Farragut Avenue. NYS Route 9A is immediately east of, and runs parallel to, the Saw Mill River Parkway. Farther west, Broadway (SR 9) has four lanes and runs north-south through the village bringing traffic to and from Yonkers to the south and Dobbs Ferry and other neighboring river villages to the north.

As shown in the Westchester County traffic counts below, the average annual daily traffic (AADT) on Ravensdale Road where it approaches Farragut steadily increased from 6,455 vehicles in June of 1993 to 6,778 in June of 1996 and then to 7,351 in 2003. While the AADT volume on Farragut Parkway at Ravensdale decreased from 12,530 to 11,721 cars between September of 1993 and September of 1996, it increased to 13,307 in 2003. Likewise, the AADT on Broadway at Farragut decreased from 8,350 vehicles in 1985 to 7,950 in 1991, then to 6,750 in 1992 and to 6,600 in 1996. However, AADT increased to 7,357 in 2003. The decreases for Farragut and Broadway reflected in the 1996 information may have been due to the opening of Executive Boulevard between the Saw Mill Parkway and Broadway.

The increase in 2003 indicates that vehicular traffic and auto dependency has generally increased since 1996, probably due to the brisk pace of commercial development activity during the past decade.

AVERAGE ANNUAL DAILY TRAFFIC COUNTS IN HASTINGS-ON-HUDSON

Source: Westchester County Department of Public Works

	1985	1991	1992	1993		1996		2003
				June	Sept	June	Sept	June
Ravensdale /Farragut				6,455		6,778		7,351
Farragut / Ravensdale					12,530		11,721	13,307
Broadway/Farragut	8,350	7,950	6,750				6,600	7,357
Broadway/Farragut-Ashford								11,863
Warburton								4,141

2. Local Streets

The business district and nearby waterfront both lie west of all the main roads discussed in the previous section. The principal point of transition from the main roads to the business district is a signalized, five-leg intersection known as "five corners." Broadway, Farragut Avenue, and Main Street intersect here. The flow of Farragut Avenue traffic into and out of "five corners" is sometimes slowed by "drop-off" and "pick-up" congestion around the school complex two blocks east of the intersection. Main Street takes the bulk of the traffic down to the commercial area ending at a T-intersection with Warburton Avenue. Warburton Avenue is a two-lane local street that runs north-south through the commercial area bringing traffic to and from Yonkers to the south.

Three narrow streets — Washington, Spring or North — provide east-west access to traffic between Warburton Avenue and Maple Avenue which becomes Southside Avenue south of Spring Street. Maple/Southside is the most westerly north-south village street before the waterfront. Washington and North Streets require unusually sharp turns as traffic enters or exits Southside/Maple. The need for a fourth street between Southside and Warburton Avenues has often been voiced, specifically a street which does not go through the commercial district. The only proposal to receive serious consideration in prior studies is one to extend Southside Avenue south of the Zinsser Bridge up to Warburton Avenue at a point somewhere south of the Pinecrest intersection with Warburton. Three variations of this concept are presented in the "Comprehensive Waterfront Development Plan" prepared for the Village in 1982 by the Gruzen Partnership. A major obstacle to this concept is that the land between Southside and Warburton Avenues is very steeply sloped.

In November of 1998, a traffic study of the waterfront and downtown area streets and intersections was commissioned by the LWRP committee. The study found that the flow of traffic in the study area is generally light to moderate. All intersection approaches function at level-of-service "C" or better even during peak hours with the exception of three locations, including, Broadway at Main, Main at Broadway, and Washington at Broadway. Westbound Main Street carries the highest volume of truck traffic, averaging 14% of the total over 24-hour weekday periods.

The locations with the most vehicular accidents in the waterfront and downtown areas from 1996 through 1998 were the parking lots, 74 of 254 accidents or 24 percent. The second most likely place for accidents was Warburton Avenue between Spring Street and Villard Avenue, where 35 (14 percent of the total) occurred during the same three-year period. Most of the accidents in the downtown are minor and involved only property damage. The condition of the pavement and sidewalks in the study area was described as fair. It was also noted that pavement markings are not present or faded on several of the roadways. The complete report is posted on www.hastingsgov.com.

More recent studies of pedestrian and vehicular traffic have been undertaken by the Village beginning with a "Walkable Communities" workshop that was held in October, 2003. A summary of the workshop in which more than 30 residents participated is posted on www.hastingsgov.com.

In May, 2005 the Village hired Buckhurst Fish Jacquemart (BFJ) Inc. to prepare a Transportation Plan and Pedestrian / Bicycle Enhancements, 80 percent of which was funded by the New York State Department of Transportation (NYSDOT). Data collected, mapped on Geographic Information System (GIS) and analyzed includes accident locations, traffic counts, existing sidewalk conditions and locations in need of sidewalks throughout the Village. Preliminary findings were presented at a planning workshop on November 16, 2005 and more than 30 residents participated in small work groups that reported their suggestions to the entire assembly. The summary of comments from the workshop are posted on the Village website (www.hastingsgov.org).

A second planning workshop was held in March, 2006 to further refine findings and recommendations and to begin prioritizing projects that will alleviate pedestrian / vehicular traffic conflicts and improve traffic circulation. The plan is expected to be complete once NYS Department of Transportation and Westchester County Department of Public Works are satisfied with the projects for streets under their jurisdiction. Public review and completion of the Transportation Plan and Pedestrian / Bicycle Enhancements is expected to be Summer, 2007. The draft plan will be posted on (www.hastingsgov.org) prior to public review and comment.

3. Bridges

The Dock Street Bridge is immediately north of the train station and provides public vehicular and utility line access from Southside Avenue across the Metro-North railroad tracks to River Street. River Street runs north from Dock Street to the north end of the waterfront and is the only public road on the waterfront. The Dock Street Bridge is a two-lane bridge that was rebuilt in 1982. However, the turn to and from River Street remains difficult, especially for trucks, since River Street (23 ft. wide) was not widened.

There is a second vehicular bridge, Zinsser Bridge, which crosses the railroad at the south end of Southside Avenue. This bridge does not provide public access as its use is restricted to owners and tenants of the Uhlich and Exxon/Mobil properties. Uhlich and Exxon/Mobil are jointly responsible for its maintenance. The Zinsser Bridge was raised in the early 1980s but was not improved. It is a one-lane bridge and has an iron frame with a wood plank roadway.

New York State Department of Transportation (NYSDOT) closed the bridge in March 2002 due to structural failure. DOT has allocated funding for its reconstruction, but the project must be sponsored by a local governmental agency. NYSDOT Transportation Improvement Program (TIP) has the Zinsser Bridge project scheduled to begin feasibility study, engineering and design in FY 2009.

Improving this bridge and making it accessible, at least for emergency vehicles, seems essential for waterfront revitalization unless a third bridge over the railroad is constructed. Several sites for another bridge have been considered in the past taking into account that Southside Avenue is at grade with the railroad tracks south of the train station.

One suggested location is just south of the train station using part of the existing commuter lot as an approach. A second suggestion is the area near the village DPW garage where the village map shows a "paper street", Quarry Road, intersecting with Southside Avenue. However, the Village successfully applied to NYS Office of Parks Recreation and Historic Preservation (OPRHP) for funding to develop Quarry Road as a trail to connect the proposed Quarry Park with the River Walk trail system. Upon the award of \$75,000 it was determined that Quarry Road had been acquired by Anaconda and, subsequently, by BP (ARCO's parent company).

BP deeded Quarry Road to the Village in September, 2006 and the Village entered into a grant agreement with OPRHP to develop Quarry Road into Quarry Trail. Given the constraints of the suggested commuter lot and the Quarry Road locations, the optimal solution to providing additional waterfront access may be the reconstruction of the Zinsser Bridge.

4. Parking

Public parking was reviewed in terms of current capacity a) on the waterfront, b) near the waterfront on the east side of the railroad, and c) at other locations in the commercial district. Parking options on the waterfront include 155 spaces on River Street and 70 spaces at the Harvest on Hudson Restaurant for a total of 225. Of these, 72 of the River Street spaces facing the Metro-North tracks require pre-paid permits from 6 A.M. to 6 P.M. on weekdays. In 2005, Metro North added 35 long-term metered spaces which do not require permits.

Parking areas near the waterfront but east of the Metro-North tracks are the Zinsser Plaza commuter lot, Southside Avenue and the Con Ed lot. These locations provide a total of 310 spaces; 192 are metered and 118 require pre-paid weekday permits. These permit spaces are available to village residents only.

Other public parking farther from the waterfront, yet in or near the commercial district, can be found in the Steinschneider, Boulanger, and Post Office lots and on Maple Avenue, Main Street, Spring Street and Warburton Avenue. A total of 270 metered spaces are available in these locations in addition to some unmetered spaces. The combined parking capacity for all areas reviewed is 840 spaces. Of these, 462 are metered and 190 require permits on weekdays.

In the traffic study mentioned earlier, on-street and off-street parking utilization is considered moderate to heavy. The lots with the highest weekday utilization (95 percent) are the Con Edison Lot and the Zinsser Commuter Lot near the train station.

On Saturday, the Post Office Lot has the highest utilization, also 95 percent, while the Zinsser Commuter Lot drops to 26 percent. On-street parking activity is heaviest during the Saturday midday peak period.

One suggested opportunity to add parking near, but not on, the waterfront was to add another level or levels to the Zinsser Plaza commuter lot. Other ideas have been to add a second level to Steinschneider or extend it over the Con Ed lot. Also, if revitalization occurs on the south end of the waterfront and the Zinsser Bridge was replaced or another bridge was added south of Washington Avenue, providing more parking further south along Southside Avenue may be an option worth exploring.

When it comes to providing more public parking on the waterfront itself, residents indicated during the community planning forum and at other meetings a desire to keep such expansion to a manageable level. While most see the importance of having an accessible and active waterfront, they do not want large asphalt parking areas and would rather encourage the use of mass transit and pedestrian access.

B. Pedestrian Access

Although the terrain is hilly, many residents walk to and from the waterfront area. Most have the train station as their destination, while others walk to MacEachron Park or the Hudson Valley Health and Tennis Club. Also, some of the people who work for waterfront businesses walk from the Bee-Line bus stop on Warburton to their jobs. The station bridge for Metro North passengers provides the single public "pedestrian only" crossing to the waterfront. Two other pedestrian bridges leading directly to the waterfront were removed by Metro-North several years ago.

As part of the LWRP Committee's effort to gain broad citizen input, a survey of people's practices and opinions regarding walking and driving to the downtown and train station areas of the village was undertaken. Data were collected through single-page questionnaires both at the station and in the downtown in November of 1998. At the Station, 78 Metro-North commuters completed the survey, while 136 downtown shoppers and merchants responded for a combined sample of 214.

Among the main findings, almost half of the Hastings residents participating in the survey (68 of 141) reported walking to the train station or downtown at least 40 percent of the time, and one third walk to these destinations 80 percent of the time. Moreover, the ease of walking to and around the business district were the conditions receiving the highest overall ratings in the downtown portion of the survey. Participants liked the physical layout and the resulting easy pedestrian access to most businesses.

At the same time, respondents indicated that pedestrian access could be even better and safer both in the downtown and at the station if three problems were addressed. First, the availability of comfortable places to sit was seen as inadequate. Seating conditions received the lowest rating among survey participants in both locales. Second, respondents cited the excessive speed of some cars and trucks, particularly on Southside Avenue near the station and on Warburton Avenue in the downtown as a major problem for pedestrians. Third, many emphasized the need to find ways to get more drivers to stop for pedestrians in crosswalks.

More visible crosswalks, the strengthening enforcement of the law to stop for pedestrians trying to cross in them and stricter enforcement of speed limits may have alleviated some of these problems. Although some of the conditions have improved since 1998, pedestrian safety remains a concern. This is precisely why the Village undertook the Transportation Plan and Pedestrian Enhancements project in 2005. As stated previously the intent is to identify and prioritize projects that will reduce vehicular / pedestrian traffic circulation conflicts.

1. Sidewalks

Most people walk to the waterfront using sidewalks along the same streets (North, Spring, Washington, Maple and Southside) that they use to drive there. An additional sidewalk and stairs allows pedestrians to walk between Main Street (where it ends at Warburton) and Southside Avenue near the train station. A sidewalk then runs across the south side of the Dock Street Bridge to River Street on the waterfront where it goes both north and south to the bottom of the bridge ramp. To the north, it joins a set of stairs leading up to the Metro-North platform. The Dock Street Bridge sidewalk was improved by Metro North in 2005 to Americans with Disabilities Act (ADA) standards along with aesthetic enhancements.

Improvements in the walkway and stairs which join Warburton and Southside near the train station would enhance the link between the waterfront and the downtown. For instance, continuing the Warburton streetscape with similar lighting and paving down this walkway to Southside Avenue and making the crosswalk to the train station more "pedestrian friendly" would strengthen the link.

Sidewalk access to the downtown area itself is limited from some areas of the village. For example, a sidewalk along Broadway south of Washington Avenue would improve pedestrian access for many residents. This location was included in the Community Development Block Grant (CDBG) application in 2005 and will be funded under the Westchester County CDBG program in Fiscal Year 2007. Other locations included in this successful CDBG application are:

Provision of a sidewalk along the east side of Chauncey Lane would be a much appreciated improvement and, Westchester County's proposed plan to complete the Hillside Woods Trail does include a sidewalk at that location. The Transportation Plan and Pedestrian Enhancements will result in a list of recommended and prioritized projects that will include other locations for new sidewalks and existing sidewalk improvements.

2. Trailways

Hastings currently has several public paths and trails which were mapped in 2003 and used as the base for Maps 10A, 10B and 10C in this LWRP Plan. The two longest and most improved are the regional Old Croton Aqueduct Trailway and the South County Trailway. Although the overall trailway system is rather extensive, many sections are in need of major improvement, maintenance, and signs. Moreover, enhancing the connections between the wider system of trailways and the waterfront should be a priority under any revitalization effort. Short paths exist between the north end of Maple Avenue and the River Glen residential complex, Main Street and the Cropsey property, and Pinecrest Drive and Southside Avenue.

The Village, with assistance from Westchester County, New York State and some nonprofit agencies, has been working toward providing additional connections between Southside Avenue and the Old Croton Aqueduct Trail in the area of the former Quarry Road and farther south at one of the stream beds under Warburton Avenue near the Andrus and Graham properties.

The latter of these two trail connections was implemented in 2003-2004 with the Rowley's Bridge Trail Extension and the acquisition of approximately 14 acres of Graham-Windham riverfront land with funding from Westchester County and NYS Office of Parks, Recreation and Historic Preservation (OPRHP). Quarry Trail will be developed in 2007. BP, the ARCO parent company, was the owner of Quarry Road and transferred the property to the Village through a quit claim deed in 2006. This allowed the Village to enter into a grant agreement with OPRHP and to implement the project. A future possibility is to develop a pathway along the entire edge of the river in concert with the Westchester County Riverwalk, Greenway, and Historic River Towns of Westchester. To this end, Hastings-on-Hudson became a Greenway Community in 2003 and joined the Westchester County Greenway Compact in 2005.

The development of an enhanced pedestrian and bicycle system which clearly links the waterfront with the Old Croton Aqueduct and South County Trailways would be in line with the 1997 New York State Bicycle and Pedestrian Plan since those two trails are considered major trails in the state system. Because of the steep slopes and narrow streets, few people currently ride bicycles from the village to the waterfront area. However, when the waterfront becomes accessible to the public, it could become a popular bicycling area since it is one of the few level areas in Hastings.

3. Bridges

As noted previously, there is now only one public pedestrian bridge to the waterfront area; it is immediately behind the train station and provides passengers with access to southbound trains and can also be used to get to River Street. Regarding the two bridges that were dismantled, one was at the foot of Washington Avenue and the other crossed the tracks from Edmarth Place to a spot near the Harvest on Hudson Restaurant. Replacing these two pedestrian links to the waterfront could be an important part of the revitalization process. A pedestrian bridge at the foot of Washington Avenue would connect the south end of the soon-to-be relocated southbound Metro North platform and facilitate pedestrian access to this facility.

There are two other pedestrian bridges across the railroad north of the waterfront area, one is just north of the River Glen complex and the other is near the Hastings Gardens property. Neither offers public access. The one near River Glen was restored by Metro-North in 1988 and River Glen residents have an easement to this bridge, allowing them access to a small beach on the river. The more northerly bridge has deteriorated and is not functional.

C. Public Transportation

Hastings is served by the Hudson line of the Metro-North commuter railroad, Westchester County's Bee-Line Bus company, a village-operated jitney for senior citizens, and two local taxi companies. While there is currently no river-borne public transportation serving Hastings, such a service, if economically feasible, would surely complement waterfront revitalization.

1. Train

The Metro-North Railroad is especially important to the status of the waterfront since it runs along the entire upland boundary of the site. While the railroad is a barrier to revitalization and separates the waterfront from the rest of the village, it is also an asset. It can conveniently bring residents or visitors to and from the waterfront without the burden of more automobiles. Also, the train station is located adjacent to the only public vehicular and pedestrian bridge over the railroad providing access to the waterfront. Commuter train service stopping in Hastings runs between Grand Central Terminal in New York City and Croton Harmon to the north of Hastings. Connections to regular Amtrak and Metro North passenger service to points farther north are available in Croton Harmon.

2. Bus

Three Bee-Line buses, Nos. 1, 5 and 6, serve Hastings. The #6 bus runs hourly during the day between the railroad station in Yonkers and Pace University in Pleasantville and makes eight stops in Hastings along Broadway and in the downtown. Also, the #6U bus provides more limited service along an alternate route through Hastings on weekdays by looping through Uniontown via High Street and Farragut Avenue before returning to Broadway. The #1 bus operates seven days per week between the end of the subway at 242nd St. and Broadway in the Bronx and either the train station in Tarrytown or Main Street in White Plains, depending on the particular bus line. The #5 bus travels along Saw Mill River Road on the eastern border of the village, making 2 stops in Hastings. This route runs between the Yonkers railroad station and either Harrison or White Plains, depending on the individual bus line.

Waterfront revitalization would surely benefit from a more extensive village shuttle bus service in order to help limit automobile traffic and improve access to public transportation. As is the case with automobile travel, the biggest short-coming of the public transportation system is probably the lack of access to convenient east-west travel. All principal routes run north-south.

2.12 INFRASTRUCTURE

A. Utilities

The following inventory and analysis of waterfront utilities are based on prior engineering reports together with more recent information gathered from village staff, from representatives of the utilities serving Hastings, and from owners of the waterfront properties. Existing utilities at the waterfront are geared to serving industrial users and appear to provide adequate capacities to meet any likely future, as well as current, demands. The existing buried utilities are installed at depths of at least 2 to 3 feet in the fill that makes up the site. Because this fill is contaminated with hazardous materials including PCBs, heavy metals and semi-volatile organic compounds, NYSDEC determined remedial measures needed to permit redevelopment of the site which are specified in the Record of Decision. Remedial measures involve excavation and off-site disposal of some existing fill and its replacement over significant areas of the site.

NYSDEC does not call for the buried utility lines to be torn up to remove contaminated soil around them. However, the remediation design plan calls for elimination of existing utility services and all of the aged utility lines will need to be replaced with new lines at higher elevations. The utility corridors will be determined in coordination with the Design and Engineering grant from Department of State in 2007 and 2008 and planned future redevelopment of the site. At a minimum, new development would require routing of new branch lines and connections to serve new buildings, together with installation of any piling needed to support such lines and connections. A network of piles driven below the ground exists at the Atlantic Richfield (ARCO) site. However, those located within excavation areas may be removed if necessary to facilitate remediation.


Following Map 15a, the Sewer Map which shows the lines and manholes, are a series of slides (Figures 2D.1, 2D.2, and 2D.3) from a December 2006 presentation by ARCO that illustrate potential utility locations and grading plan for the site. Figure 2D.1 indicates the change in the areas to be excavated areas since earlier versions of the remediation plans. Figure 2D.2 indicates a potential utility corridor in the north area of the ARCO site. Figure 2D.3 indicates a potential utility corridor in the south portion.

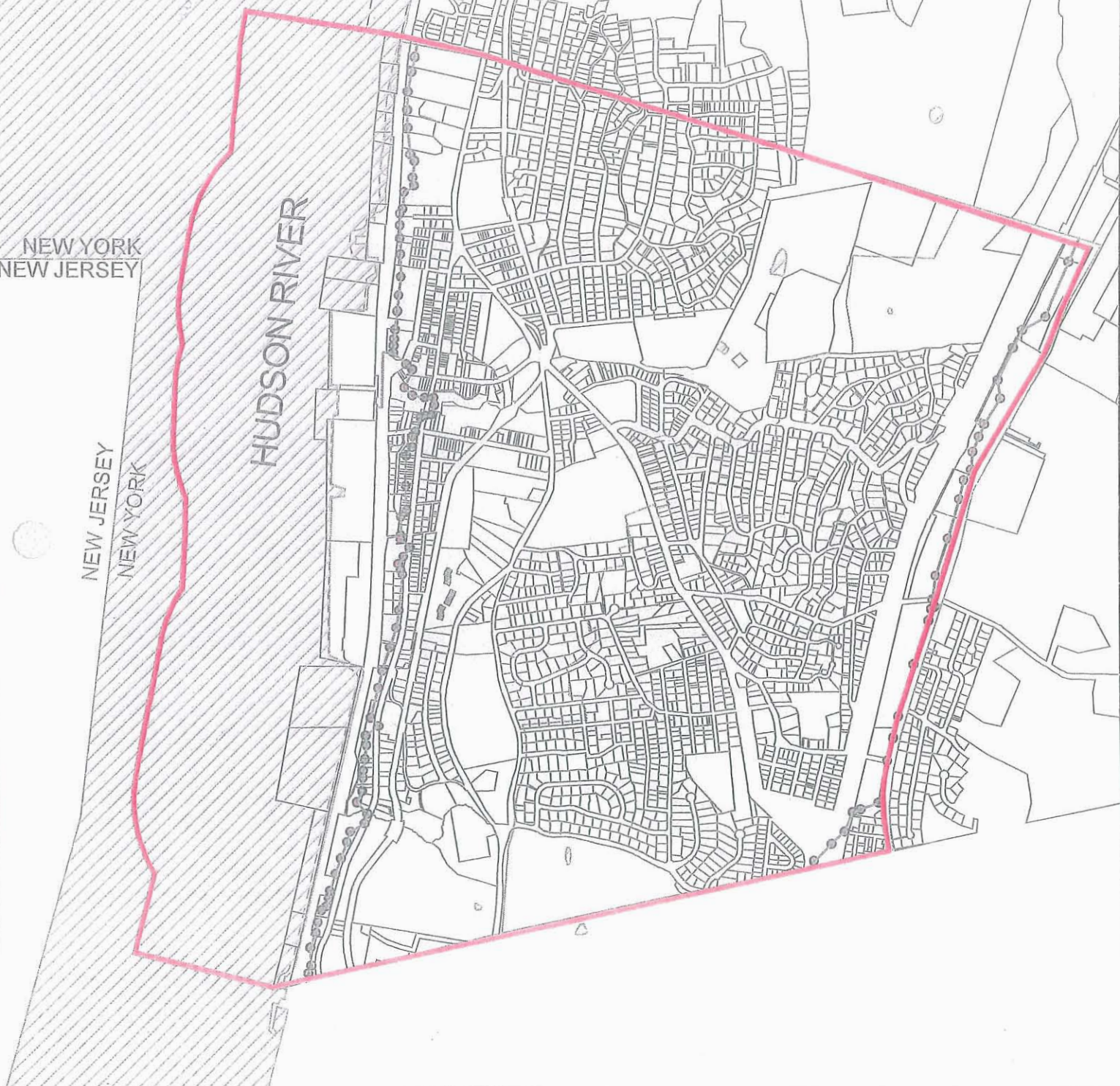
The sections below describe the specific existing utilities serving the waterfront.

1. Water Supply

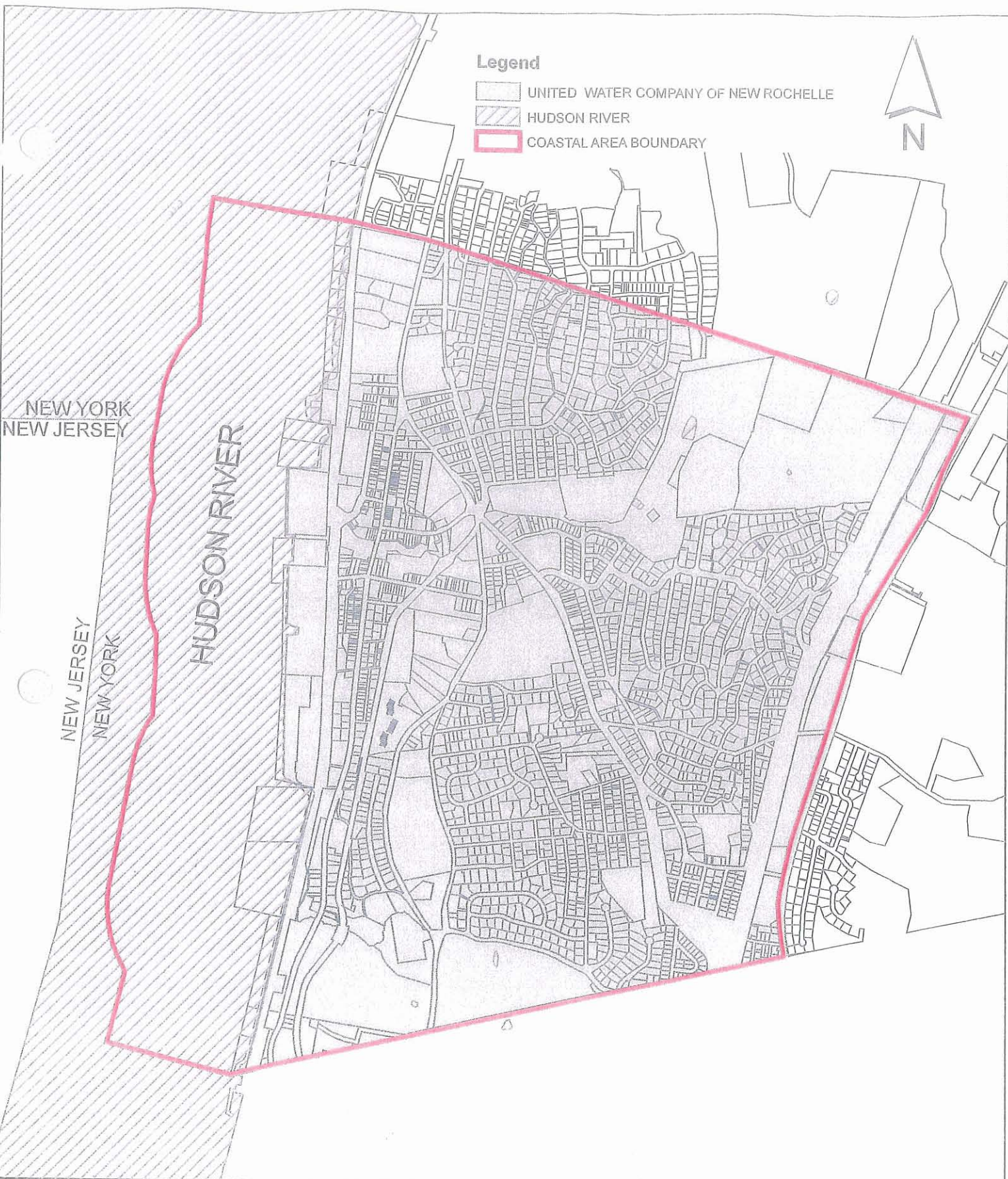
The United Water company system (Map 15b) in Hastings supplies the waterfront from mains running along Southside Avenue and Warburton Avenue. The 1982 Plan prepared by the Gruzen Partnership indicated that three water connections cross under the railroad to serve the former Anaconda site: a 6-inch line just south of the train station, and a 6-inch and an 8-inch line at the foot of Washington Avenue. A more recent (2002) map from United Water shows an additional 4-inch connection to the Anaconda site near Quarry Road. The Uhlich property at the south end of the waterfront is served by an 8-inch connection from a main on Warburton Avenue to the water meter at the north end of the Uhlich site.

Legend

-  COASTAL AREA BOUNDARY
-  SEWER DISTRICT
-  SEWER LINE
-  SEWER MANHOLE
-  HUDSON RIVER

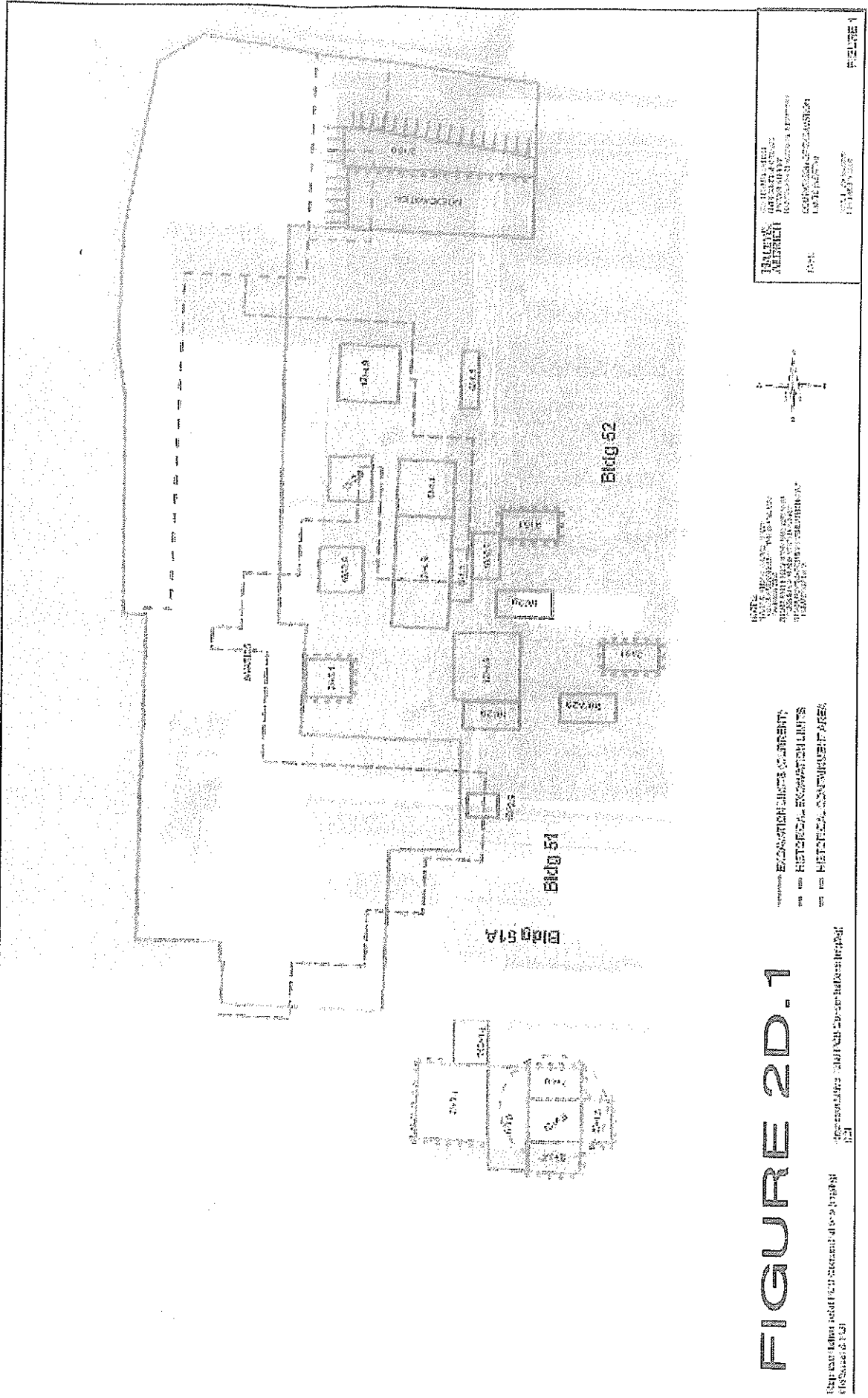


MAP 15a
VILLAGE OF HASTINGS-ON-HUDSON
LOCAL WATERFRONT REVITALIZATION PLAN
SEWER MAP



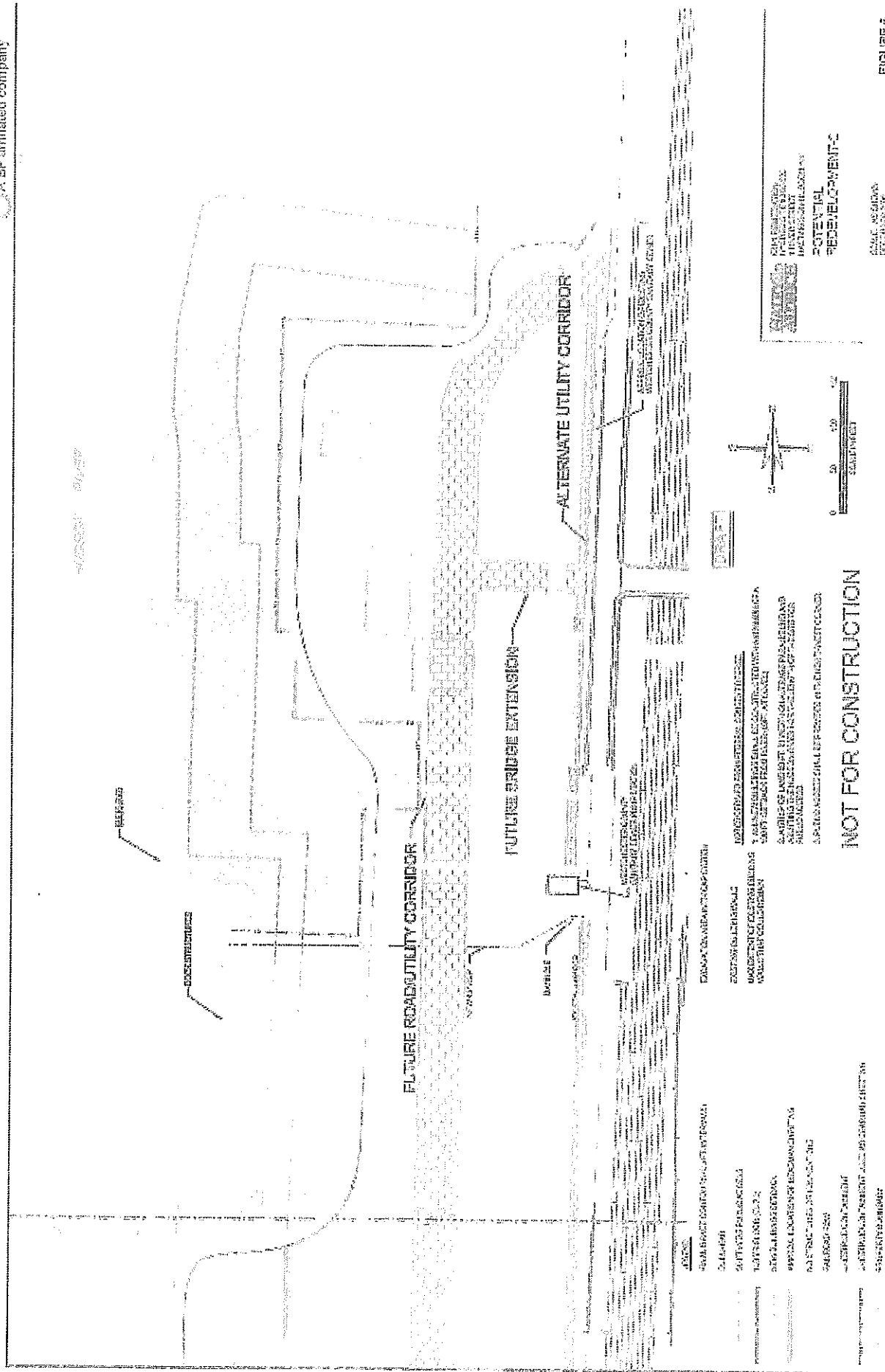
MAP 15b
VILLAGE OF HASTINGS-ON-HUDSON
LOCAL WATERFRONT REVITALIZATION PLAN
WATER DISTRICT MAP

Changes in Excavation Foot Print



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Potential Utility Corridor - South

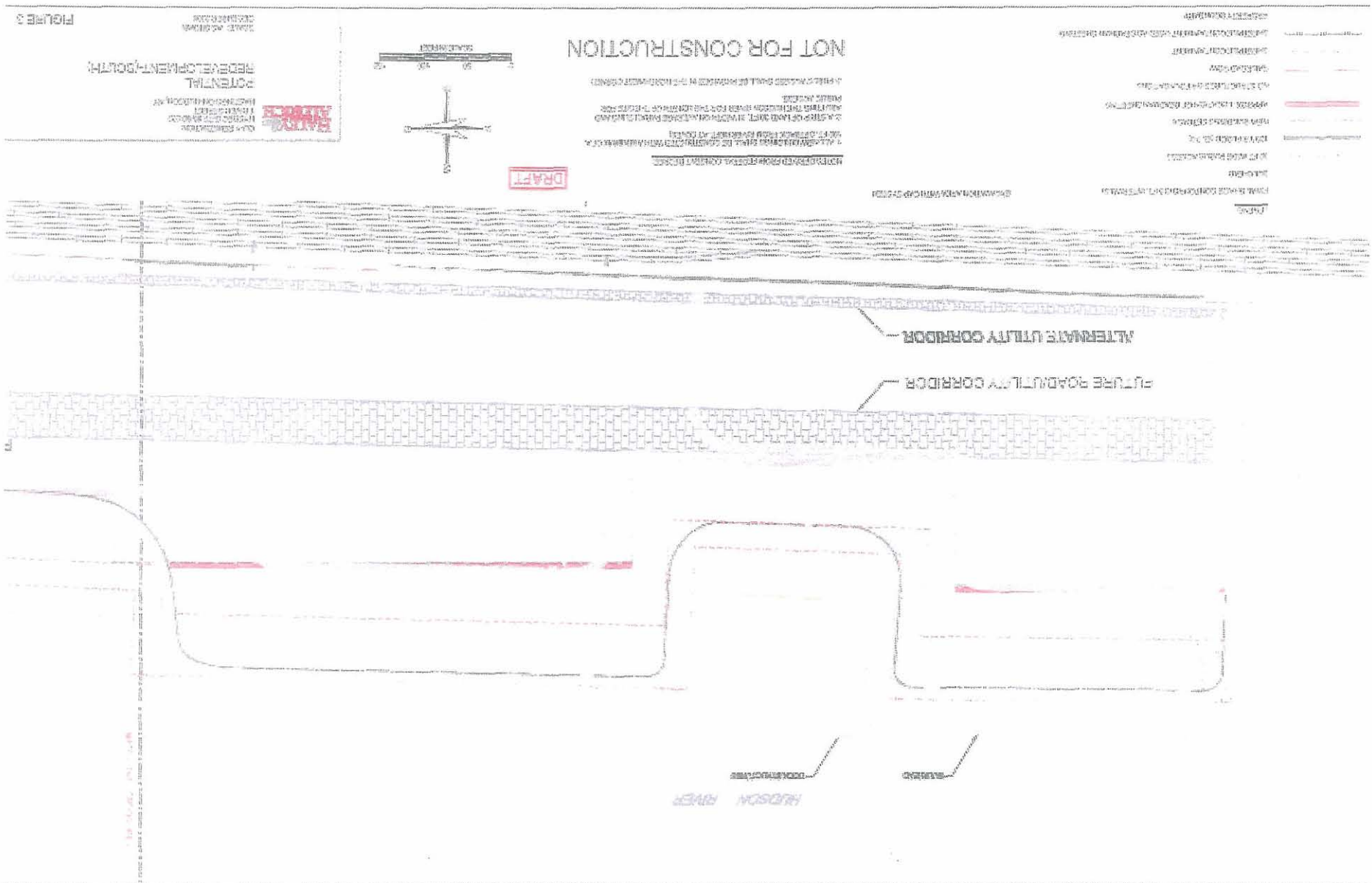


FIGURE 2D.3

Branch water mains extend to most locations on the ARCO property that were formerly occupied by Anaconda buildings. There is also a single branch main extending north from the ARCO site along River Street. The ARCO map does not show any branch mains on the properties north or south of the ARCO site. United Water maps show mains only up to its metering points. A map of the Uhlich water system shows a grid of 8-inch pipe connecting from its water meter to each of the buildings that occupied its site.

The 1982 Gruzen Plan indicates a combined water capacity of 2,900 gallons per minute (gpm) or 4.18 million gallons per day (mgd) for the three connections to the Anaconda site, with an input pressure of 130 pounds per square inch (psi). The Environmental Assessment of the Harbor at Hastings development, prepared by Parrish and Weiner (1989), estimated a capacity exceeding 1,000 gpm with a pressure of 110 psi. United Water has no record of past testing of the capacity of these connections, but confirms that pressures in the mains feeding these connections are at least 130 psi. A past test related to the siting of the Harvest on Hudson Restaurant showed that the capacity of the branch main serving the north end of the waterfront is 740 gpm. The 8-inch connection to the Uhlich system can deliver over 1,000 gpm, at pressures of at least 110 psi.

2. Sanitary Sewer System

The two main gravity sewers serving the ARCO site — a 12-inch cast iron line from the south and a 10 inch line from the north — both discharge to a pump station located on River Street about 200 feet south of the Dock Street Bridge. From the pump station, an 8-inch force main runs north to the bridge, where it crosses the railroad and discharges the pumped flow to the county trunk sewer. Also connected to the line from the south are a sanitary sewer serving Village areas east of the railroad along lower Washington and Southside Avenues, and an inactive sewer on the Exxon/Mobil property. The line from the north also serves the waterfront properties to the north of the Anaconda site.

The 1982 Gruzen Plan and the Harbor at Hastings Environmental Assessment both indicated that the force main and the pump station and sewers feeding to it belong to Westchester County. The assessment indicates that the pump station is equipped with two pumps, each of 500 gpm capacity, providing a firm capacity (one pump out of service) of 500 gpm (0.72 mgd). In its 1991 Sewer System Evaluation Study for the county trunk sewer, Malcolm Pirnie Engineers found that the infiltration of ground water and the inflow of surface runoff to the sanitary sewer system on the waterfront was not excessive.

Both a sanitary sewer system and an industrial wastewater collection system serve the Uhlich property. Both systems discharge to pumping stations with respective firm capacities of 300 gpm and 500 gpm. The pumping stations discharge through a common force main across the Zinsser Bridge to the county trunk sewer.

3. Storm Drainage

The map in the 1982 Gruzen Partnership Plan indicates that the storm drainage system on the ARCO site includes nine lines discharging to the river at separate locations. This is not acceptable under current Storm Water Management Best Management Practices (BMPs). Conditions such as these will be corrected, because the Village entered into an intermunicipal agreement with 15 other municipalities to work toward compliance with the most recent State and Federal storm water management regulations. The map in the Gruzen Plan also shows three short storm drains on the Hudson Valley Health and Tennis Club property. Most of the lines on the ARCO site carry only flow originating on the site proper.

The village drainage map shows, however, that three village storm sewers cross the site to discharge runoff to the river from areas east of the railroad, and that a fourth storm sewer crosses the waterfront through the north ends of the Uhlich and Exxon/Mobil properties. One of the village storm sewers crossing the Anaconda site is a 6 foot x 3 foot box culvert that carries the brook draining sections of the village as far away as Hillside Park and the Burke Estate. No attempts to trap oils or sediments allow debris to intercept the storm drain line. While redevelopment of the waterfront is likely to be best served by new storm drainage system at higher elevations, it is important that the village storm sewers crossing the site be preserved or replaced during the hazardous waste remediation, and be further preserved during the redevelopment of the waterfront.

4. Electric and Gas Services

Con Edison provides electric service to both the ARCO and Uhlich sites, and gas service only to the ARCO site. The 1982 Plan prepared by Gruzen indicates that a 13.8 kilovolt (kV) feeder connects across the Dock Street Bridge to serve the northern half of the ARCO site and the properties farther north, and a second feeder connects across the railroad near the Zinsser Bridge to serve the southern half of the ARCO site and the properties to the south of that site.

Con Edison indicates non-residential redevelopment would require no increase in the existing capacity, originally sized to serve Anaconda and the other industries on the waterfront. However, the few large transformer installations needed for the heavy demands when Anaconda was operating will have to be replaced by smaller transformers and local lines more widely distributed over the area for residential development. The map from the 1982 Plan prepared by Gruzen also shows the locations where gas service feeders cross the railroad and the locations of gas distribution lines with the Anaconda site. Capacity into the site is probably adequate for residential or commercial development, but the service is likely to require small natural gas mains widely distributed over the area.

5. Telephone Service

Existing telephone lines generally follow the routes of the electric lines. Residential development would add significantly to the number of lines required in the area, including at least single, and likely multiple, connections to all new buildings. New residential development would also require installation of cable television lines.

B. EXISTING WATERFRONT BUILDINGS

The LWRP Steering committee included the existing buildings on the former Anaconda site in its inventory and analysis because of the community's interest in the possibility of re-using a large space as a cultural center as well as the possibility of maintaining an architectural link with the past. While none of the industrial buildings on the Uhlich site met the above community objectives, the office building was of some historical interest dating back to the earlier use of the site by the Zinnser Chemical Company. Prior to its demolition, some thought the building might usefully serve in any institutional redevelopment that may have been proposed for the south end of the waterfront.

In 2000, the 28-acre ARCO site included 16 buildings which are shown on Map 16A with a total floor area of over 680,000 sq. ft. Between 2000 and 2002, approximately ten buildings were demolished at the southern end of the property as outlined on Map 16B. All structures were built on wood piles as the entire site is fill material surrounded by bulkhead, which has deteriorated in many places. Given the historical connection of many of these buildings to the growth and character of the village, the desire to re-use structures is understandable. However, it was a challenge to identify building(s) with significance that could be preserved and reused due to building or soil contamination, view obstruction, location in flood plain, impact on scale, and cost of rehabilitation.

The Federal Consent Decree required that ARCO study buildings of historic interest further before demolition and four structures were specified as being of particular interest for preservation. These were the water tower, Buildings 2, 51 and 52. As a result of the structural engineering assessments that ARCO arranged, it was determined that the only buildings that could be saved from demolition were the water tower, Buildings 51 and 52. An architectural and historic significance study was conducted by Hutton Associates for these structures and was presented in Spring, 2006. A further study was completed by DOMANI in February 2007. The results of these studies are described in a previous portion of Section 2. Buildings 72, 72A, 22 and 22C also remain for the time being as they are being used as workspace for ARCO and the one remaining tenant. Although nearly all of the remaining building in the northern portion of the site, as indicated on Map 16B, were demolished in 2004 and 2005 the following narrative describes some of the interesting features of these buildings,

1. Larger Buildings

Built between the 1890s and 1960s, some structures on the site had unusually high ceilings and large open bays. The two largest, **Buildings 15** and **52**, had distinctive saw-toothed roofs. **Building 15** was a warehouse built of brick and metal in 1912 with a footprint of 660 x 225 feet and a ceiling height of 24 feet. It was located adjacent to the river near the center of the site and demolished in 2004. **Building 52** is brick and metal and was completed in 1911. Its dimensions are 580 x 170 feet and ceiling height is 25 feet. This building is located in the northeast corner of the property and was used for light manufacturing until 2001. Initially, it appeared that neither **Building 52** nor **Building 15** was located in an "Area of Concern" for PCBs as designated by the NYSDEC, although the DEC decided that additional tests were required to determine whether this was true. Parsons Engineering completed an additional study in August, 2006 as part of the "OU-1: 50 Percent Remedial Design Report. In their estimation, none of the former Building 15 portion is in the "Area of Concern." However, it appears that one corner of Building 52 may be on its edge.

The view of the Hudson and the Palisades was spectacular from **Building 15**. Yet, if this structure had remained for re-use, the view of the river from the rest of the property would be significantly obstructed. **Building 52** blocks the view from the area of the train station but has less impact on views from the rest of the site. Another consideration regarding the re-use of either of these buildings, given their bulk, was the extent to which they could be integrated into the village-like scale of development envisioned by the village Planning Principles. In addition, the cost of renovating and maintaining such high, large-span, open-truss warehouse buildings for the desired uses may be prohibitive. The most recent estimate in the DOMANI study was \$3million just to stabilize the buildings during remediation. Since Building 15 has been demolished, the impact of Building 52 alone may not be as significant if it is preserved and reused.

2. Newer Buildings

In terms of condition, utility and access, the structures appraised to have the highest commercial market values as of 1995 were the more modern buildings designated as **22-22C** and **52B**. **Buildings 22 and 22C** have aluminum exteriors and are located near the railroad tracks south of the commuter parking lot and north of Washington Avenue. They have 70-foot spans with impressive interior heights of 52 feet and a combined floor area of over 19,000 sq. ft. **Building 52B**, built in 1956 of concrete block and steel framing, was visually unimpressive, had 51,000 sq. ft. of floor space and was attached to the west side of **Building 52**. While not appraised as highly as **52B**, three other buildings — **52C**, **53**, and **54** — were connected to the north end of **52B** and had a combined floor area of over 50,000 sq. ft. These three structures were immediately adjacent to the "Area of Concern" in the northwest corner which tested as having the highest concentration of PCBs on the site. All of these buildings, with the exception of the remaining Buildings 52, 22C, and 22, were demolished in 2005.

3. Smaller Buildings

It was thought that two of the smaller structures, **Building 57** near the water tower and **Building 2** across from the foot of Washington Avenue, might serve as visual links to the past. **Building 2** was a three-story brick structure built in 1912 which was vacant and, due to its dangerous condition of disrepair, it was demolished in 2004. The 5,000 square foot building had housed company offices. **Building 57** is 3,400 square feet and is noteworthy because of its location next to the river. It is one story high and was constructed of brick in 1912. While unfinished and unheated, it was considered structurally sound. However, it has been deteriorating during the past few years and it is located in the largest "Area of Concern" for PCBs. Therefore, **Building 57** may not survive the remediation process.

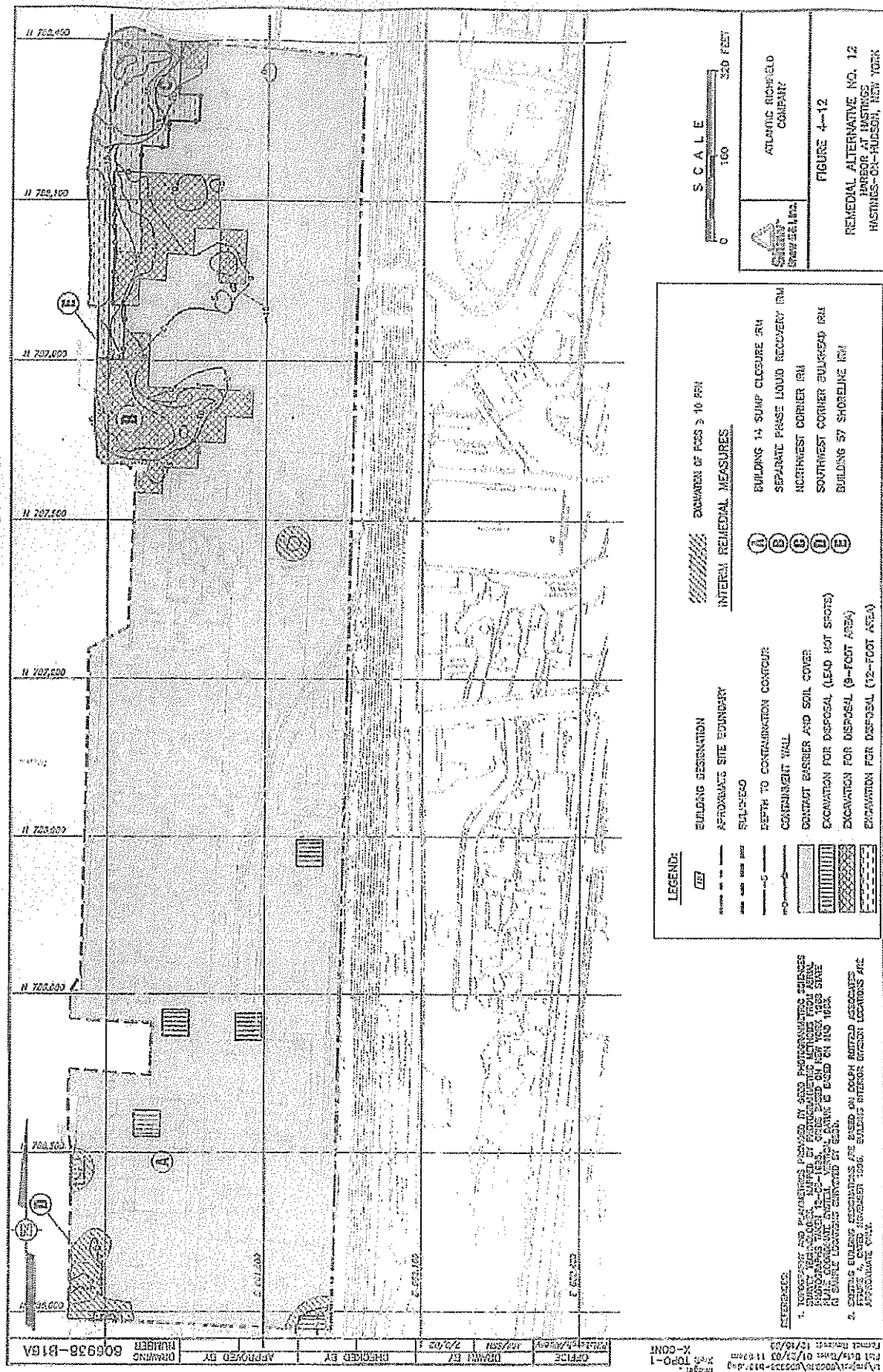
2.13 CONTAMINATION ON THE WATERFRONT

A. The ARCO Site

The ARCO site (formerly Anaconda Wire and Cable Company and later Harbor at Hastings) has received a significant amount of attention because of the high concentrations of PCBs found on the site and the controversy that the NYS Department of Environmental Conservation's (NYSDEC) remediation requirements engendered.

MAP 16C VILLAGE OF HASTINGS-ON-HUDSON LOCAL WATERFRONT REVITALIZATION PLAN ARCO SITE REMEDIAL PLAN WITH BULKHEAD

Cashin Associates, P.C.
ENGINEERING • PLANNING • CONSTRUCTION MANAGEMENT



The following description of the contamination on the site is drawn from the NYSDEC Proposed Remedial Action Plan that was issued in September 1998. As mentioned previously, additional investigation since then is nearly complete and will be presented in "OU-1: 50 Percent Remedial Design Report" in August, 2006.

1. Site History

The 28 acre site was created in the mid to late 1800's and early 1900's of heterogeneous fill, as is true of other areas on the Hastings waterfront west of the Metro-North tracks. It is said to consist of demolition debris (bricks, cement and wood), coal ash and furnace slag. The fill is contained by a deteriorating bulkhead consisting of timber, sheet piling, stone revetment, dock platforms and timber piles that once supported docks.

Prior to Anaconda's purchase of the site in 1919, it was occupied by the National Conduit and Cable Company, the Hastings Pavement Company and the American Brass Company, among other industrial users. It was owned and operated from 1919 to 1977 by the Anaconda Wire and Cable Company for the manufacture of copper wire, lead covered cable, high voltage cable and insulated wire. Beginning in the late 1930's, PCB (Aroclor) mixtures were used to impregnate paper and asbestos-wrapped cable before the outer sheathing was applied. PCBs (Polychlorinated Biphenyls) are a group of 209 synthetic organic chemicals often used for their resistance to heat and their electrical insulating properties. The PCB mixtures were prepared in former Building 55 and the cables were impregnated in tanks located in Buildings 15, 22 and 57. Unmixed Aroclors were also stored in Building 54 prior to use. Buildings 55, 15 and 54 have all been demolished.

From 1988 to 1992, when the site was owned by Harbor at Hastings Associates, Building 15 was leased to Age Carting for operation as a construction and demolition (C&D) transfer station. An estimated 150,000 cubic yards of C&D waste was disposed in building 15 and elsewhere on the site. This material was removed under a Court Order.

2. Site Contamination

Between 1976, when Anaconda ceased operation, and 1989, several environmental investigations were conducted involving soil sampling, groundwater testing and building sump sampling. The investigations revealed the presence of PCBs, petroleum hydrocarbons, and metal contaminants. In July 1989, the New York State Department of Environmental Conservation (NYSDEC) classified the site as a Class 2 inactive hazardous waste disposal site, indicating that the contaminants on the site posed a significant threat to public health and the environment.

NYDEC then identified responsible parties (PRPs). PRPs are those who may be legally liable for contamination at a site. These may include past or present owners and operators, waste generators and haulers. In November 1995, ARCO, the primary PRP, entered into a Consent Order with NYSDEC to perform a Remedial Investigation/Feasibility Study (RI/FS) at the site, the results of which are summarized below.

Off-site testing in July 1998 revealed PCB contamination in the river sediment offshore of the northwest corner of the site. NYSDEC ordered further testing of river sediment, surface water, and fish and other aquatic life and designated off-site contamination as a separate remedial investigation from the ARCO site's investigation. This decision resulted in separating the remedial alternatives for ARCO into two Proposed Remedial Action Plans (PRAPs). OU-1 (Operational Unit) refers to on-site contamination and OU-2 (Operational Unit 2) refers to off-shore contamination in the Hudson River.

3. The Nature of the Contamination

The primary contaminants of concern are PCBs, polycyclic aromatic hydrocarbons (PAHs), and metals. Primary PCB mixture found on the ARCO site was Aroclor 1260, with smaller amounts of Aroclor 1254. The PAHs include pyrene, chrysene, and substituted pyrenes, anthracenes and fluoranthenes. These are associated with coal tars, ash, heavy petroleum oils and products of incomplete combustion.

The metals of concern include arsenic, chromium, copper, lead, mercury, and zinc. These may be part of the original fill that makes up the site, but Anaconda was known to have used copper, arsenic, and lead in the manufacture of wire and cable.

4. The Extent of the Contamination

PCBs have been found, as of 1998, to exceed the DEC's soil cleanup standards in six locations on the site. Some of these areas are relatively small and only moderately contaminated, while two areas are large and highly contaminated. The northwest corner, adjacent to the building where Anaconda mixed Aroclor, contains the highest levels detected at the site and the contamination extends the deepest, to a depth of 42 feet. One sample from this area contained 381,000 ppm (38%) PCB 1260. New York State's cleanup goal is 10 ppm PCB's in subsurface soils. The proximity of this contamination to the Hudson River led to subsequent offshore investigations that revealed further contamination in the river sediment. Concentrations in exposed surface soil were found to be as high as 4,400 ppm, which prompted ARCO to cover the exposed soils with 4 inches of gravel and erect a fence around the exposed areas.

Following the release of the NYSDEC Proposed Remedial Action Plan, the Village of Hastings asked that more testing be conducted to better determine the extent of PCB contamination, particularly under the buildings. These data were presented in a supplemental Remedial Investigation dated October, 2000. NYSDEC issued the Record of Decision in 2004 and ARCO is now in the process of designing the actual remediation work. Remediation is expected to begin in 2008-2009 once the OU-2 Remediation Plan is completed and approved so that the land and water remediation can be done simultaneously.

5. Shoreline Bulkhead

Because the investigations of the river sediment revealed the release of contaminated fill and PCB material into the river, DEC asked ARCO to replace the deteriorating bulkhead. The entire bulkhead will be reconstructed and the plan for its reconstruction is being incorporated into the "OU-1: 50 Percent Remedial Design Report" expected to be released in August, 2006. The cost of the new bulkhead is estimated to be over \$5.5 million.

6. Remediation Alternatives

NYSDEC has stated that its goal for the cleanup of the ARCO site is to restore it to pre-disposal conditions, to the extent feasible and authorized by law. The remedy should at least eliminate or mitigate all significant threats to the public health and to the environment posed by the hazardous substances disposed on the site. The remedial action that NYSDEC requires is to excavate all subsurface fill where the concentration of PCB's exceeds 10 ppm where feasible. Areas where some extremely deep contamination will remain, such as the approximately 2 acres in the Northwest corner, will be capped after feasible excavation and closed as containment areas. It is anticipated that these areas will be designated public open space with no development permitted. The excavated areas will be backfilled with clean soil and the contaminated fill will be transported by rail for disposal in an off-site landfill. This remediation alternative is estimated to cost more than \$55 million. NYSDEC's remedy for the land portion of the site is set forth in its Record of Decision dated March, 2004. Information regarding the ARCO site is updated regularly on the website for this project (www.oneriverstreet.com).

B. EXXON/MOBIL OIL AND UHLICH COLOR COMPANIES SITES (Tappan Terminal Inactive Hazardous Waste Disposal Site)

NYSDEC, which has undertaken an investigation of the Exxon/Mobil and Uhlich sites, refers to them as the Tappan Terminal Inactive Hazardous Waste Disposal Site because they were under a single ownership until about 1978. The site, which was created out of fill material similar to the ARCO site, was once owned by Zinsser and Co., which manufactured dyes, pigments, and photographic processing chemicals. Harshaw Chemical Co. acquired the company in 1955 and continued manufacturing chemicals there until 1961. Between 1961 and 1971 the site was operated as a fuel oil storage facility by Tappan Tanker Terminal. The eastern portion of the site was leased to the Uhlich Color Company, a manufacturer of organic pigments, from 1964 to 1975 when it purchased that part of the property from Tappan Tanker Terminal. Mobil Oil Company (now ExxonMobil) bought the remaining western portion of the property in 1971 and operated the fuel storage facility until 1985. DEC issued the Record of Decision in September 2006 and it is posted on www.hastingsgov.org.

1. Description of Contamination

When Mobil closed the facility in 1985, several oil spills and storage tank violations were discovered. NYSDEC directed Mobil to remove oil tanks and the petroleum-contaminated soil under their Oil Spill Response Program. Between 1988 and 1997, several soil investigations were conducted on both properties and ground water monitoring wells were installed. The primary contaminants, according to the DEC, were petroleum-related materials resulting from the fuel storage activities. However, the contaminants that were tested were limited to a selected list. On the Uhlich property, sewer backups resulted in pigment spills. Aniline-based dyes were found in the soil, possibly resulting from previous pigment manufacturing operations.

Ground water tests made by Westchester County in 1992 on the Uhlich site show the presence of small amounts of PCBs (possibly used in high temperature heat transfer fluids), pesticides, chlorophenols (possibly related to the creosote-treated wood pilings used in construction), halocarbons (cleaning agents such as tetrachloroethane and trichloroethene), purgeable aromatics such as benzene and chlorobenzene, and polyaromatic hydrocarbons related to the petroleum-based contaminants. These contaminants were found in small quantities (most under 10 or 20 micrograms per liter) but indicated presence of toxic substances that required further investigation.

2. The Investigation by DEC

In December 1996, Mobil entered into a Voluntary Cleanup Agreement with the DEC to perform a "focused" Remedial Investigation and Feasibility Study (RI/FS) on their property. A Remedial Report was submitted in April 1997 indicating the need for further investigation on the Uhlich property. A Feasibility Study evaluating ways to deal with the contamination was submitted in July 1998. The viable Potentially Responsible Parties (PRPs) denied liability for the contamination and declined to undertake any remediation. Thus, NYSDEC proceeded with the RI/FS with State Superfund money and retained engineering consultants for the project.

NYSDEC announced its objectives for the RI/FS at a public meeting in September 1998. By analyzing deep soil and groundwater samples, DEC hoped to come up with the full list of contaminants, identify sources of groundwater contamination and determine the effectiveness of prior oil spill clean-ups. Impacts on the Hudson River would be determined and health and environmental risks would be evaluated.

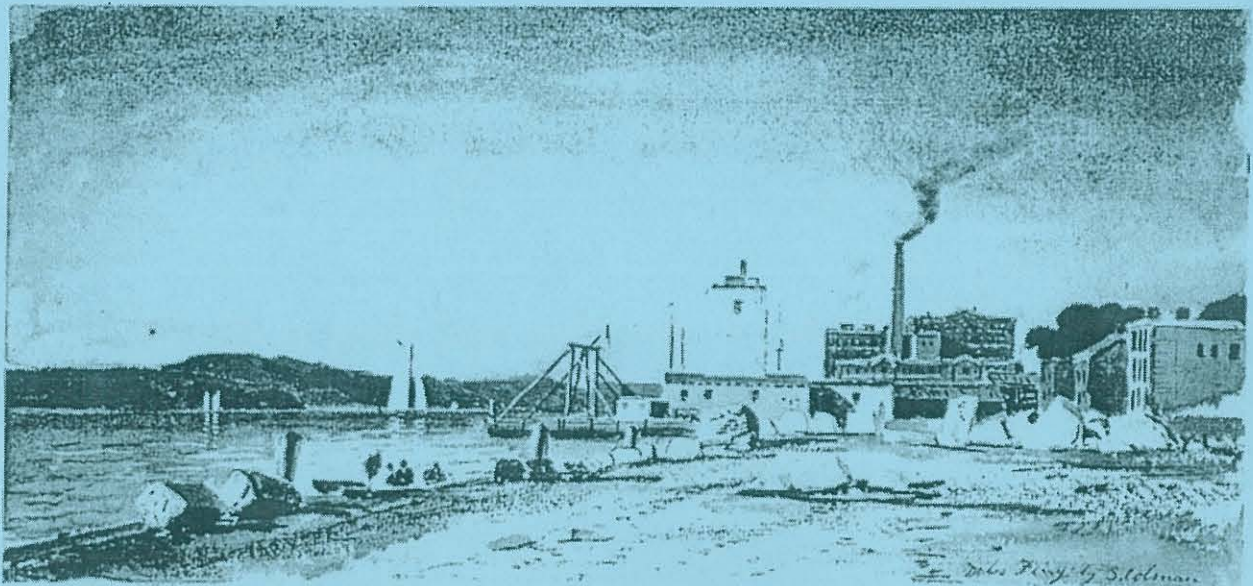
Based on previous sampling and analysis, NYSDEC stated at the time, that known concerns were that groundwater is contaminated with chlorobenzene, ether and benzene. Prior known incidents that led to the release of contaminants included:

- Oil spills and subsequent clean-ups
- Recent pigment releases and possible past dye releases.
- Storage of hazardous waste in tanks on the site.
- A sewer line break (repaired in 1994) that possibly provided a conduit for migration of contaminants.

The RI/FS tasks that DEC undertook included compiling previous sampling results, and collecting and analyzing 24 new surface soil samples and 10 subsurface samples. Existing monitoring wells were evaluated and rehabilitated, and groundwater samples were taken. Five new monitoring wells were dug and samples taken from those. Sediment samples from the Hudson River adjacent to the site were collected. NYSDEC also prepared a human health and environmental risk assessment.

The NYSDEC Tappan Terminal RI/FS and Human Health Risk Assessment reports were completed in 2000 and led to the development and evaluation of clean-up alternatives. In December, 2005 NYSDEC presented the Proposed Remedial Action Plan (PRAP) for Tappan Terminal. A public hearing was held at Hastings High School on January 17, 2006 and the public comment period was extended until March 4, 2006. The RI / FS, the Human Health Risk Assessment and the PRAP are all available on www.hastingsgov.org along with the Record of Decision for the Tappan Terminal site issued by NYSDEC in September 2006.

SECTION III LOCAL WATERFRONT REVITALIZATION PROGRAM POLICIES



SECTION III

LOCAL WATERFRONT REVITALIZATION PROGRAM POLICIES

Note: Section III is being reformatted by NYS Department of State (DOS) and will be distributed under separate cover for Village review. Please review this draft of Section III (from the May 2006 draft). Any public comments regarding these policies can be incorporated with previously received comments into the reformatted Section III, as appropriate, during the Village review once it is completed by DOS.

3.0 OVERVIEW

This section of the LWRP presents the coastal management policies that shall apply to the Village of Hastings-on-Hudson Local Waterfront Revitalization Area. These local policies follow the 13 amended policies that were issued by the New York State Department of State (NYS DOS) in June 1996. The broad policy statements have been retained verbatim from the NYSDOS policy document. The sub-policies have been modified and expanded to reflect the unique conditions in the Village, and new sub-policies have been added as appropriate to address special issues of local importance.

The policies and sub-policies provide a balance among a number of primary coastal management goals that were identified by the LWRP Steering Committee, summarized as follows:

1. Ensure that future waterfront development and redevelopment within the Village of Hastings-on-Hudson is undertaken in a manner that is consistent with the overall "village character" of the community and the general scale of existing development. This "village character" is defined by the nature of existing development in the community, which generally is traditional, with a diversity of building types and materials. There are a few higher-rise and garden apartment buildings on Broadway, Washington Avenue and Main Street. Otherwise, the Village's stock of multi-family structures generally does not exceed three stories in height, in conformance with the current zoning. The Village core comprises a compact commercial downtown area, with high density residential uses. This is surrounded by single-family housing and tracts of recreational lands and open space.
2. Reestablish the Village's physical connection to the Hudson River, including the improvement and expansion of facilities that provide pedestrian and vehicular passage over the railroad tracks.
3. Provide additional locations for direct public access to the river as an essential element of the redevelopment of the Village's former industrial waterfront area. The ultimate goal is full north-to-south access along the Village's entire two-mile shoreline as part of a Greenway Trail system that extends along the full length of the Hudson River shoreline, and in furthering the Westchester County Riverwalk.
4. Provide for appropriate water-dependent and water-enhanced uses, including a significant waterfront park, as an essential element of the redevelopment of the Village's former industrial waterfront area.

5. Protect important natural resources throughout the Village (including tidal marshes and flats, freshwater wetlands, ponds, Saw Mill River and other stream corridors, and wildlife populations); and, where practicable, enhance these resources through restoration projects. This policy could be augmented by establishing habitat protection goals and planting / maintenance guidelines that can be used for preservation areas and by abutting homeowners who volunteer to participate in habitat preservation.
6. Preserve significant historic resources and the waterfront heritage of the Village.
7. Make the Village pedestrian and bicycle friendly, with adequate sidewalks. Continue to improve the network of trails within the Village, including augmented interconnections, in order to enhance public use for walking, hiking, jogging, and, where appropriate, bicycling and cross-country skiing. Update the 2003 Trailways Map as needed to encourage use of the trail system.
8. Avoid significant adverse impacts to the movement of vehicular traffic within the Village due to future development and redevelopment on the waterfront and within the LWRP area.
9. Implement a redevelopment plan for the Village's former industrial waterfront area that optimizes attainment of other goals and objectives of this LWRP, while also avoiding an undue fiscal burden on the Village. This may include phased redevelopment and public/private redevelopment partnerships.
10. Minimize the discharge of contaminants to surface water bodies, particularly as carried by storm water runoff. Continue to work toward meeting the 2008 target date for full implementation of the Storm Water Management Program. Use "Best Management Practices" (BMPs) to establish natural filtration and slow release of stormwater.
11. Ensure that future actions, including development and redevelopment projects, are undertaken in a manner that sustains the diversity of the Village of Hastings-on-Hudson in terms of the traditional mix of age and income levels.
12. Avoid actions that would unduly obstruct or otherwise detract from public enjoyment of important visual resources, especially with respect to views of the Hudson River and the Palisades from significant public vantage points. Consistent with the goal for increased public shoreline access, Goal #3, provide new opportunities for public visual access to the Hudson River.

As with the State coastal policies, the Hastings-on-Hudson LWRP policies are organized under five headings: general policy, economic development policies, waterfront natural resources policies, general environmental policies, and recreation and cultural policies.

GENERAL POLICY

Policy 1 Foster a pattern of development in the coastal area that enhances community character, preserves open space, makes efficient use of infrastructure, makes beneficial use of a coastal location, and minimizes adverse effects of development.

- 1.1 Concentrate development and redevelopment in order to revitalize deteriorated and underutilized waterfronts and strengthen the traditional waterfront focus of the Village of Hastings-on-Hudson, while maintaining appropriate village scale and character (Goal #1).
- 1.2 Ensure that development or uses make beneficial use of their coastal location.
- 1.3 Minimize potential adverse land use, environmental, and economic impacts that would result from proposed development.
- 1.4 Protect stable residential areas.
- 1.5 Encourage and facilitate redevelopment of the Village's former industrial waterfront in a manner that optimizes the attainment of the goals and objects of this LWRP, while also avoiding any significant net fiscal burden on the Village.
- 1.6 Prohibit uses and facilities that are noxious or would otherwise be deleterious to the quality of life of the residents of the Village of Hastings-on-Hudson.

ECONOMIC DEVELOPMENT POLICIES

Policy 2 Protect water-dependent uses, promote siting of appropriate new water-dependent uses in suitable locations, and support efficient harbor operation.

- 2.1 Protect existing water-dependent uses.
- 2.2 Promote the siting of desirable new water-dependent uses, and expansion of existing water-dependent uses, at suitable locations.
- 2.3 Allow appropriate non-water-dependent uses in the waterfront area that support and improve the economic viability of water-dependent uses and contribute to the welfare of the Village, consistent with the 12 management goals.
- 2.4 Promote the efficient management of surface waters and underwater lands.
- 2.5 Include appropriate water-dependent uses as part of the redevelopment plan for the Village's former industrial waterfront area.

Policy 3 Protect agricultural lands.

There are no agricultural lands within the Village of Hastings-on-Hudson as it is within an urbanized area (population density greater than 1,000 per square mile). However, this policy is applicable to the Village of Hastings-on-Hudson since the Village does have a farmer's market on summer Saturdays thereby providing a sales venue that helps to keep small farms viable. Expanding the season or number of days for the market in a coordinated effort with other "Community Market" participating Rivertowns could enhance the viability of these small farms.

Policy 4 Promote sustainable use of fish and wildlife resources.

- 4.1 Ensure long-term maintenance and health of living estuarine/marine resources.
- 4.2 Promote appropriate commercial and recreational use of estuarine/marine resources.
- 4.3 Explore the feasibility of establishing recreational fisheries for finfish, blue crabs and oysters in the waters of the Hudson River.
- 4.4 Explore opportunities to expand recreational fishing in the Saw Mill River.

NATURAL RESOURCE POLICIES

Policy 5 Protect and restore ecological resources, including significant fish and wildlife habitats, wetlands, and rare ecological communities.

- 5.1 Protect existing ecological resources in the Village of Hastings-on-Hudson by promoting connectivity between habitat fragments.
- 5.2 Support the restoration of important fish and wildlife habitats wherever practicable, so as to enhance their functioning as natural, self-regulating systems. This may include areas that abut habitat in neighboring municipalities.
- 5.3 Protect, and to the extent practicable, restore freshwater and tidal wetlands.
- 5.4 Identify and undertake appropriate actions to protect and enhance important ecological resources in the Village of Hastings-on-Hudson. Work with Historic Rivertowns of Westchester (HRTW) municipalities and Westchester County official to contribute to regional resource protection efforts.
- 5.4 Protect State-Designated Significant Coastal Fish and Wildlife Habitats.

Policy 6 Protect and improve water resources.

- 6.1 Prevent direct and indirect discharges to coastal waters that would cause or contribute to contravention of water quality standards and targets.
- 6.2 Minimize pollution of coastal waters caused by point source discharges.
- 6.3 Minimize non-point source pollution of coastal waters and manage activities causing non-point pollution.
- 6.4 Protect and conserve quality and quantity of potable water.
- 6.5 Develop a plan to mitigate the water quality impacts to coastal waters caused by stormwater runoff from the adjacent upland areas in the Village of Hastings-on-Hudson.

Policy 7 Minimize loss of life, structures, and natural resources from flooding and erosion.

- 7.1 Minimize potential adverse impacts due to flooding and erosion hazards by selecting from a set of management measures for shoreline protection, which are presented in order of priority.
- 7.2 Preserve and restore natural protective features.

- 7.3 Protect public lands and public trust lands and the use of these lands when undertaking erosion and flood control projects.
- 7.4 Manage navigation infrastructure to limit adverse impacts on coastal processes.
- 7.5 Expend public funds for management or control of flooding or erosion hazards only in areas of the coast that will result in proportionate public benefit.
- 7.6 Include sea level rise calculations in the siting and design of all major projects in flood and erosion hazard areas having more than a fifty-year design life.
- 7.7 Plan redevelopment of the Village's former industrial waterfront area in a manner that takes into account that this area lies largely within the 100-year flood plain.
- 7.8 Minimize the erosion of upland areas in the Village caused by stormwater runoff.

GENERAL ENVIRONMENTAL POLICIES

Policy 8 Protect and improve air quality.

- 8.1 Control or abate existing air pollution and prevent new air pollution.
- 8.2 Limit discharge of atmospheric radioactive material to a level that is as low as practicable.
- 8.3 Capture and recycle chlorofluorocarbon compounds during service and repair of air-conditioning and refrigeration units to the greatest extent possible.
- 8.4 Limit sources of atmospheric deposition in the Hudson River, particularly from nitrogen sources.

Policy 9 Promote appropriate use and development of energy and mineral resources.

- 9.1 Conserve energy resources.
- 9.2 Promote alternative energy sources that are self-sustaining, including solar-powered energy generation.

Policy 10 Minimize environmental degradation from solid waste and hazardous substances and wastes.

- 10.1 Manage solid waste to protect public health and control pollution.
- 10.2 Manage hazardous wastes to protect health and control pollution.
- 10.3 Prevent and remediate discharges of petroleum products.
- 10.4 Transport solid wastes and hazardous substances and wastes using routes and methods that: protect the safety, well-being, and general welfare of the public and the environmental resources of the Village of Hastings-on-Hudson; and protect continued use of all transportation corridors and highways and transportation facilities.
- 10.5 Remediate inactive hazardous waste disposal sites in the Village's waterfront redevelopment area.
- 10.6 Do not site any new or expanded facilities for the handling, storage or transfer of solid wastes or significant quantities of hazardous substances or wastes in the Village of Hastings-on-Hudson; and eventually phase-out existing uses of this type.

RECREATION AND CULTURAL RESOURCE POLICIES

Policy 11 Improve public access to and use of public lands and waters.

- 11.1 Promote appropriate and adequate physical public access and recreation throughout the Village of Hastings-on-Hudson coastal area.
- 11.2 Assure public access to public trust lands and navigable waters.
- 11.3 Provide access and recreation that is compatible with natural resource values.
- 11.4 Preserve visual access from important vantage points on public lands to coastal lands and waters. Where appropriate and feasible, enhance existing public facilities and provide new opportunities for viewing scenic resources within and adjacent to the Village of Hastings-on-Hudson waterfront.
- 11.5 Ensure access to navigable waters through timely maintenance dredging of existing facilities, where needed.
- 11.6 Develop new facilities for recreational vessel access to the Hudson River.
- 11.7 Continue to improve and maintain the system of trails in the Village of Hastings-on-Hudson.

Policy 12 Enhance visual quality and protect outstanding scenic resources.

- 12.1 Protect and improve visual quality throughout the Village.
- 12.2 Protect the aesthetic values associated with recognized areas of high scenic quality.
- 12.3 Avoid activities that will unduly obstruct or intrude into views of the Hudson River and the Palisades from key public viewing locations.
- 12.4 Establish design standards to minimize the impact to important visual resources resulting from the redevelopment of the Village's industrial waterfront area.

Policy 13 Preserve historic resources.

- 13.1 Maximize preservation and retention of significant historic resources.
- 13.2 Protect and preserve significant archeological resources.
- 13.3 Protect and enhance resources that are significant to the coastal culture of the Hudson River in the vicinity of the Village of Hastings-on-Hudson.
- 13.4 In redeveloping the waterfront area, include suitable measures to highlight the vital role that this area played in the Village's historic development.
- 13.5 Strengthen local requirements for the protection of important historic resources.

Policy 1 Foster a pattern of development in the coastal area that enhances community character, preserves open space, makes efficient use of infrastructure, makes beneficial use of a coastal location, and minimizes adverse effects of development.

The character of the Village of Hastings-on-Hudson is defined largely by the pattern of land development within its boundaries. In general, the existing pattern of land uses in the Village should be preserved, except as otherwise specified or allowed by the following sub-policies.

1.1 Concentrate development and redevelopment in order to revitalize deteriorated and underutilized waterfronts and strengthen the traditional waterfront focus of the Village of Hastings-on-Hudson.

- New waterfront development should be located where infrastructure is adequate or can be upgraded to accommodate new development. Residential development on the waterfront should be concentrated close to the Metro North train station to promote transit use and pedestrian activity.

1.2 Minimize potential adverse land use, environmental, and economic impacts that would result from proposed development.

- Potential adverse impacts on existing development should be minimized by means of the following measures:
 - Ensure that proposed development is consistent with: the mass, distribution, scale, and architectural style of existing structures in the immediate neighborhood; the intensity of use and land use pattern in the surrounding area; and other relevant indicators of community character.
 - Mitigate adverse impacts among existing incompatible uses (e.g., industrial use adjoining a park) by: avoiding expansion of conflicting uses, promoting mixed-use development approaches that reduce potential for conflict, mitigating potential conflicts by segregating incompatible uses, and providing buffers or using other design measures to reduce conflict between incompatible uses.
 - Protect the surrounding community from adverse impacts related to significant increases in ambient levels of odors, noise, or traffic.
- Potential adverse economic impacts should be minimized by means of the following measures:
 - Prevent deterioration of the waterfront and surrounding area by preventing derelict or dilapidated conditions, avoiding detracting from community character, and preventing isolation of community and people from the waterfront.
 - Protect and enhance the community's economic base.
 - Promote a diverse economic base.

1.3 Protect stable residential areas.

- New development located in or adjacent to existing residential areas should be compatible with existing neighborhood character, in terms of the type or intensity of use, mass, scale, density, landscaping design, and other pertinent factors.
- New construction, redevelopment, and screening, such as fences and landscaping, should not unduly reduce or eliminate important vistas that connect people to the water.

1.4 Encourage and facilitate redevelopment of the Village's former industrial waterfront in a manner that optimizes attainment of the goals and objects of this LWRP, while also avoiding any significant net fiscal burden on the Village.

The Village of Hastings-on-Hudson completed a Waterfront Redevelopment Plan in 2000 for 43 contiguous acres of former industrial land on its waterfront, comprising the ARCO, Mobil-Exxon, and Uhlich Color Company parcels. The Waterfront Redevelopment Plan, which is posted on the Village website (www.hastingsgov.org), is Appendix A to this LWRP. The Waterfront Redevelopment Plan is incorporated as a part of this LWRP for illustrative purposes as an example of a conceptual development layout that the community generally would support, based upon the extensive input received during the public planning process conducted for the project. This plan is not intended to represent an immutable redevelopment recommendation for the subject property, and the development that ultimately is implemented at this location may differ from the plan to a greater or lesser degree, especially with respect to the more detailed aspects of the plan. However, a consensus has been achieved on a broad range of issues for the redevelopment of the waterfront area, consistent with a series of "Waterfront Planning Principles" which were formulated at the outset of the planning process. For the most part, these principles are considered to be vital to maximizing the attainment of a number of important goals and objectives of the LWRP, and have been incorporated into Policies 1.4 and 1.5 in order to guide future development on the waterfront.

While a single owner (ARCO) is in control of the northern two-thirds of the site, a long-term redevelopment plan also must incorporate the two parcels at the southern end of the site owned by Mobil-Exxon and Uhlich Color Company. The ultimate objective is to redevelop the entire 43-acre waterfront site. However, it is recognized that this may be accomplished in phases over a number of years.

Based on the consensus arrived at through the Village's waterfront planning process, the following standards shall apply to the redevelopment of the 43-acre former industrial area on the Village's waterfront:

1.4.1 Promote Mixed-Use Development

- New development in the Waterfront District should be a balanced mix of residential and recreational uses, and appropriate water-enhanced commercial activities, among other suitable uses, that are complementary to the downtown.

1. Open Space

- A significant portion of the redevelopment site should be devoted to a variety of open space uses.
- Open spaces should not be concentrated in one part of the plan area but should create a network of green space, both public and semi-public, woven through the entire development.
- Consideration should be given to including appropriate natural resource components in the redevelopment of the waterfront area (e.g., create a natural, westward extension of the stream that runs through the "Ravine" area to the north of Washington Avenue).
- A waterfront plaza should be the heart of the north end of the waterfront and the focal point for multi-purpose public access to the entire site. This "village square" or "green," could serve as a multipurpose space, ideal for events and performances, outdoor sales, or simply enjoying the views of the Hudson River and the Palisades. It could gradually step down from its eastern edge, adjacent to the train station, to the elevation of the waterfront esplanade where it could become a public gathering place directly on the river.
- A riverside park should run the entire length of the waterfront. This park should:
 - have continuous pedestrian access along its entire length which could be a wide promenade at the north end but transition into a trail along the river at the south end.
 - increase in dimension as it extends southward
 - include a multi-purpose open meadow area in the middle of the site, to accommodate soccer or baseball, but also suitable passive uses such as picnicking and concerts
 - have a more natural setting further to the south, with smaller spaces of denser vegetation linked by winding trails
- The river's edge should accommodate a wide range of water-related uses including fishing, small boat launching, and strolling. The "North Cove" could be a protected area for longer term stays for historic boats, tall ships or other boats of public interest. The "South Cove" could be used by the Park and Recreation Department for community boating activities and small boat launching.
- The existing shoreline stabilization structures must be repaired, or rebuilt, and then maintained. Some of this work will be accomplished as part of the environmental remediation program (see Policy 1.4.9.A).

2. Residential Use

- The redevelopment of the waterfront area should include a variety of housing types to serve a range of housing needs, bring vitality to the waterfront, and complement existing housing in the Village.
- Affordable housing should be provided to comply with the Village's affordable housing legislation. Senior housing could be investigated as one of several housing types. Affordable and / or senior housing should not be sited in a remote location.
- Housing should not be built as a private enclave, but rather as a neighborhood not unlike others in the Village, with the same accessible, positive relationship to the downtown and the village as a whole.
- The design of the housing should include semi-public spaces that would in turn be linked to a larger system of interconnected open spaces along the entire waterfront.
- The number, size and types of housing units should not significantly impact the levels of service of traffic at intersections in the downtown area nor increase congestion at the train station without appropriate mitigation measures. Visual impact and preservation of views must also be considered in the design of residential developments. Impacts on the schools and Village services also must be carefully weighed in determining the appropriate density and residential character of development.
- No more than 250 residential units should be built. The units should be located in the northern and central area of the site, near the train station and the downtown business district.

3. Commercial Use

- A variety of commercial uses could be located at the north end of the waterfront redevelopment area, to serve as an extension of and help to invigorate the downtown.
- Commercial uses should be located so as to enhance the waterfront plaza and esplanade, to complement downtown businesses and take advantage of the proximity of the train station. Uses such as restaurants, cafes, an inn or small hotel/conference center, galleries, small-scale convenience retail and water-related uses would be appropriate, but care must be taken to prevent new commercial uses from competing with those in the downtown.
- Large office facilities, "big box" retailers and other large-scale retail development are not suited to this location, because of the significant traffic impacts that would result due to the physical constraints of the Village's roadway system.
- New commercial and retail facilities should be located at the sidewalk level and be pedestrian-oriented rather than set back from the street.

4. Civic and Cultural Uses

- Civic and cultural uses are key to realizing the community's desire to see the waterfront become an integral part of the Village and a focus for community activities. Residents have expressed the need for such uses as a performing arts facility, river-oriented museum, community center focused on youth activities, indoor pool and recreation center, and facilities for arts education. The Village's historical significance as a magnet for artists and performers, such as the Hudson River School of painters, could be highlighted by means of a cultural facility.
- Integrate public art into a public spaces and civic buildings.

5. Institutional Use

- Reflecting the interest on the part of the community to create a civic identity for the waterfront, the Village supports the goal of promoting an institutional use for the site.
- The proposed Rivers and Estuaries Center was not selected for funding by NYS-DEC as the Newburgh / Beacon area was considered more appropriate for that regional facility. However, a school, a maritime institute, a hotel/conference center or a continuing care facility have also been suggested as appropriate uses.
- Because of its relative privacy and lower level of accessibility, the south end of the waterfront could be a good setting for such an institution and it could include a variety of semi-private and private open spaces, like those of a college campus, which would be linked to the larger system of open spaces.
- Any educational institute that is located on the waterfront should establish a cooperative enrichment program for the benefit of local primary and secondary schools.

6. Discontinue Industrial Use

- New industrial uses in the waterfront area are not considered to be appropriate for the subject location, due to serious site contamination and other impacts (with respect to aesthetics, truck traffic, emissions, noise, etc.) caused by such uses in the past, as well as incompatibility with other uses in the Village.
- Because none of the existing industrial uses on the site is water-dependent, their presence on the waterfront is not essential to their survival. These uses should be phased out of operation at their present location. This will allow the full 43-acre waterfront area to be made available for redevelopment, offering the maximum potential benefit to the Village and its residents.

7. Consistency with DEC Cleanup and Federal Consent Decree.

- All development must be consistent with the land use restrictions in (i) the federal consent decree between the Village, Riverkeeper, and ARCO; and (ii) DEC's Record of Decision for the Harbor at Hastings and Tappan Terminal sites.

1.4.2 Preserve Views

- The overall design of the development in the waterfront area must provide for open-view corridors, giving special attention to important public views in the Village and on the waterfront.
- New structures placed in the waterfront redevelopment area shall be oriented and sized to avoid obstructing views of the Hudson River and the Palisades from significant inland public viewing locations, should optimize visibility of the river from the waterfront redevelopment area itself, and should not adversely impact views from the river back to the Village. Structures and plantings should not wall-off the river; some westward views should be open at street level.
- New on-site streets shall be designed so as to create suitable view corridors from the eastern edge of the waterfront parcel (i.e., along the west side of the railroad tracks) and from off-site locations further to the east.
- All utilities should be placed underground, in order to reduce the extent to which development intrudes into waterfront viewsheds.
- To preserve views and maintain the Village-like character of the waterfront, new buildings shall not exceed three stories and shall not exceed 40 feet in height.

1.4.3 Provide Public Access

- There must be continuous pedestrian access along the entire shoreline, open to the general public, with suitable connections to off-site pedestrian routes to the north, south, and east.
- A more intensive multi-use esplanade is appropriate at the northern portion of the site: possibly consisting of a paved surface. Farther south, the esplanade could become more of a waterfront trail, a softer surface meandering along a more natural water's edge.

1.4.4 Preserve Historic Character

- The redevelopment of the waterfront should include suitable acknowledgment of the Village's industrial heritage, as accomplished by following the standards contained in Policy 13.5. Re-use of historic buildings, integration of historic materials (e.g. Hastings pavers or bricks from demolished buildings), historic plaques and interpretive displays should be considered.

1.4.5 Ensure Viable and Sustainable Development

- The development should be economically feasible and self-sustaining. There should be no significant net negative fiscal impact on the Village.
- While development choices should meet market demands, the specific needs of the Village and region should take precedence in the waterfront plan.
- Redevelopment should not place an undue burden on the local economy through uncompensated subsidies and other expenditures of public monies. Over the long term, the additional operating expenses incurred by the various taxing entities (Village, school district, etc.) to service the new development should not significantly exceed the tax revenues generated by this development.
- Certain uses that are not net revenue-generators (e.g., recreational and cultural facilities) are desired to a certain extent, and should be included in the mix of uses on the waterfront. The fiscal tax burden of such public uses need not be offset by revenue-generating uses if alternative funding sources can be secured. One such tool is the Recreation Fee in lieu of parkland in which the developer pays a one-time fee per housing unit that is deposited in a trust fund to be used for meeting recreational needs to serve the additional population. The background study prepared to establish this fee in Hastings-on-Hudson is posted on the Village website, www.hastingsgov.org.

1.4.6 Create a Pedestrian-Friendly Environment

In October, 2003 the Village hosted a Walkable Communities Workshop in which over 30 residents participated and suggested locations throughout the Village that needed improvements to reduce pedestrian / vehicular traffic conflicts. Subsequently, the Village was awarded NYS Department of Transportation funding to conduct further study and to begin implementing some pedestrian enhancements. The Village hired Buckhurst Fish and Jacquemart, Inc. in May, 2005 to prepare the Transportation Plan and Pedestrian Enhancements which is underway and expected to be complete in Fall, 2006. The following issues and recommendations are among those that are included in the scope of their work.

- Improvements that facilitate pedestrian (and bicycle) movement between the waterfront area and the rest of the Village should be given a high priority in redeveloping this area, given that the Village's existing roadway system suffers from certain physical constraints which hinder vehicular traffic movement at the present time, especially in the central business district.
- Streets should be scaled and designed to slow traffic in order to encourage pedestrian and bicycle use. Sidewalks should be provided on all streets.
- Vehicular traffic, especially commercial traffic, should not dominate the waterfront.
- Connections to the Village's Trailway system should be encouraged, with consideration given to the following:
 - 1) A link to the Old Croton Aqueduct trailway in the ravine, via Cropsey Lane, through the Zinsser commuter parking lot and the right-of-way through the Newington-Cropsey property.
 - 2) An improved pedestrian passageway and stairway adjacent to the Steinschneider parking lot that functions as an extension of Main Street, across Southside Avenue to the Dock Street Bridge.
 - 3) The edge of the waterfront should be part of a larger Hudson River Greenway, connecting to the river communities north and south of Hastings-on-Hudson.
- Parking should not be consolidated into a single large open lot or parking structure, but rather should be distributed throughout the site as on-street parking on the new roads and in garages inside the proposed buildings or courtyards.
- Adequate parking should be provided to fully accommodate the needs of the proposed development and, to the extent practicable, to mitigate the existing shortfall of parking capacity in the Village, especially with respect to the parking needs of Metro North commuters.
- The visibility of parking facilities on the subject property should be minimized by siting these facilities under buildings, providing adequate screening, using tiered parking structures, maximizing on-street parking and/or other measures as determined to be appropriate.

1.4.7 Link New Development to the Village

- The waterfront to the west of the Metro North tracks should be an integral part of the Village, not a separate enclave. Planning for the waterfront should be coordinated with that of the business district and the rest of the Village to ensure integration.

1. The Train Station

- Redevelopment of the Village's waterfront should take advantage of this important regional transit facility, by improving linkages to the train station and undertaking other actions to encourage the use of mass transit over private automobile.
- The north end of the waterfront should be an extension of the existing Village core, with the train station area as the primary linkage between new development and the downtown.
- Metro North is relocating the southbound platform at grade to a position opposite the northbound platform. The Village and waterfront developer(s) should work with Metro North to introduce a passenger drop-off and small station facility on the west side of the tracks in the future. This would integrate the station area at the center of the site, opposite the ravine and the proposed waterfront plaza. A new pedestrian bridge at Washington Avenue could join the southern ends of the two platforms.

2. The Road Network

- The road network should consist of two north-south roads — a service road adjacent to the railroad tracks and a curvilinear "riverside drive" along the west edge of the development — linked by smaller east-west side streets.

3. Improved Connections to the Village

- Existing linkages across the railroad tracks between the waterfront redevelopment area and areas to the east should be improved to facilitate vehicular, pedestrian and bicycle access. This could be accomplished by reconstructing the Dock Street Bridge and its connecting ramps, so as to mitigate existing traffic flow problems and improve pedestrian crossing; and widening and upgrading the substandard Zinsser Bridge to allow vehicular and pedestrian access for the general public.
- Additional bridges should be provided at appropriate locations, especially to augment pedestrian and bicycle access, for example at Quarry Road and Washington Avenue.
- The feasibility of a connector from Zinsser Bridge to Warburton Avenue should be investigated.

1.4.8 Create a Waterfront that is an Extension of the Village

- Future development in this area shall be undertaken in a manner that is compatible with the overall "village character" of the community, as this term is defined in the Overview to these policies. To the extent practicable, general consistency shall be maintained between the new development on the waterfront and the adjacent central business district and other neighboring areas, in terms of: the mass, distribution, scale, and architectural style of structures; the intensity and pattern of land uses; and other relevant indicators of community character.

- The Land Use Pattern

- Denser development, including more concentrated residential housing, should be located at the north end of the site, nearest to the train station, in order to create effective linkages with the existing downtown area and to maximize pedestrian travel to and from the site.
- More private uses (e.g., hotel/conference center, assisted living, educational and institutional facilities) could be located in the more remote southern end.
- Residential neighborhoods could be located in and adjacent to the more public and mixed-use north end.

- Accommodate Diversity of Architecture

- Architectural design should express the heterogeneous character of the Village. Reflective glass buildings, for example, are a distraction from the natural beauty of the site and are not appropriate for the waterfront area. Structures should not be all of one height, style or material, but should appear to be constructed over time by a variety of builders, as the Village was. Phased development carried out by a variety of developers could help to achieve this. The roofs of the new buildings on the subject property should receive special attention, so as to add interest to the development (especially when seen from above), minimize visual impacts, and screen rooftop HVAC and telecommunications equipment.

1.4.9 Avoid Adverse Environmental Impacts

1. Environmental Remediation

- New development on the waterfront shall include an appropriate program of environmental remediation, to mitigate contamination that has resulted from past and ongoing industrial activities, in accordance with the standards outlined in Policy 10.5.

2. Impact on Traffic

- Redevelopment of the waterfront area should not cause significant adverse impacts to the movement of vehicular traffic within the Village. The traffic implications of any proposed development should be fully analyzed, and appropriate and feasible measures should be identified to mitigate any significant impacts.

3. Minimize Flooding and Erosion

- Site improvements should be located and constructed in a manner that minimizes future damages caused by flooding and erosion, in accordance with the standards outlined in Policy 7.7.

4. Mitigate Surface Water Quality Impacts

- As site conditions allow, the redeveloped waterfront area should provide adequate stormwater storage, so as to provide “first flush” treatment to runoff generated on-site, prior to discharge to the Hudson River. If “first flush” storage is infeasible — due to high groundwater table, poor subsurface soil conditions, and/or similar factors — other suitable means of treatment should be provided, to the extent practicable.

1.5 Prohibit uses and facilities that are noxious or would otherwise be deleterious to the quality of life of the residents of the Village of Hastings-on-Hudson.

- Certain types of uses and facilities are not appropriate for the Hastings-on-Hudson waterfront area, given the physical constraints that characterize the Village and an existing land use pattern which is dominated by residential development, open space, and small-scale commercial facilities. The uses/facilities that are to be avoided in the Village's waterfront area include, but are not limited to:
 - cross-river bridges or tunnels, which would not be suitable anywhere in Hastings-on-Hudson, due to the physical limitations of the Village's roadway system and the steep topography along the river;
 - industrial development, including sewage treatment plants and waste transfer stations, due to the adverse environmental impact associated with such uses (see Policy 10.7 for further elaboration);
 - mineral extraction operations;
 - liquified natural gas unloading or storage facilities; and
 - fossil-fuel and nuclear energy generation plants (not to exclude opportunities for fossil fuel co-generation associated with other types of development).

Policy 2 Protect water-dependent uses, promote siting of appropriate new water-dependent uses in suitable locations, and support efficient harbor operation.

2.1 Protect existing water-dependent uses.

- Because a waterfront location is a prerequisite for any water-dependent use, such uses should be given priority over non-water-dependent uses for siting along the shoreline. Any actions that would displace, or otherwise significantly impact or interfere with existing, functional water-dependent uses (e.g., the Pioneer Boat Club and Tower Ridge Yacht Club in the Village of Hastings-on-Hudson), should be avoided. This policy would not preclude a new marina on the south end of the waterfront to supplement or replace the Pioneer Boat Club.

2.2 Promote the siting of desirable new water-dependent uses, and expansion of existing water-dependent uses, at suitable locations.

- Examples of water-dependent uses that may be considered appropriate for the Hastings-on-Hudson waterfront include:
 - public and private marinas
 - yacht clubs
 - boat yards
 - recreational fishing facilities
 - tour boat and charter boat facilities
 - waterborne commerce
 - ferries and associated facilities
 - marine educational or laboratory facilities
 - small boat rental facilities
 - modest scale, below water-surface level electric generation turbines on the bed of the Hudson River that use the flow of the river water to generate electricity.
 - launching facilities for small, non-motorized boats such as kayaks and canoes.

- In general, water-dependent uses, should be located within urbanized or already-developed areas that contain concentrations of water-dependent commercial and/or recreational uses, and essential support facilities. A new water-dependent use should not be located in an undeveloped area, unless there is a demonstrated demand for the use, there is a lack of suitable sites within a nearby urban area, the use has unique siting requirements that necessitate a particular site in an undeveloped area, the use is small-scale and has the principal purpose of providing access to a waterway, and the use is consistent with the character of the area.
- Adverse impacts resulting from new and expanded water-dependent uses should be minimized by siting such uses where:
 - the need for dredging is minimized;
 - water-side and land-side access, as well as upland space for parking and other facilities, is adequate;
 - the necessary infrastructure exists or is easily accessible, including adequate shoreline stabilization structures, roads, water supply and sewage disposal facilities, and vessel waste pump-out and waste disposal facilities; and
 - the proposed new or expended use is compatible with surface water quality classifications.
- New or expanded marinas also should:
 - incorporate marine services and limited boat repair, as feasible and appropriate to the site, in order to meet a range of boating needs;
 - not encroach upon existing navigation channels, fairways, or channel buffer areas;
 - incorporate suitable public access to the water by means of boat launching facilities (for use by car-top boats only, such as canoes and kayaks), transient boat mooring access facilities, and similar amenities, as appropriate to the given site;
 - limit the discharge of sewage by providing pump-out facilities; and
 - avoid or minimize adverse impacts to natural resources and existing neighborhoods.
- Development of new or expanded water-dependent uses should be accompanied by certain land-based facilities (e.g., ticket offices, drop-off areas, parking lots, and storage, maintenance and repair facilities) as necessary to support the primary water-dependent activity.
- Locations that exhibit important natural resource values, such as wetlands and fish and wildlife habitats, should be avoided in siting new or expanded water-dependent uses.
- Facilities for large-scale waterborne commerce are not considered appropriate for the Village of Hastings-on-Hudson, due to constraints of the connecting roadway system and the character of the existing development in the community.

- Certain types of water-dependent uses that entail active commercial operations (e.g., boat yards, commercial fishing facilities, tour boat and ferry operations) may be suitable for the Village's waterfront on a limited scale, as part of an overall mixed-use redevelopment plan. However, large-scale development of these types of uses would not be consistent with the Village's goals and objectives for its waterfront, due to the likelihood for conflicts with other uses that have been identified for implementation on the waterfront or which are present in the surrounding area, in addition to vehicular traffic and other potential adverse environmental impacts.

2.3 Encourage appropriate non-water dependent uses in the waterfront area to support and improve the economic viability of water-dependent uses.

- Water-enhanced uses do not require a location on or adjacent to the shoreline in order to function, but can add to public enjoyment and use of the water's edge, if properly designed and sited. These uses (e.g. parks, trails, waterfront promenades and restaurants) should be encouraged where they are compatible with surrounding development and make beneficial use of their coastal location by:
 - attracting people to or near the waterfront and providing opportunities for access that is oriented to the Hudson River,
 - providing public views to or from the water,
 - not interfering with the viability or operation of water-dependent uses, and
 - not causing significant adverse impacts to community character and surrounding land and water resources.
- Uses that are not water-dependent or water-enhanced can be included as part of an integrated, mixed-use development plan for the waterfront, provided that said uses:
 - are not sited directly on the water's edge or over the water,
 - do not displace existing, functional water-dependent or water-enhanced uses, and
 - are not incorporated into a development plan in lieu of appropriate, viable water-dependent and water-enhanced uses.
- A use should be avoided on the waterfront if it:
 - results in unnecessary and avoidable loss of coastal resources or access to coastal resources,
 - ignores the coastal setting through inappropriate design or orientation (e.g., a building that faces away from the river or blocks views of the water from significant public vantage points), or
 - does not, by its nature, derive economic benefit from a waterfront location.

2.4 Promote the efficient management of surface waters and underwater lands.

- Marinas, in-water structures, and surface water uses should not encroach upon navigation channels and fairways. New marinas should be located in protected waters.

- Uses that are not water-dependent, such as private decks and platforms, should not be allowed on or over surface waters. An over-water structure of this type may be considered for approval if said structure provides access to the general public.
- Various water use zones should be established for uses such as docks, moorings, navigation channels, turning basins, and any special recreational use areas (bathing, water skiing, etc.).
- To assure safety, vessel speed zones should be established and zones for bathing, water skiing, and other recreational uses should be located away from boating facilities and recreational use areas.
- The establishment of future water use zones and the siting of in-water structures should be undertaken in a manner that minimizes potential impacts on sensitive resources, such as wetlands and habitat areas.
- Use of personal watercraft (commonly referred to by the trade name "Jetski") should be regulated within 1,500 feet of the Village shoreline. These vessels are considered excessively noisy and polluting by some, but are a popular recreational activity for others.
- Vessel speed should not exceed 5 mph within 500 feet of the shore or within 500 feet of a moored or docked vessel.
- These issues are addressed in greater detail in the Harbor Management Plan for the river.

2.5 Include appropriate water-dependent uses as part of the redevelopment plan for the Village's former industrial waterfront area.

- Redevelopment of the Village's former industrial waterfront area should include, but not necessarily be limited to, one or more of the following:
 - expanded recreational vessel access to the river, in the form of marina and/or docking facilities to serve one or more mooring areas
 - ferry terminal, water taxi, and/or dockage for small touring boats (i.e., for cruising and/or sightseeing), using the area at the northern end of the site, and other facilities to encourage waterborne transportation
 - bathing beach
 - community boat house for youth-oriented boating programs
 - mooring opportunities for historic boats
 - opportunities for the launching of small non-motorized boats (e.g. kayaks or canoes)
 - rehabilitation of cluster piers in the deep-water area of the waterfront for use as a fishing pier and dockage for large boats
 - dockage for commercial uses, such as a restaurant and/or hotel
 - dockage for educational and scientific uses, such as a possible institutional facility
- In providing for enhanced vessel access in the redeveloped waterfront area of the Village of Hastings-on-Hudson, launching facilities should be limited to car-top boats. New launching ramps for trailered boats are not considered to be appropriate for the Village due to the constraints of the local roadway system. However, the road network and reconstruction of Zinsser Bridge should be designed to accommodate emergency and other occasional boat access to the Pioneer Boat Club, Palisade Boat Club and the Yonkers Yacht Club.
- The Village should work with waterfront property owners and Metro North to ensure access, specially for emergency vehicles, to Palisade Boat Club and Yonkers Yacht Club via the road west of Metro North railroad tracks.

Policy 3 Protect existing agricultural lands in the coastal area.

The Village of Hastings-on-Hudson coastal area does not contain significant agricultural lands. However, Policy 3 is applicable to this LWRP because the Village hosts a Farmers' Market on Saturdays from June to mid-November and, by doing so, assists the small farms in upstate New York, New Jersey and Long Island that sell their produce and prepared foods at the Market. Expanding the hours or coordinating days of operation with other Rivertowns that participate with Community Markets (the Farmers' Market management agency) may further enhance the economic viability of these small farms.

Policy 4 Promote sustainable use of living marine resources in coastal waters.

4.1 Ensure long-term maintenance and health of living estuarine/marine resources.

- Ensure that the commercial and recreational use of living estuarine/marine resources is managed in a manner that:
 - results in sustained, usable abundance and diversity of these resources,
 - places primary importance on maintaining the long-term health and abundance of fisheries,
 - does not interfere with population and habitat maintenance and restoration efforts,
 - uses best available scientific information in managing the resources, and
 - minimizes waste and reduces discard mortality of fishery resources.
- Protect, manage and restore sustainable populations of estuarine/marine resources, particularly indigenous fish, shellfish, and crustacean populations.
- Protect native stocks of estuarine/marine resources by protecting the genetic integrity of recognizable native populations which can be placed at risk by inappropriate stocking, and by avoiding the introduction of non-indigenous species.
- Ensure that the management of the State's trans-boundary and migratory species is consistent with interstate, state-federal, and inter-jurisdictional management plans.
- Foster occurrence and abundance of estuarine/marine resources through: protection of spawning grounds, habitats, and water quality; and enhancement and restoration of fish and shellfish habitat

4.2 Promote appropriate commercial and recreational use of estuarine/marine resources.

- Maximize the benefits of estuarine/marine resources in order to provide: viable business opportunities for commercial and recreational fisheries; and valuable recreational resource experiences.
- Where fishery conservation and management require actions that would result in resource allocation impacts, ensure equitable distribution of impact among user groups, giving priority to existing fisheries in the State.
- Provide suitable opportunities for recreational use of marine resources.

- Protect public health and marketability of resources from contamination by:
 - restricting the harvest of shellfish when the sanitary condition of waters or sediments contravenes public health standards
 - advising the public regarding health risks of consuming seafood contaminated with toxics
 - restricting the harvest of fish and shellfish when they are contaminated with toxics at levels exceeding established public health thresholds
 - limiting the availability of shellfish from uncertified waters by depleting shellfish stocks in these areas to levels that would discourage illegal harvest (e.g., via controlled transplants to certified waters)
 - maintaining water quality to ensure the wholesomeness of fisheries
- Provide adequate infrastructure to meet the needs of water-dependent activities in the Village, including fishing piers, dockage, parking, and similar services.

4.3 Explore the feasibility of establishing recreational fisheries for finfish, blue crabs, and oysters in the waters of the Hudson River adjacent to the Village of Hastings-on-Hudson.

- Once it has been established that contaminant burden in local populations of finfish, blue crabs and oysters is within safe limits, the feasibility of establishing a local, sustainable recreational fishery for these species should be examined.

4.4 Explore opportunities to expand recreational fishing in the Saw Mill River.

- Although the portion of the Saw Mill River that flows through the eastern edge of the Village of Hastings-on-Hudson provides favorable fish habitat, only a relatively minor amount of fishing occurs here at the present time. Efforts should be undertaken to examine the feasibility of augmenting the use of the resource for recreational fishing, including trout. In light of the historic use of the Saw Mill River as a means of industrial waste disposal, consideration should be given to testing of fish from these waters to determine whether they meet established safety limits for contaminant levels.

Policy 5 Protect and restore ecological resources, including significant fish and wildlife habitats, wetlands, and rare ecological communities.

5.1 Protect existing ecological resources in the Village of Hastings-on-Hudson.

- New development and redevelopment should avoid adverse impacts to natural resources, including: deterioration of water quality; and loss, fragmentation, and impairment of significant upland habitats and wetlands.
- Special consideration should be given to protecting stands of large trees, unique forest cover types and habitats, and old fields, particularly in areas of steep slopes.
- The expansion of infrastructure into undeveloped areas should be avoided where such expansion would promote development detrimental to natural resources.

5.2 Support the restoration of important fish and wildlife habitats wherever practicable, so as to enhance their functioning as natural, self-regulating systems.

- As appropriate, measures should be undertaken to restore habitat areas and their essential ecological functions, including:
 - reconstructing lost physical conditions to maximize habitat values;
 - adjusting adversely altered chemical characteristics to emulate natural conditions; and
 - managing biological characteristics to emulate natural conditions through the re-introduction of indigenous flora and fauna.
- Nothing herein, however, shall be construed as suggesting that large-scale efforts should be undertaken to restore previously filled areas of the Village's Hudson River waterfront to their natural condition.

5.3 Identify, protect and, to the extent practicable, restore important ecological resources, including freshwater and tidal wetlands.

- In order to preserve the vital functions of wetlands in the Village of Hastings-on-Hudson (including tidal marshes and unvegetated flats in the Hudson River; and freshwater wetlands in the upland portion of the Village, especially those along the Saw Mill River corridor), this resource should be protected from actual and potential impacts related to existing and future development. As appropriate, the following measures should be undertaken to advance this objective:
 - comply with the statutory and regulatory requirements of the Tidal and Freshwater Wetlands Acts, and the Stream Protection Act;
 - whenever practicable, prevent the loss of wetlands by avoiding excavation or placement of fill in wetlands
 - whenever a project cannot avoid excavation or placement of fill in wetlands, ensure that suitable mitigation measures are implemented to prevent a "net loss" of wetlands — this policy pertains to projects that entail significant public benefit; the loss of wetlands as a result of projects that will not render significant public benefit shall be considered to be inconsistent with the policies of this LWRP;
 - provide and maintain adequate buffers between wetlands and adjacent or nearby uses and activities, in order to ensure protection of wetland character, quality, values and functions;
 - restore degraded wetland areas wherever practicable, in an effort to enhance their ecological function and natural resource value;
 - implement best management practices for any development or redevelopment projects within the Village, to minimize impacts to wetlands;
 - repair, replace or remove drainage culverts that adversely impact wetlands; and
 - provide compensatory mitigation for adverse impacts resulting from unavoidable fill, excavation or other activities, after all appropriate and practicable efforts have been taken to avoid impacts.
- Nothing herein, however, shall be construed as prohibiting measures to prevent the flooding of the Village's 43-acre former industrial area, or the development of these properties in a manner consistent with this LWRP.

- Existing information should be compiled regarding important wetland areas and associated upland preserves in the Village of Hastings-on-Hudson, and the fish and wildlife resources of the Hudson River in the vicinity of the Village. This information should be analyzed in sufficient detail to allow a determination to be made as to the specific areas that merit special designation as locally significant habitats.
- The unvegetated communities comprising tidal flats, shallows, and natural shore are found as remnants at scattered locations along the Village's riverfront. These areas should be catalogued and preserved and, to the extent practicable, enhanced.
- This information should be reviewed to determine if any areas in the river adjacent to the Village merit designation as locally significant habitats.
- Once the Village's freshwater wetland resources have been surveyed and catalogued, the desirability of a local wetland protection law should be evaluated, to overcome significant shortcomings in the protection provided by State and federal wetland regulations relative to small wetland areas that may be locally significant.
- To the extent practicable, deteriorated wetland areas in the Village should be restored and enhanced. Opportunities for tidal marsh creation projects should be explored, including the tidal flat area in Kinnally Cove.
- A high priority should be placed on delineating segments of natural stream corridors and riparian areas within the Village and, subsequently, developing appropriate measures to ensure their preservation for habitat and aesthetic value.
- Vegetated buffers along stream corridors in the Village should be preserved and, to the extent practicable, augmented in order to provide adequate filtration of runoff.
- To the extent practicable, consideration should be given to undertaking projects to enhance the natural resource value of the Village's stream system, particularly with respect to the restoration of those portions that have been adversely impacted by prior human activities. This could include reestablishing open channels and associated wetlands along certain stream segments that presently flow through underground piping, in order to improve habitat value and water quality filtration capabilities.
- Further investigation should be undertaken to determine the scope and magnitude of impacts to which the Sugar Pond area has been subjected (e.g., invasion of *Phragmites*, algal blooms, sedimentation from erosion in Hillside Woods, and a possible decline in the frog population), and to formulate a suitable plan to protect and restore the ecological resources in this system. Special focus should be placed on assessing the sources of stormwater discharges to the pond (i.e., a watershed analysis), including road runoff from Judson Avenue. This will require a cooperative approach in concert with the Village of Dobbs Ferry.

5.4 Protect State-Designated Significant Coastal Fish and Wildlife Habitats.

Presently, no State-designated Significant Coastal Fish and Wildlife Habitat is situated within the Village of Hastings-on-Hudson. Therefore, this sub-policy is not applicable to this LWRP.

If a Significant Coastal Fish and Wildlife Habitat designation is adopted by the State in the future for any lands or waters within the Village, the policy standards contained within the State Coastal Management Program relative to such Habitats shall pertain to those areas so designated.

Policy 6 Protect and improve water resources.

6.1 Prevent direct and indirect discharges to coastal waters that would cause or contribute to contravention of water quality standards and targets.

- Avoid or mitigate point source discharges (i.e., those which are carried to receiving waters via discrete conveyances, such as sewage outfall pipes, individual stormwater outfalls, tributary stream channels, etc.) and manage land and water uses that contribute to non-point source discharges (i.e., contamination that is derived from widely dispersed, indistinct sources, especially stormwater runoff from upland areas), so as to prevent any action that would:
 - exceed applicable effluent limitations (i.e., general regulatory requirements or limitations specified in the permits for individual discharges),
 - cause or contribute to contravention of water quality classification and use standards which are promulgated by NYSDEC or other regulatory agency,
 - materially adversely affect the water quality of receiving waters, or
 - violate the provisions of a vessel waste no-discharge zone.
- Limit the individual impacts associated with development projects to prevent cumulative water quality impacts that would lead to a failure to meet water quality standards which are promulgated by NYSDEC or other regulatory agency.

6.2 Minimize pollution of coastal waters caused by point source discharges.¹

- Maintain efficient operation of facilities that collect, convey, and treat wastewater generated in the Village.

1 Point sources are those discharges that are carried to receiving waters via discrete conveyances, such as sewage outfall pipes, individual stormwater outfalls, tributary stream channels, and the like.

- Provide, at a minimum, effective secondary treatment of sanitary sewage.
- Modify existing sewage treatment facilities to provide improved nitrogen removal capacity.
- Incorporate treatment beyond secondary, as feasible, particularly focusing on nitrogen removal, as part of the design of new and modified sewage treatment facilities.
- Moderate demand on treatment facilities by:
 - reducing infiltration of excess water in collection and transport systems,
 - eliminating unauthorized collection system hookups,
 - pre-treating industrial wastes,
 - limiting discharge volumes and pollutant loadings at or below authorized levels,
 - installing low-flow water conservation fixtures in all new development and when replacing fixtures in existing development,
 - reducing the loadings of toxic materials into coastal waters by including limits on these contaminants as part of wastewater treatment plant effluent permits, and
 - reducing or eliminating combined sewer overflows.

6.3 Minimize non-point source pollution of coastal waters and manage activities that cause non-point pollution.²

- Implement a prioritized approach of pollution avoidance, reduction, and management, consistent with the standards presented in *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters* (U.S. EPA, 840-B-92-002), *Urban/Stormwater Runoff Management Practices: Catalogue for Nonpoint Source Pollution Prevention and Water Quality Protection in New York State* (New York State Nonpoint Source Management Practices Task Force, November 1996), *Reducing the Impacts of Stormwater Runoff from New Development* (NYSDEC, April 1992), *Best Management Practices for Erosion and Sediment Control* (Westchester County, 1991), amendments to any of the above referenced documents, and similar authoritative sources.

2 Non-point contamination is derived from widely dispersed, indistinct sources, especially stormwater runoff from upland areas. Stormwater that washes off the land surface collects residual contamination — including as sediment, fertilizers and landscaping chemicals, coliform bacteria and other pathogens, vehicular fluids (oil, gasoline, antifreeze, etc.) — from the land surface, especially areas of pavement, and carries these substances to receiving waters. Non-point sources account for the majority of pollutant loadings to coastal waters on a region-wide basis.

- The following standards shall apply for all new development and redevelopment projects and, to the extent practicable, as retrofits in areas of existing development:

1. As a first priority, non-point pollution shall be limited wherever practicable by means of the following measures:

1. reduce or eliminate the introduction of contaminated materials which may contribute to non-point pollution discharges;
2. prevent the direct discharge of stormwater to coastal waters;
3. provide suitable treatment to all stormwater discharges to coastal waters;
4. avoid activities that would increase the discharge stormwater runoff or the transport of sediment or pollutants across property lines or into receiving waters;
5. for site development actions, avoid or mitigate activities that increase erosion or the volume or velocity of stormwater runoff;
6. limit the use of chemicals and nutrient sources in areas of new development or redevelopment;
7. plan, site, and design roadway construction projects to manage erosion and sediment loss, and limit disturbance of land and vegetation;
8. protect areas that provide important water quality benefits, especially wetlands and buffer areas which serve as filters for the removal of contaminants from stormwater discharges;
9. where practicable, restore wetlands that have been degraded;
10. maintain the characteristics of natural watercourses and drainage systems and, where practicable, restore these features to their natural state in areas where drainage patterns have been altered by development;
11. protect areas that are particularly susceptible to sediment loss, especially areas of steep slopes and erodible soils, and active construction sites;
12. retain or establish suitable vegetation to maintain or provide soil stabilization and filtering capacity in riparian zones;
13. develop open vegetated drainage systems as the preferred approach, and design these systems to decrease peak runoff flows and to achieve long and indirect flow paths;
14. use closed drainage systems only where site constraints and stormwater flow demands make open systems infeasible;
15. ensure ongoing, timely maintenance of stormwater detention and filtration devices, to ensure optimal efficiency of pollution removal by such devices;
16. limit the impacts associated with individual development actions to prevent cumulative deterioration of water quality conditions which would lead to a failure to meet regulatory water quality standards;
17. use native plants or other species in landscaping that will minimize the use of fertilizers, pesticides, herbicides and fungicides.

2. As a second-level priority, pollutant loads to coastal waters should be reduced by managing unavoidable non-point sources and using appropriate best management practices, as determined on the basis of site characteristics, design standards, operational conditions, and maintenance programs. Best management practices shall be promoted for all site development and redevelopment actions, including both private and publicly-sponsored projects; construction of new roads; expansion or substantial modification of existing roads; landscaping; shoreline restoration projects; and any other project that is determined to have the potential for adversely affecting the water quality of the surface water bodies in or adjacent to the Village of Hastings-on-Hudson.
3. Reduce impairments to coastal water quality caused by existing contaminated sediment deposits, and prevent the introduction of new contaminated sediments into coastal waters.
4. Protect the water quality of the Hudson River and Saw Mill River in the vicinity of the Village of Hastings-on-Hudson from adverse impacts associated with dredging and the disposal of dredged materials by:
 1. avoiding discharges to coastal waters due to these activities; or, if avoidance is not practical, minimize these impacts by using methods such as reducing the scope of work or using clean fill; and
 2. implementing appropriate measures to minimize the dispersion of sediment resuspended by dredging operations.
5. For marinas and similar facilities, the following policies shall be applied:
 1. site and design marinas and similar facilities so that tides and/or currents will aid in flushing of the site or renew its water regularly;
 2. where practicable, modify the configuration of existing marinas to enhance flushing;
 3. assess water quality impacts as part of facility siting and design;
 4. manage stormwater runoff, and discharge of hazardous substances and solid waste to minimize adverse impacts to coastal waters;
 5. require vessel waste pumpout facilities for every new and expanded marina project; and
 6. retrofit existing marinas with vessel waste pump-out facilities.
6. For hydro-modifications (i.e., actions involving alterations to flow volume, velocity or patterns, or other hydraulic characteristics of surface water bodies), the following policies shall be applied:
 1. maintain the physical and chemical characteristics of surface waters, reduce adverse impacts and, where possible, improve the physical and chemical characteristics of surface waters in channels;
 2. minimize impacts of channelization and channel modification on in-stream and riparian habitat, and identify opportunities to restore habitat;
 3. use vegetative means, where possible, to protect stream banks and shorelines from erosion; and
 4. restore wetlands that have been channelized, so as to simulate natural hydrology.

7. With respect to floatables (i.e., water-borne debris) and litter, the following policies shall be applied:
 1. prohibit all direct or indirect discharges of refuse or litter into coastal waters or upon public lands in the Village;
 2. limit entry of floatables to surface waters through containment of litter;
 3. undertake timely collection and proper disposal of litter generated in upland areas, so as to minimize the transport of litter to coastal waters;
 4. undertake timely street cleaning, so as to minimize the transport of gutter debris to coastal waters;
 5. remove and dispose floatables and litter from surface waters and shorelines in a timely manner; and
 6. implement pollution prevention and education programs to reduce the discharge of floatables and litter into storm drains.

6.4 Protect and conserve quality and quantity of potable water.

- Limit discharges of pollutants to potable waters so as to maintain water quality according to water quality classification, and limit land use practices which are likely to contribute to contravention of water quality classifications for potable water supplies.

6.5 Develop a plan to mitigate the water quality impacts to coastal waters caused by stormwater runoff from the adjacent upland areas in the Village of Hastings-on-Hudson.

The Village of Hastings-on-Hudson is one member of a 16-community coalition of Westchester municipalities that was awarded funding in 2005 from NYS Department of Environmental Conservation to identify and map all outfalls on GIS (Geographic Information System), perform testing on discharges, train Village personnel and volunteers, educate the public, and provide model legislation to amend Village Code and bring Village into compliance with Federal and State regulations. Some of the issues described below will be addressed through this consortium, which is led by the Village of Sleepy Hollow:

- Water quality problems in the coastal zone arising from contaminated stormwater runoff should be addressed primarily in two ways, summarized in general terms as follows:
 1. Measures to reduce contaminant loadings in the effluent carried by individual point sources; this approach typically involves the installation of structural devices that address a relatively small portion of the entire contributing watershed area, but which can be very effective in mitigating acute, localized water quality problems; and
 2. "Best management practices", public education initiatives, and other non-structural means; this "watershed-wide" approach treats stormwater runoff as a "non-point source" and typically involves relatively inexpensive implementation measures.
- The Village should undertake a comprehensive inventory of stormwater drainage systems within its boundaries, in order to identify deficiencies that are contributing to coastal water quality degradation. This will be undertaken as a task through the Stormwater Management Consortium referenced above. The second phase of the work would entail an evaluation of alternatives for capital projects to provide improved treatment to stormwater discharges.

- In addition to capital projects to mitigate existing sources of stormwater-derived contamination in the coastal waters adjacent to the Village, a number of watershed controls can be implemented to achieve this goal. These practices include:
 1. timely street sweeping operations, to remove pollutant-laden sediments from roadway surfaces before they get washed into drainage systems;
 2. regular clean-out of sediment collection structures in the drainage system, including catch basins and leaching wells, to maintain the capacity of these structures and prevent flow bypassing;
 3. public education programs, to reduce the loadings of contaminants generated by resident activities, such as landscaping chemical treatments, improperly disposed household hazardous wastes, etc.; and
 4. local laws to require new construction to use the management measures described under Policy 6.3.
- Actions by the Village of Hastings-on-Hudson to develop and implement a plan to mitigate stormwater impacts to adjacent coastal waters should comply with applicable New York State and federal regulatory requirements, including the U.S. Environmental Protection Agency's Final Stormwater Phase II Rule, under the National Pollution Discharge Elimination System (NPDES) program. The Phase II rule specifies that a NPDES permit must be obtained for stormwater drainage systems in small municipalities in urbanized areas, including the Village of Hastings-on-Hudson, which requires that the involved municipalities undertake a series of measures to control the discharge of pollutants to the Waters of the United States via stormwater. The previously described 16-municipality consortium will assist participants with meeting these compliance obligations.

Policy 7 Minimize loss of life, structures, and natural resources from flooding and erosion.

7.1 Minimize potential adverse impacts due to flooding and erosion hazards by using the following management measures for shoreline protection, which are presented in order of priority:

1. As a first level priority, minimize potential loss and damage by locating development away from flooding and erosion hazards, in accordance with the following standards:
 1. Avoid developing any new structure or use, or reconstructing a structure damaged by 50 percent or more of its value, in an area that is likely to be exposed to flooding or erosion hazards unless:
 1. the structure or use functionally requires a location on the coast or in coastal waters, or
 2. the new development would be located in an area of substantial public investment, or
 3. the structure is constructed so as to have its lowest occupied floor situated above the base flood elevation.

2. For new structures that do not functionally depend upon a location on or in coastal waters, are not in areas of substantial public investment, and do not reinforce the role of a developed working waterfront, locate such structures as far away from flooding and erosion hazards as possible, or design such structures to be compatible with their location. To effectuate this policy, new development is not permitted in natural protective feature areas (as this term is defined under 6 NYCRR Part 505, which may include certain in-water features in the Village of Hastings-on-Hudson such as nearshore areas and wetlands), except as specifically allowed under the relevant portions of 6 NYCRR 505.8.
3. Where practical, existing structures and development that are exposed to flooding or erosion hazard should be moved away from the hazard. Maintaining existing development and structures in hazard areas may be warranted for:
 1. structures that functionally require a location on the coast or in coastal waters,
 2. water-dependent uses which, by their nature, cannot avoid exposure to hazards,
 3. sites in areas with extensive public investment, public infrastructure, or major public facilities, or
 4. buildings whose design can be made compatible with their location.
5. As the second level of priority for minimizing flooding and erosion hazards in cases where development cannot be sited outside of hazard areas, use non-structural, vegetative measures that have a reasonable probability of successfully controlling flooding and erosion, based on shoreline characteristics including exposure, geometry, and sediment composition. Protect those portions of the shoreline that currently are vegetated. Promote the revegetation of those areas of the shoreline that presently lack adequate vegetative stabilization but which are at risk of erosion.
6. As a third level of priority, in cases where vegetative measures are not effective, enhance existing natural protective features and use non-structural measures that have a reasonable probability of managing erosion. In particular, enhance the protective capabilities of beaches by using fill, especially suitable dredged material, or by restoring coastal processes. Beach nourishment projects should conform to the following standards:
 1. use only clean sand or gravel with a grain size equivalent to or slightly larger than the native material at the project site, and
 2. design criteria for enhancing the protective capabilities of beaches should not exceed the level necessary to achieve protection from a 30-year storm, except where there is an overriding public benefit.
7. As the lowest level of priority, use hard structural erosion protection measures for control of erosion only under the following conditions:
 1. the hazard cannot be avoided because the given use: is functionally dependent on a location on or in coastal waters, or is located in an area of extensive public investment;
 2. measures are necessary to maintain an existing shoreline protection structure;

3. vegetative approaches to controlling erosion are not effective or would result in the loss of land;
4. enhancement of natural protective features would not prove practical in providing erosion protection;
5. construction of a hard structure is the only practical design alternative and is essential to protecting the principal use;
6. the proposed hard structure:
 1. is limited to the minimum scale necessary, and
 2. is based on sound engineering practices;
7. practicable vegetative methods have been included in the project design and implementation;
8. adequate mitigation is provided and maintained to ensure that there is no adverse impact to adjacent properties, natural coastal processes or natural resources; and
9. if undertaken by a private property owner, the project does not result in significant direct or indirect public costs.

7.2 Preserve and restore natural protective features (i.e., beaches, shoals, bars, spits, bluffs, and similar features which, along with their associated natural vegetation, provide a land area with protection against the damaging forces of flooding and erosion).

- Maximize the protective capabilities of natural protective features by:
 1. avoiding alteration of shorelines in a natural condition;
 2. managing activities to limit damage to the protective capacities of the natural shoreline;
 3. enhancing the protective function of existing natural protective features, including practical vegetative approaches to stabilizing the shoreline; and
 4. undertaking actions to reverse damage that has diminished the protective capacities of the natural shoreline.
- Minimize interference with natural coastal processes.
 1. Provide for natural supply and movement of unconsolidated materials and for water and wind transport of these materials.
 2. Limit intrusion of structures into coastal waters in a manner that interferes with the natural transport of sediment.
- Limited interference with coastal processes may be allowed where the principal purpose of the structure is necessary to:
 1. simulate natural processes where existing structures have altered the coast, or
 2. provide necessary public benefits for flooding and erosion protection, or
 3. provide for the efficient operation of water-dependent uses.

In any case where such limited interference occurs, appropriate mitigation shall be implemented in order to ensure that there is no adverse impact to adjacent property or to natural coastal processes and natural resources. Any action undertaken by private property owners should not cause significant direct or indirect public costs.

7.3 Protect public lands and public trust lands and the use of these lands when undertaking erosion and flood control projects.

- Retain public ownership of public trust lands that have been converted to upland areas due to fill or accretion resulting from erosion control projects.
- Avoid losses or likely losses of public trust lands or the use of these lands, including public access along the shore, which can be reasonably attributed to or anticipated to result from erosion protection structures.
- As necessary, provide and maintain compensatory mitigation in order to ensure that there is no adverse impact to adjacent properties, to natural coastal processes and natural resources, or to public trust lands and their use.

7.4 Manage navigation infrastructure to limit adverse impacts on coastal processes.

- Design channel construction and maintenance projects to protect and enhance natural protective features and prevent the destabilization of adjacent areas by:
 1. using adequate dredging setbacks from established channel edges;
 2. establishing finished slopes at stable gradients, considering sediment characteristics, hydrologic conditions, and other relevant variables;
 3. locating channels away from erodible features, where feasible;
 4. preventing adverse alteration of hydrologic conditions; and
 5. including by-passing methods, where appropriate, to maintain navigability and reduce frequency of dredging.

7.5 Expend public funds for management or control of flooding or erosion hazards only in areas of the coast that will result in proportionate public benefit.

- Give priority in expenditure of public funds to actions that protect public health and safety, mitigate past flooding and erosion, protect areas of intensive development, and protect substantial public investment (land, infrastructure, and facilities).
- The expenditure of public funds for flooding or erosion control projects:
 1. is limited to those circumstances where public benefits exceed public costs, and
 2. is prohibited for the exclusive purpose of flooding or erosion protection for private development, with the exception of work done by an erosion control district, and
 3. may be apportioned among each level of participating governmental authority according to the relative public benefit accrued.
- Factors to be used in determining public benefit attributable to the proposed flood or erosion control measure include:
 1. economic benefits derived from protection of public infrastructure and investment and protection of water-dependent commerce, and
 2. protection of significant natural resources and maintenance or restoration of coastal processes, and
 3. preservation of the integrity of natural protective features, and
 4. extent of public infrastructure investment, and
 5. extent of existing or potential public use.

7.6 Include sea level rise calculations in the siting and design of all major projects in flood and erosion hazard areas having more than a fifty-year design life.

- Any project should be sited at a sufficient distance from the current shoreline to mitigate flooding and erosion damages related to the anticipated long-term rise in sea level over the expected life of the project, or otherwise should include suitable design features to accommodate the anticipated rise in sea level.

7.7 Plan redevelopment of the Village's former industrial waterfront area in a manner that takes into account that this area lies largely within the 100-year flood plain.

- In addition to the comprehensive policies that are set forth under 7.1 through 7.6 above, the following site-specific policies shall apply to the redevelopment of the Village's 43-acre former industrial waterfront area:
 1. Restore the deteriorated bulkhead, so as ensure that the site is sufficiently protected against potential coastal erosion.
 2. To the extent practicable, reserve the westerly portion of the property, within the 100-year flood plain, for uses that are less susceptible to flooding damage (e.g., open space and recreational facilities).
 3. To the extent practicable, and consistent with the land use plan referenced under Policy 1.4, site structures and facilities that are more susceptible to flooding damage on the easterly portion of the property, outside the limits of the 100-year flood plain.
 4. For each and every new structure that is placed in the 100-year flood plain, require strict conformance with current flood protection construction standards, including elevation of the lowest occupied floor above the base flood elevation for residential structures.

7.8 Minimize the erosion of upland areas in the Village caused by stormwater runoff.

- In order to ensure that erosion-related impacts are minimized, the efficacy of existing local controls to prevent erosion should be reviewed, especially with respect to those areas of steep slopes that lie just to the east of the Metro North tracks. Efforts to control erosion on steep slopes should conform to the following general standards, in order of decreasing priority:
 1. avoid disturbing existing vegetative cover on areas of steep slopes (i.e., with gradient exceeding 15 percent) whenever practicable;
 2. if a project cannot avoid disturbing steep slope areas, the spatial extent of disturbance should be minimized, and suitable measures should be implemented to control erosion in any areas that are disturbed.
- Amendments to local law directed at improving erosion and sediment controls should be consistent with the standards presented in *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters* (U.S. EPA, 840-B-92-002), *Urban/Stormwater Runoff Management Practices: Catalogue for Nonpoint Source Pollution Prevention and Water Quality Protection in New York State* (New York State Nonpoint Source Management Practices Task Force, November 1996), *Reducing the Impacts of Stormwater Runoff from New Development* (NYSDEC, April 1992), *Best Management Practices for Erosion and Sediment Control* (Westchester County, 1991), any amendments to these documents and similar authoritative sources, and Policy 6.3 of this LWRP.

Policy 8 Protect and improve air quality in the coastal area.

8.1 Control or abate existing air pollution and prevent new air pollution.

- Limit pollution resulting from new or existing stationary air contamination sources, consistent with applicable standards, plans, and requirements.
- Limit actions that directly or indirectly change vessel or vehicular transportation uses or operation in a manner that would result in air pollution, consistent with attainment or maintenance of applicable ambient air quality standards and applicable portions of any control strategy of the State Implementation Plan.
- Recycle or salvage air contaminants using best available air cleaning technologies.

8.2 Limit discharge of atmospheric radioactive material to a level that is as low as practicable.

8.3 Capture and recycle chlorofluorocarbon compounds during service and repair of air-conditioning and refrigeration units to the greatest extent possible.

8.4 Limit sources of atmospheric deposition in the Hudson River, particularly from nitrogen sources.

Policy 9 Promote appropriate use and development of energy and mineral resources.

9.1 Conserve energy resources.

- Promote and maintain energy-efficient modes of transportation, including pedestrian travel, rail freight and inter-modal facilities, waterborne cargo and passenger transportation, mass transit, and alternative forms of transportation.
- Plan and construct sites, especially new development on the waterfront, using energy-efficient design.

9.2 Promote alternative energy sources that are self-sustaining, including solar-powered energy generation.

- The feasibility of utilizing solar energy panels on the sides or roofs of buildings should be closely examined in connection with the redevelopment of the Village's 43-acre former industrial waterfront area, due to the unobstructed southerly-southwesterly exposure of this property.
- In siting solar-powered facilities minimize visual impacts.
- The feasibility and potential environmental impacts of below water-level, river bed electric turbines, which use the flow of the water to generate electricity, should be investigated.

Policy 10 Minimize environmental degradation from solid waste and hazardous substances and wastes.

10.1 Manage solid waste to protect public health and control pollution.

- Plan for proper and effective solid waste disposal prior to undertaking major development or activities that will generate solid waste.
- Manage solid waste in accordance with the following hierarchy of solid waste management priorities promulgated by the State of New York:
 1. Reduce the amount of solid waste generated.
 2. Reuse material for the purpose for which it was originally intended or recycle material that cannot be reused.
 3. Use, at suitable locations outside the Village of Hastings-on-Hudson, land burial or other approved methods to dispose solid waste that is not being reused or recycled.
- Prevent the discharge of solid waste into the environment by using proper handling, storage, and transportation practices.

10.2 Manage hazardous wastes to protect health and control pollution.

- Manage hazardous waste in accordance with the following priorities:
 1. Eliminate or reduce the generation of hazardous waste wherever feasible.
 2. Recover, reuse, or recycle remaining hazardous wastes to the maximum extent practical.
 3. Use detoxification, treatment, or destruction technologies to dispose hazardous waste that cannot be reduced, reused, or recycled.
 4. Use land disposal as a management method of last resort.
- Ensure maximum public safety through proper treatment, storage, and disposal of industrial hazardous waste.
- Prevent the release of substances that would adversely affect human health and safety or would have a deleterious effect on fish and wildlife resources.
- Prevent environmental degradation due to persistent toxic pollutants by: limiting discharge of bioaccumulative substances, avoiding resuspension of toxic pollutants and hazardous substances and waste, and avoiding reentry of bioaccumulative substances into the food chain from existing sources.
- Prevent and control environmental pollution due to radioactive materials.
- Protect public health, public and private property, and fish and wildlife resources from inappropriate use of pesticides.
- Take appropriate action to correct all unregulated releases of substances hazardous to the environment.
- Promote public awareness and education regarding the deleterious effects of toxic substances commonly used by homeowners for lawn and garden care and for general maintenance of home and auto. In particular, such public education initiatives should include proper handling and disposal guidelines for toxic substances.

10.3 Prevent and remediate discharges of petroleum products.

- Minimize adverse impacts from potential oil spills through the appropriate siting of petroleum facilities.
- Maintain and implement adequate plans for the prevention and control of petroleum discharges.
- Prevent discharge of petroleum products by following approved handling and storage, and facility design and maintenance principles.
- Clean up and remove any petroleum discharge, giving first priority to eliminating human safety hazards and minimizing environmental damage by: responding quickly to contain petroleum spills, and containing discharges immediately after discovery.
- Recover and recycle petroleum discharges using the best available practices.

10.4 Transport solid wastes and hazardous substances and wastes using routes and methods that: protect the safety, well-being, and general welfare of the public and the environmental resources of the Village of Hastings-on-Hudson; and protect continued use of all transportation corridors and highways and transportation facilities.

- To the extent practicable, select routes for the transport of hazardous material that are adequately separated from residential areas and other sensitive uses.
- If practicable, train or barge should be used for transport of hazardous substances.
- Adopt and implement adequate contingency and emergency response plans for the transport of all hazardous materials in the coastal zone.
- Ensure that all hazardous waste transporters have received adequate training in accident prevention and emergency response.
- Hazardous materials transported by truck must be in sealed containers or equivalent to prevent the release of dust and, if applicable, volatile compounds.

10.5 Remediate inactive hazardous waste disposal sites in the Village's waterfront redevelopment area.

- The cleanup of contamination on the Village's waterfront should be undertaken in accordance with the following standards:
 - This remedial action shall be undertaken in a manner consistent with generally accepted standards of risk to ensure public health and safety.
 - Proposed and anticipated future uses of any such site should determine the appropriate level of remediation.
 - In evaluating the efficacy of institutional/engineering controls in lieu of the removal of contaminated soils from the ARCO and Tappan Terminal sites, due consideration should be given to ensuring that adequate long-term maintenance and protectiveness will be provided.

- Consideration should be given to completing the cleanup in phases, so that less contaminated areas of the site can be made available for reuse as soon as possible. It is recognized that remediation of "hot spot" areas will require additional resources and may take a longer time to be ready for reuse.
- The Village should be considered to be a stakeholder in the remediation program, and should be kept apprised of all significant actions related to the formulation and implementation of that program.

10.6 Do not site any new or expanded facilities for the handling, storage or transfer of solid wastes or significant quantities of hazardous substances or wastes in the Village of Hastings-on-Hudson; and eventually phase-out existing uses of this type.

- The Village of Hastings-on-Hudson does not presently contain a solid or hazardous waste management facility or a waste transfer station, and is not considered to be a suitable location for such uses due to the existing land use pattern (i.e., mostly residential and open space), and significant environmental constraints (a number of sensitive stream corridors and other important ecological resources, extensive areas of steep slopes, limited roadway network for trucks, etc.). However, certain small-scale commercial establishments that involve the use of hazardous substances directly in their operations (e.g., photographic developing, dry cleaners, etc.) are acceptable, provided that the chemicals are properly stored and handled. Nothing in this paragraph is intended to preclude the required operations of the Village of Hastings-on-Hudson Department of Public Works.
- In order to minimize the potential for future environmental impacts and land use conflicts, existing industrial uses on the waterfront should eventually be phased out of operation, and replaced with uses that are more compatible with the environmental sensitivity of this area and the uses that are proposed as part of the Village's waterfront redevelopment plan.

Policy 11 Provide for public access to, and recreational use of, coastal waters, public lands, and public resources of the coastal area.

11.1 Promote appropriate and adequate physical public access and recreation throughout the Village of Hastings-on-Hudson coastal area.

- Provide a level and type of public access and recreational use of the waterfront that take into account proximity to population centers, public demand, natural resource sensitivity, accessibility, compatibility with on-site and adjacent land uses, and the needs of special groups, such as the elderly and persons with disabilities.
- Wherever feasible, promote well-defined physical access and water-related recreational uses at convenient locations on publicly-owned waterfront lands.
- Protect and maintain existing public access and water-related recreation facilities by:
 1. preventing physical deterioration of facilities due to overuse or deficient maintenance;
 2. preventing any on-site or adjacent development project or activity from directly or indirectly impairing physical access and recreation, or adversely affecting the quality of the access or recreational facilities; and
 3. protecting and maintaining the infrastructure that supports public access and water-related recreational facilities.

- Provide additional physical public access and recreation facilities at public sites throughout the coastal area by:
 1. promoting the acquisition of additional properties for public use that would support and augment the access available at existing public lands;
 2. providing for public access and recreation facilities on non-park public waterfront lands as a secondary use; and
 3. providing for appropriate public access at streets terminating at the shoreline.
- Promote suitable linkages between the Village's central business district and recreational uses along the shoreline.
- Require pedestrian-friendly and well-designed sidewalks in all new development, and encourage the interconnection of such sidewalks to other areas. Facilitate pedestrian travel through areas of existing development by extending sidewalks into such areas that currently lack sidewalks.
- Promote an interconnected network of pedestrian/bicycle corridors to link nodes of water-related recreation, water-dependent uses, and other points of interest. This corridor system should be designed to encourage the non-vehicular movement of people throughout the Village and along the shoreline. The distance between adjacent nodes should not exceed an acceptable design standard for preferred walking distance (i.e., generally no greater than a quarter-mile in distance between each pair of adjacent nodes). The Transportation Plan and Pedestrian Enhancements Project which has been underway since May, 2005 is addressing this issue and will result in recommendations to improve pedestrian / vehicular traffic circulation and minimize related conflicts.
- Promote the use of public easements and pedestrian cross-access agreements with the owners of private land, as necessary, to complete the recommended network of pedestrian/bicycle corridors to interconnect commercial business, water-dependent uses, and parks and public lands.
- Promote links along the shoreline to adjacent communities.
- Implement suitable improvements at publicly-owned waterfront sites in order to enhance physical access to the water and public enjoyment derived therefrom.
- Include physical public access and/or water-related recreation facilities as part of any development project that is likely to limit the public's use and enjoyment of public coastal lands and waters.
- Require private development along the shoreline to provide suitable public access to the riverfront and/or water-related recreation facilities.
- Restrict public access and water-related recreation on public lands only where such access is determined to be incompatible with public safety or the protection of important natural resources (see Policy 11.3).
- Ensure that access to the general public is provided at any location where State and/or Federal funds are used to acquire, develop, or improve recreational facilities.

- Restore, enhance and improve existing points of public access to the shoreline that may be in disrepair or inadequate for current or anticipated use by the public.
- Enhance public access to existing parks, recreation sites and uses that are underutilized.
- Manage vacant, publicly-owned parcels in a manner that provides a suitable balance between natural resource protection and public access. Wherever feasible, provide for an appropriate level of public access on such lands.
- Promote, restore, expand and/or continue to maintain public swimming areas, and identify new areas that are suitable for public swimming.
- Efforts to improve the network of trails within the Village of Hastings-on-Hudson should seek to advance the principles set forth under the Hudson River Valley Greenway Act of 1991, as follows:
 1. protect, preserve and enhance natural resources, including natural communities, open spaces, cultural and historic resources, scenic roads, and scenic areas;
 2. work with other communities to develop mutually beneficial regional strategies for cultural resource protection, economic development, public access, and heritage and environmental education;
 3. encourage economic development compatible with the preservation and enhancement of natural and cultural resources, including tourism and the revitalization of established community centers and waterfronts;
 4. promote increased public access to the Hudson River through the creation of riverside parks and the development of the Hudson River Valley Greenway Trail System; and
 5. promote awareness among residents and visitors about the Valley's natural, cultural, scenic, and historic resources.

11.2 Assure public access to public trust lands and navigable waters.

- Limit grants, leases, easements, permits or lesser interest in public underwater lands, in accordance with an assessment of potential adverse impacts that would occur to such public trust lands as a result of a proposed use, structure, or facility. Use the following factors in assessing potential adverse consequences of any such action:
 1. environmental impacts;
 2. values for natural resource management, public recreation, and commerce;
 3. size, character, and effect of the transfer in relation to neighboring uses;
 4. potential for interference with navigation, public uses of waterways, and riparian rights;
 5. effect of the transfer on the natural resources associated with the lands;
 6. water-dependent nature of the use;
 7. adverse economic impact on existing commercial enterprises; and
 8. consistency with the public interest for purposes of navigation and commerce, fishing, bathing, and access to navigable waters and the need of the owners of private property to safeguard development.
- Limit the transfer of interest in public trust lands to the minimum necessary conveyance to achieve the proposed action.

- In any action involving the transfer of interest in publicly-owned lands immediately adjacent to the shore, retaining a level public interest in these lands that will be adequate to preserve the opportunity for public access, recreation opportunities, and other public trust purposes.
- Consider grants in fee of underwater lands only in exceptional circumstances, and only when other means of interest transfer are determined to be impractical.
- Private uses, structures, or facilities on underwater lands are limited to those circumstances where ownership of the underwater lands or riparian interest has been legally validated either through proof of ownership of the underwater lands or adjacent riparian parcel, or by assignment of riparian interest by the riparian owner.
- Avoid substantial loss of public interest in public trust lands by assessing the cumulative impact of individual conveyances of grants, easements, and leases of public trust lands.
- Resume and re-establish public trust interests in existing grants that are no longer being exercised according to terms of the grant, or where the use is not in conformity with the public trust doctrine.
- Require that perpendicular access to public trust lands be provided on all publicly-owned upland properties on the waterfront, whenever compatible with the principal use of the public upland.
- In constructing or reconstructing bulkheads, revetments, and other shore protection structures, direct, physical access to the water for in-water activities (e.g., swimming, launching of small boats, etc.) should be provided wherever feasible.
- Provide free and substantially unobstructed passage to the public along public trust shore lands. Where public access along public trust shore lands is substantially impeded, provide suitable and effective passage around impedances through adjacent upland easements or other mitigation.
- Provide for free and unobstructed public use of all navigable waters below the line of mean high water for navigation, recreation, and other public trust purposes, including the incidental rights of public anchoring, subject to reasonable regulation.
- Piers, docking facilities, and catwalks must not result in an unnecessary interference with use of public trust lands. Alternatives to long piers or docks include the use of dinghies to reach moored boats and mooring in nearby marina facilities. Dredging generally is not considered an acceptable means of accommodating deeper vessel draft closer to the shore, except in cases where vessel use is for a public purpose (e.g., ferry terminal).

- Obstruction of public use of public trust lands, including navigation, may be allowed in navigable waters only in cases where the obstruction is associated with:
 1. water-dependent uses involving navigation and commerce which require structures or activities in water as part of the use; or
 2. commercial recreational boating facilities, provided that the loss of navigable waters and use of underwater lands is offset by sufficient public benefits.
- Where obstruction of navigable waters and underwater lands is justified, the obstruction shall be limited:
 1. so that it does not interfere with commercial navigation — the right of commercial navigation is superior to all other uses on navigable waters and may not be obstructed;
 2. to the minimum degree necessary to attain access to navigable waters, where "minimum" shall be defined in terms of the following factors:
 1. the extent of the use's dependence on access to navigable waters,
 2. the range of tidal water level fluctuation,
 3. the size and nature of the body of water,
 4. the nature of public use of the adjacent waters,
 5. the traditional means of access used by surrounding similar uses, and
 6. whether or not alternative means to gain access are available;
 3. by the extent and characteristics of the developable adjacent upland area and its ability to support in-water development for the water-dependent use;
 4. by the potential adverse effects on natural resources and their uses; and
 5. by the potential adverse effects on public safety.
- Structures extending beyond the minimum necessary for access to navigable waters can impair public trust interests and open space values associated with the water's surface. Such structures may be allowed only in the following circumstances:
 1. when necessary for practical and convenient operation of water-dependent industry or commerce, and provided that obstruction of commercial navigation does not result; or
 2. for commercial recreational boating facilities provided that:
 1. the loss of navigable waters and use of underwater lands is offset by sufficient public benefit, and
 2. obstruction of commercial navigation does not result; or
 3. when the principal purpose of the structure is necessary:
 1. to provide public access for recreational uses, or
 2. for improvements for navigation, or
 3. for protection from coastal hazards, or
 4. for essential public transportation or infrastructure facilities.

11.3 Provide access and recreation that is compatible with natural resource values.

- Provide appropriate access and associated recreational opportunities that will avoid potential adverse impacts to natural resources. Use the following factors in determining the potential for adverse environmental effects:
 1. intensity of the associated recreational, scientific, or educational activity
 2. level of likely disturbance associated with the proposed activity. The following types of access or associated activities are listed in decreasing order of potential for disturbance:
 1. motorized activities
 2. active, non-motorized activities, including water-dependent and water-related uses
 3. passive activities
 4. avoidance of the area
 3. sensitivity of the natural resources involved and the extent of the ecological benefits associated with avoidance of the area.
- Limit public access and recreational activities where uncontrolled public use would lead to impairment of natural resources. Appropriate application of the following actions would advance this policy:
 1. establish suitable seasonal limitations on access and recreation in order to minimize adverse impacts on fish and wildlife species during sensitive time periods;
 2. establish an effective stewardship program directed at controlling anticipated adverse impacts before providing public access;
 3. limit or prohibit physical public access to those areas whose principal natural resource values are based on the lack of human disturbance; and
 4. provide educational, interpretive, research, and passive uses of natural resources through appropriate design and control of public access and recreation.
- Provide public access for activities involving the direct use of fish and wildlife resources, including fishing as appropriate, only if that level of access would not result in a loss of resources necessary to continue supporting these uses.
- Provide access using methods and structures that maintain and protect open space areas associated with natural resources. Determine the extent of visual and physical impairment caused by access structures extending through these open space areas based on:
 1. the value of the open space, as indicated by unfragmented size or mass of the wetland or other natural resources, distance to navigable water, and wetland value; and
 2. the size, length, and design of proposed structures.

11.4 Preserve visual access from important vantage points on public lands to coastal lands and waters. Where appropriate and feasible, enhance existing public facilities and provide new opportunities for viewing scenic resources within and adjacent to the Village of Hastings-on-Hudson waterfront.

- Promote the designation of scenic corridors within the Village to coincide with designated pedestrian/bicycle corridors along the shoreline, public waterfront lands, publicly-accessible road ends, public roadways along the waterfront, bridges over the Metro North tracks, and similar locations that provide physical public access to the shoreline.
- Avoid the significant loss of existing visual access to scenic resources by:
 1. limiting physical blockage of access to important viewing locations (including those identified in Policy 12.3) caused by development;
 2. protecting existing view corridors provided by roadways and other public areas leading to the coast;
 3. protecting significant visual access to open space areas associated with natural resources; and
 4. considering a reduction of screening requirements where site conditions, including vegetative cover or natural protective features, block potential views.
- Wherever feasible, in cases where new development blocks visual access from inland public vantage points, provide public visual access from vantage points on the development site as compensatory mitigation. As an alternative, provide for additional and comparable visual access at nearby locations if physical access cannot be provided on-site.

11.5 Ensure access to navigable waters through timely maintenance dredging of existing facilities, where needed.

- Obtain more detailed bathymetric information in order to determine the magnitude of dredging that should be undertaken in areas, such as the docking and mooring areas at Pioneer Boat Club and Tower Ridge Yacht Club, that are suffering from the loss of water depth due to progressive shoaling.
- Study the hydrodynamic and sedimentary processes in areas that are experiencing excessive shoaling to determine whether there are feasible measures (possibly including modification the design of the respective basins and associated protective structures) to decrease the rate of sediment accumulation in these areas, thereby reducing the frequency at which dredging would be needed in the future.