

*Town of Oyster Bay
South Shore Estuary Reserve
Workplan Implementation Project*

Final

ESTUARY PUBLIC USE AND TOURISM STUDY

September 2010



Submitted to:

*Town of Oyster Bay
Department of Environmental Resources
150 Miller Place
Syosset, New York 11791*

and

*New York State Department of State
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Hauppauge, New York 11788*



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South Shore Estuary Reserve
Workplan Implementation
Estuary Public Use and Tourism Study
Task 8
Agreement #: C006276

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“This report was prepared for the Town of Oyster Bay and the New York State Department of State with funds provided under Title 11 of the Environmental Protection Fund.”

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TOWN OF OYSTER BAY ESTUARY PUBLIC USE AND TOURISM STUDY

Final Report

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1.0 INTRODUCTION

The South Shore Estuary Reserve is the anchor of the tourism, seafood, and recreation industries in the southern Long Island region and is home to about 1.5 million people. The Reserve stretches from the western boundary of the Town of Hempstead in Nassau County to the middle of the Town of Southampton in Suffolk County. South to north, the Reserve extends from the mean high tide line on the ocean side of the barrier islands to the inland limits of the mainland watersheds that drain into Hempstead Bay, South Oyster Bay, Great South Bay, Moriches Bay and Shinnecock Bay.

The increase of interest in outdoor activities combined with increasing population and the well-documented beauty and abundance of environmental and recreational resources of Long Island's South Shore Estuary has helped it become a leading public-use and tourism anchor.

In recent years outdoor recreation has become a growing and increasingly popular pastime throughout the nation. It has been documented that the “viewing- and learning-oriented activities, such as visiting historic sites, viewing wildlife, and sightseeing, are among the most popular of recreational pursuits (United States Forest Service, 1995).

Providing outdoor recreational facilities and public access to the shoreline are also significant factors in maintaining a high quality of life for those individuals who take part in outdoor activities. According to a recently published report by the United Forest Service “outdoor recreation is but one of the many multiple uses we have for our lands,

public and private. Yet, its importance in Americans' lives and the benefits it provides seem to be increasing faster than many other uses of our precious land. The rise in importance of outdoor recreation in Americans' lives is one of the dramatic changes, as well as challenges, now occurring in the United States" (Pandolfi, 1997). However, the rise in residential growth and increase in private development of waterfront properties have limited the quantity and quality of public access and tourism for the Estuary.

The Long Island South Shore Estuary Reserve Comprehensive Management Plan states that "demand for public access to the estuary is expected to increase with further population growth, especially in the eastern parts of Long Island." Even in areas where population doesn't grow, certain types of shoreline recreation facilities may experience greater demand due to changes in age distributions, median incomes or other characteristics of the population.

Additionally, the development of waterfront properties on Long Island as a whole has increased significantly over the last few decades. "A combination of historically low interest rates, a volatile stock market and foreign interest have driven up the real estate market in general and waterfront properties in particular. By virtue of being a limited commodity, especially with state and local ecological preservation efforts, waterfront property benefits from a demand which exceeds the supply" (Buchanan, 2005).

The Town of Oyster Bay is one of the several Town's on Long Island containing land along the Estuary and which has been dedicated to promoting sound use and conservation

of the Estuary's resources. With the help of Federal, State and Local governments the Town is now working towards increasing public use and overall tourism to the Estuary.

1.1 Background

The Town of Oyster Bay was founded in 1639 (Town of Oyster Bay, 2005) and encompasses a large amount of shoreline along its northern (Long Island Sound) and southern (South Shore Estuary and Atlantic Ocean) boundaries. The proximity of these significant waterbodies has substantially influenced the Town's identity, quality of life, and economic prosperity and overall success. In the late nineteenth century the Town saw great growth as a result of the railroad and an influx of summer vacationers. Mass migration from New York City to points east, including the Town of Oyster Bay, altered the rural and agricultural character of the town and brought with it thousands of private homes. In four decades the population has dramatically increased from 40,000 in 1950 to nearly 294,000 at the time of the 2000 census (U.S. Census Bureau, 2000).

Today most of the south shore of Oyster Bay is developed primarily with residential development. Although several large and well established public parks do exist in this region of the Town, most waterfront properties (with the exception of the barrier island) are home to private uses and hinder the quality and arguably the quality of waterfront public access.

The amount of land available for dedicated shoreline public access and recreation facilities around the South Shore Estuary is limited, and opportunities to increase this

kind of public access will become fewer as private shoreline development continues. Safety concerns, parking deficiencies, fiscal constraints or residency requirements are limiting the potential use of existing recreational facilities. Access to and uses of some recreational areas are necessarily restricted to preserve and protect important natural resources. Over time, informal access opportunities are being lost through the replacement of water dependent uses with those that do not require water. As time goes on, the demand for public access along Oyster Bay's south shore is expected to increase with population growth. Even in areas where population doesn't grow, certain types of shoreline recreation facilities may experience greater demand due to changes in age distribution, median income, leisure time, recreational trends, and other factors.

The more the community grows, the more the value and demand for open space grows. This growth and demand for facilities in turn sparks the need to maintain or increase public access to the estuary's recreational resources. Key open space lands within the Reserve must be preserved to offer access to the estuary via different modes of transportation (bicycle, pedestrian, boat, and automobile), expand current recreational facilities and create new recreational opportunities. All levels of government must work together and in cooperation with private development interests to achieve these ends.

1.2 Study Location

This study will examine the area of the South Shore Estuary Reserve that is located within the Town of Oyster Bay and immediate neighboring jurisdictions within the Town. The communities analyzed in this study include Massapequa, the Village of

Massapequa Park and the Village of Farmingdale. The northern border of the study area is defined as the northern borders of Massapequa and Farmingdale. The southern border of the study area is defined as the mean high tide line on the ocean side of Jones Beach Island. The eastern and western borders of the study area are defined as being the eastern and western borders of the Town of Oyster Bay. Map 1-1 depicts the study area boundaries.

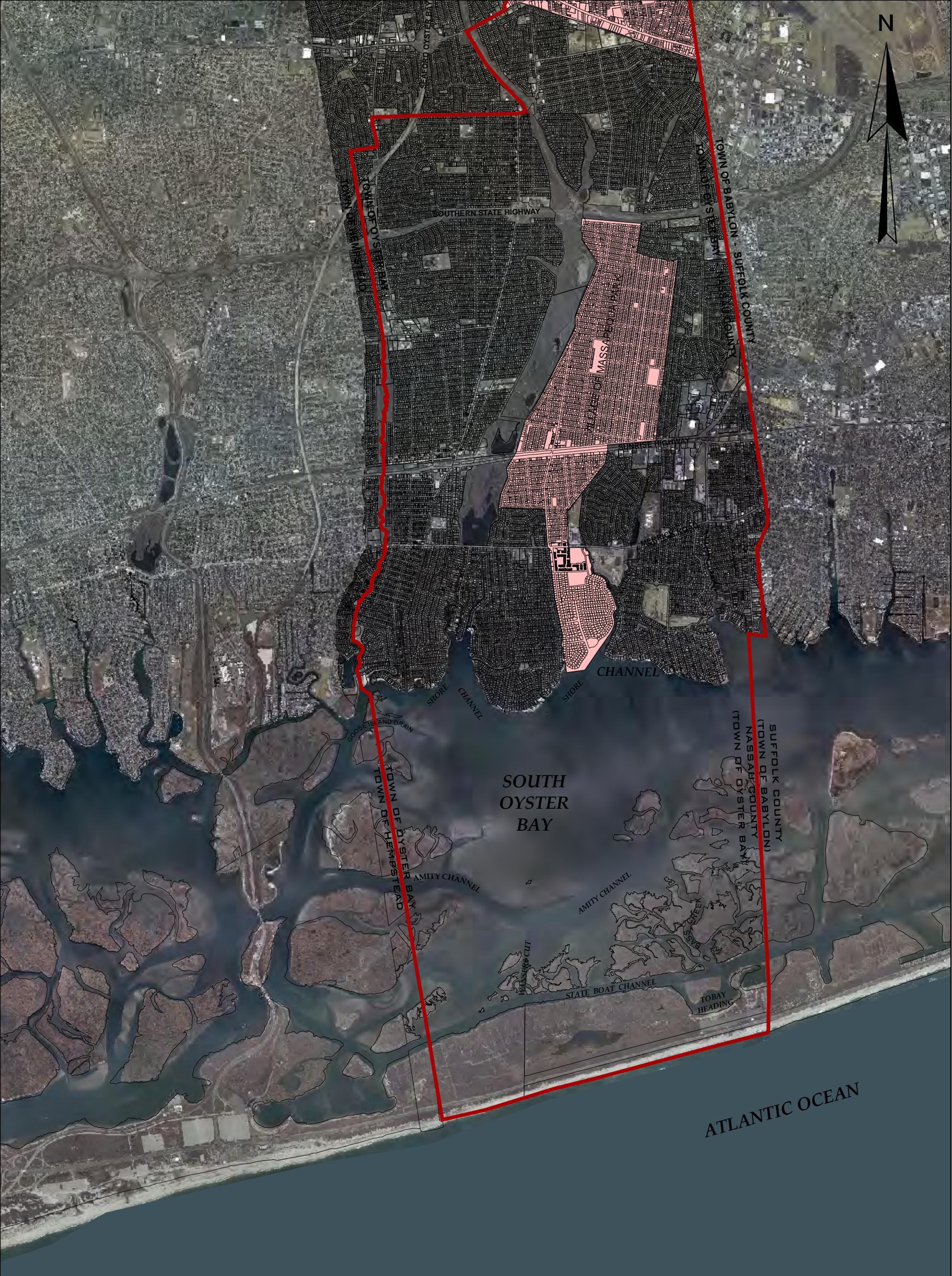
1.3 Legislative Milestones

The following are major initiatives that enabled the execution of this report:

New York State Executive Law Article 46 Long Island South Shore Estuary Reserve Act

At the urging of Long Islanders concerned with the future health of the South Shore estuary, the New York State Legislature passed the Long Island South Shore Estuary Reserve Act in 1993.

Estuary Reserve - Long Island's South Shore bays and the adjacent upland areas draining to them – are in need of protection and prudent management (Long Island South Shore Estuary Reserve Council, 2001). The intent of the legislation formally declared the following:



Legend
 STUDY AREA BOUNDARY
 PARCELS

MAP 1-1
TOWN OF OYSTER BAY ESTUARY
PUBLIC USE AND TOURISM
STUDY AREA BOUNDARY



The legislature hereby declares it to be in the public interest to protect and manage the South Shore Estuary System as a single integrated estuary. It is further in the public interest to establish a council made up of representatives of state and local governments and private citizens to create a South Shore Estuary Reserve, prepare a comprehensive management plan and make recommendations to preserve, protect and enhance the natural, recreational, economic and educational resources of the reserve, which the state and local governments may incorporate into policy, laws or regulations. (New York State Legislature, 1993)

The act also created the Long Island South Shore Estuary Reserve Council and charged the Department of State with providing technical support to the Council. The Secretary of State serves as chair to the Council which represents diverse interests including those of government, commercial baymen, charter/party boat operators, the marine trades, sport fishing, construction, environmental organizations, and academia. The Division of Coastal Resources (Presently the Office of Coastal, Local Government and Community Sustainability) assisted the Council with development of the Long Island South Shore Estuary Reserve Comprehensive Management Plan (South Shore Estuary Reserve Council, 2001).

The South Shore Estuary Reserve Comprehensive Management Plan

“The Council and State adopted the Long Island South Shore Estuary Reserve Comprehensive Management Plan on April 12, 2001, marking a major milestone for Reserve communities, water-dependent businesses and residents. The plan provides a blueprint for the long-term health of the Reserve’s bays and tributaries, its tidal wetlands and wildlife, and its tourism and economy. Initially funding was met from a variety of

sources including the Clean Water/Clean Air Bond Act, the Environmental Protection Fund and the Environmental Initiative through the NYS Department of Transportation. In the future, comparable levels of federal and local funding could be sought, as well as smaller amounts from non-profit organizations. The support voiced by local governments, estuary-related businesses and non-profit organizations show that they are motivated partners committed to taking action to improve and protect the estuary Reserve” (State of New York, 2001).

2002 New York State Environmental Protection Fund’s Local Waterfront Program (LWRP)

The program awarded the Town of Oyster Bay funds that would allow the Town, “to implement projects for Oyster Bay in the South Shore Estuary Reserve Comprehensive Management Plan. The projects include: a watershed action plan to enhance non-point source pollution controls; a clam monitoring program; a habitat restoration plan for Massapequa Creek; coordination of open space acquisition; and analysis of expanded public access, recreation facilities, and infrastructure improvements to sustain water dependent uses” (New York State Department of State, 2002).

Town of Oyster Bay South Shore Estuary Reserve Workplan

On February 9, 2004 the Town of Oyster Bay secured a grant through the New York State Department of State Environmental Protection Fund for the implementation of the SSER Comprehensive Management Plan (CMP). One of the several components that had been identified as issues to be addressed was the “increase in public use and

expansions of tourism” (New York State Department of Economic Development, 2004). This report is intended to fulfill this aspect of the CMP.

1.4 Study Methodology

The study involves a comprehensive assessment of recreational facilities and existing conditions of recreational infrastructure within the areas of Massapequa and the Incorporated Villages of Massapequa Park and Farmingdale. Baseline information was obtained by compiling and examining available studies, reports, and maps and conducting comprehensive field investigations of recreational sites throughout the study area. The study focused on a variety of community recreational considerations including parks, marinas, roadway access and access to the shoreline, bicycle/pedestrian access, educational programs and potential funding sources.

All of the information that was obtained provided the basis for identifying and evaluating the potential for additional development of recreational resources within the portion of the South Shore Estuary that lies inside the boundaries of the Town of Oyster Bay.

In order to address these issues, the Town of Oyster Bay has authorized the preparation of this report. In the following sections, the report will examine the current situation of public access and tourism in relation to the South Shore Estuary waterfront, and identify creative and feasible recommendations, implementation methods, and funding mechanisms that will support the realization of the supported recommendations.

2.0 EXISTING LAND USE REGULATIONS

Land use plays an important role in determining the availability of vacant or reclaimable land, the types of uses that exist or can be constructed based on zoning, and the quality of surface waters and recreational opportunities in the study area. For example, many facilities that provide recreational access to surface waters, such as marinas and launching ramps, need to be located on the shoreline and as such are considered “water dependent” uses. Additionally, certain land uses and practices, such as wetland filling and the stormwater discharge, can adversely affect surface waters and natural resources and their use.

2.1 Land Use and Zoning

The land south of Merrick Road is relatively flat and heavily developed with small, closely spaced single family residences with a small amount of commercial development on the south side of Merrick Road. Other land uses include a golf course, marinas, and parks.

The area south of Merrick Road has over 50 man-made canals and five major tributaries (Seaford Creek, Massapequa River, Unqua (Jones) Creek, Carmans Creek, and Narraskatuck Creek). Prior to the area’s development, tidal and freshwater wetlands were filled and dredged for development. Bulkheading is currently present along the majority of the shoreline, except for portions of Carmans Creek, Unqua/Jones Creek and Narraskatuck Creek.

The Village of Massapequa Park is located within the study's boundaries and fronts South Oyster Bay just west of Unqua/Jones Creek. The predominant land use in this area is single family residential, with a commercial strip along Merrick Road (the major east-west corridor through the area). The Village has regulatory jurisdiction over the surface waters to a distance of 1,500 feet from the shoreline. As a result, the Village's land use activities affect South Oyster Bay.

The Village of Farmingdale also lies within the boundaries of the study area. This village does not border any major bodies of water, but does include some land-based recreational facilities (such as parks and playgrounds). Bethpage State Park abuts the northern boundary of the village and Ellsworth Allen Town Park is located nearby to its south. Land use patterns in the area are typical of post World War II suburban development where lighter density residential and recreational uses surround a downtown core with higher density commercial development linked to a local commuter railroad station.

The land on the Jones Beach barrier island within the study area encompasses two publicly owned properties: the Town of Oyster Bay's John F. Kennedy Memorial Sanctuary, also known as Tobay Wildlife Sanctuary, and the Town's Tobay Beach/Boat Basin facility. Except for Tobay Beach, which contains a large parking area, a marina and other recreational facilities, this area is undeveloped. There is evidence of extensive salt marshes along this area of South Oyster Bay.

The majority of the study area is zoned primarily for residential use. The two zoning classifications that apply to most of the Oyster Bay area (R1-10 Residence and R1-7

Residence) allow one-family dwelling units; places of worship; public parks, playgrounds and recreational areas; public libraries or museums; schools (with restrictions); certain agricultural occupations; professional offices; golf courses and country clubs; private garages; and customary accessory uses. There is a small parcel located on Alhambra Road that has been rezoned from a general business zone to an R1-6 Residence for the development of single-family homes. The area at the southern terminus of Alhambra Road is zoned for general business activity. Other zoning classifications in the study area include General and Neighborhood Business, and RPH-20 zoning for multi-family complexes.

General Business – The Oyster Bay Town Code describes the purpose of general business as: “to provide the opportunity for the attractive development of retail, office and service business uses with adequate automobile access and off-street parking and loading facilities in appropriate locations along major commercial arteries.”

Neighborhood Business – The Town Code describes the purpose of neighborhood business as: “to provide the opportunity for the development and maintenance of local-oriented retail and service business uses, as well as multifamily residence uses, in or adjacent to the town’s hamlet centers.”

The Incorporated Village of Massapequa Park has four standard zoning districts. These include the Residential-A District located in residential areas north of Merrick Road; Residential-AA District located in residential areas south of Merrick Road; Business-G District and the Business-GG District. The Village also has a “floating” Golden Age

District which allows for the construction of affordable, owner-occupied, senior citizens housing.

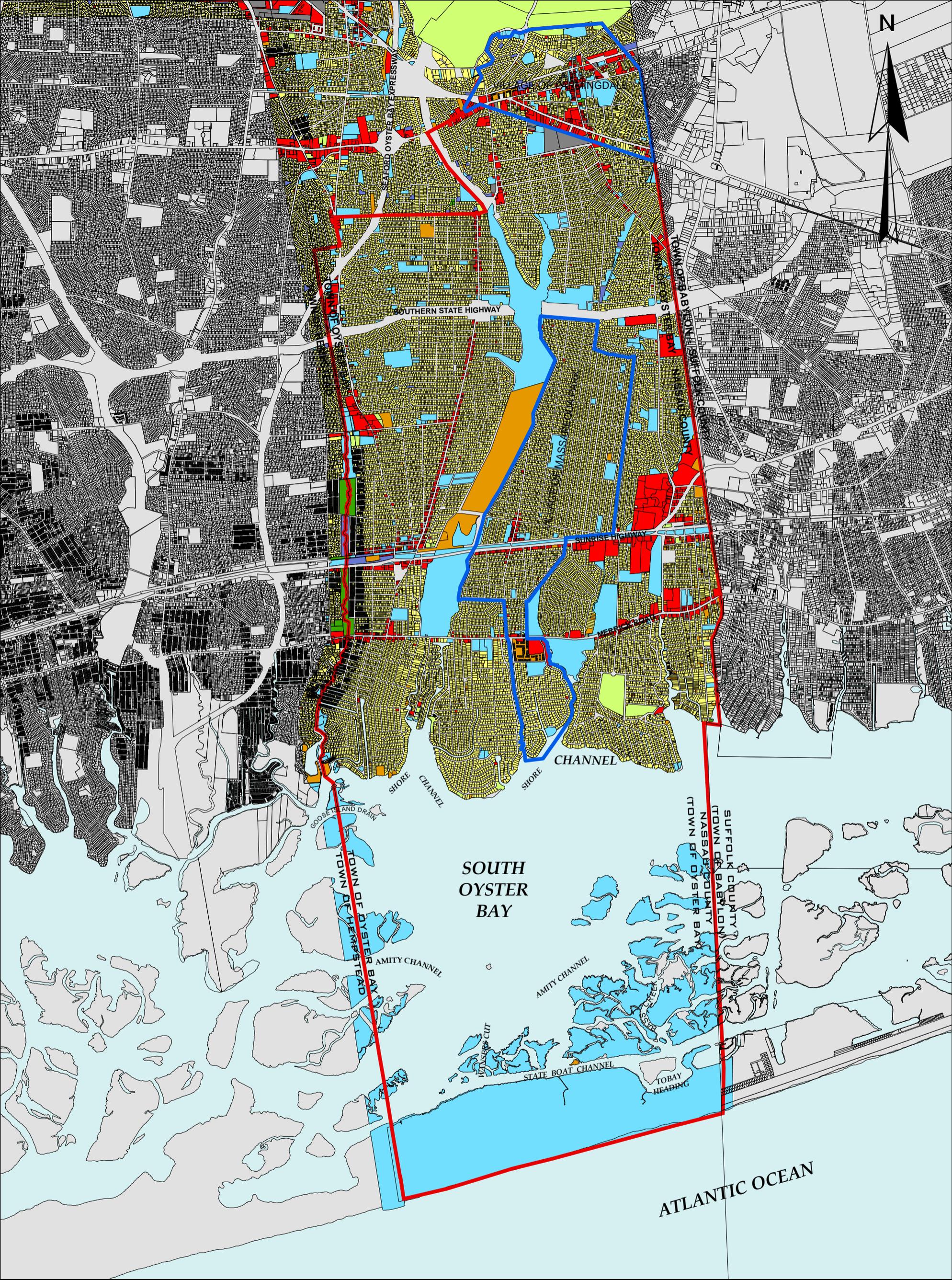
The Incorporated Village of Farmingdale has thirteen separate zoning districts. These districts consist of twelve residence districts including an office-residence district and a senior citizen housing district, three business districts, and an industrial district.

Land use is particularly important to the analysis of existing conditions and the determination of available vacant land, the identification of existing and potential recreational lands and areas of environmental value, and the public transportation system. Map 2-1 depicts land use in the study area.

2.2 Pattern of Underwater Land Ownership

The Andros Patent of 1677 gave the Town ownership of all the underwater lands in South Oyster Bay below the mean high water line within its boundaries. It also gave the Town title to the bay islands in South Oyster Bay.

Currently, there are no leases or other conveyances in effect for lands on the bay islands. Previously, the Town authorized two conveyances of underwater lands. On October 8, 1956, a parcel was conveyed to William Kissam for the extension of bulkheading in the upper reaches of Seaford Creek, at the terminus of Roosevelt Place. On August 4, 1961, a second conveyance was issued to Blair Mathies and Wilbur Heling for a narrow strip of shoreline located seaward of a private residential lot.



Pursuant to Section 196-23 of the Oyster Bay Town Code (Shellfish and Marine Life), the Town Board may lease underwater lands owned by the Town for the sole purpose of shellfish harvesting. To date, no leases have been issued for Town-owned underwater lands in South Oyster Bay.

2.3 Public Trust Doctrine

The Public Trust Doctrine provides that underwater lands and foreshore lands (i.e. lands between the high and low tide lines or mean high and low water lines) be held by the State of New York and municipalities in trust for the people, who have certain rights in these lands. When the foreshore is covered by the tides, the public may use the water covering the foreshore and underwater lands for boating, bathing, fishing, recreation and other lawful purposes. When the tide is out, the public may pass over the foreshore as a means of access to reach the water for these purposes, may travel along the foreshore, may lounge and recline on foreshore lands, provided that such activity does not cause impairment of habitat areas.

State and municipal title to the public foreshore and submerged lands, and the power of disposition, is part of their sovereignty which cannot be surrendered, alienated or delegated, except for some public purpose or some reasonable use for the public benefit, and without impairing public rights in the remaining lands and water. Inherent in the nature of public trust lands are that they support diversified and important ecosystems without which many public rights, including fishing, swimming and the like, would be impossible to enjoy.

3.0 EXISTING TRANSPORTATION INFRASTRUCTURE AND ACCESS

3.1 Roadway System

Roadway accesses to the South Shore Estuary within the Town of Oyster Bay are provided mainly by means of the thoroughfares listed below and are under the jurisdiction of NYSDOT:

- Merrick Road – is the primary east-west arterial roadway between the Town of Hempstead, to the west, and the Town of Babylon to the east. This is a heavily traveled, four-lane arterial with a posted speed limit of 35 miles per hour.
- Seaford-Oyster Bay Expressway – provides cross-island access for all major east-west arteries in the Town of Oyster Bay. This roadway is a six-lane, divided highway which runs from Merrick Road (in the Town of Hempstead, to the west of the HMA) to Jericho Turnpike, on the north shore.
- Hicksville Road (also known as Route 107) – is an arterial road that runs in a north to south direction and supports a mix of residential and commercial land uses.
- Ocean Parkway – runs east to west along the entire length of the Jones Beach barrier island. Along the portion of the island that runs through Town of Oyster Bay, Ocean Parkway is a divided highway with two lanes traveling in each direction.

The secondary thoroughfares listed below provide additional access to the South Shore Estuary within the Town and are under its jurisdiction:

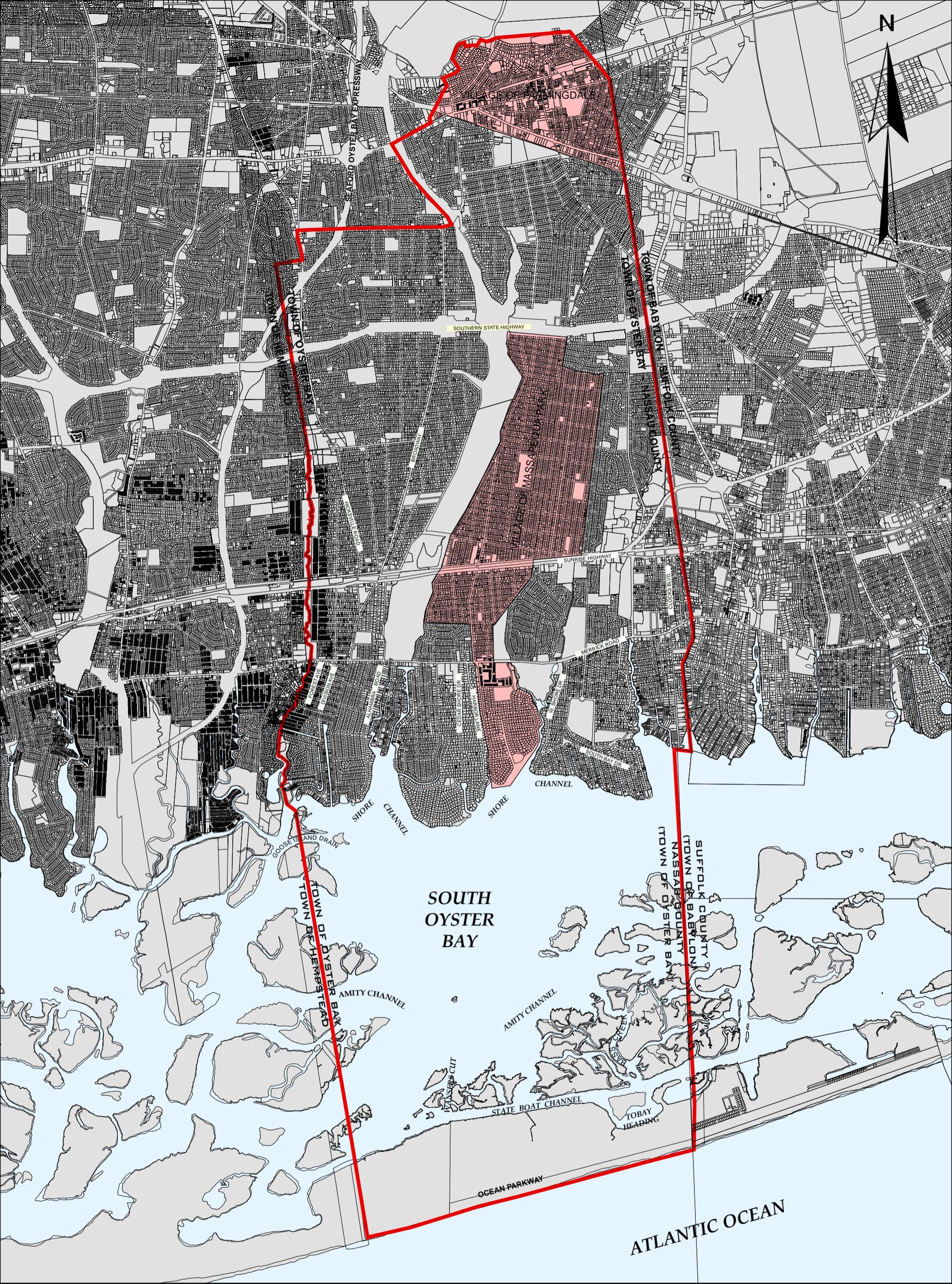
- Division Avenue – is a north-south secondary roadway that provides access between Merrick Road to the north and communities along the southern shore of Massapequa. This roadway operates with medium traffic and supports residential land uses.
- Forest Avenue – provides north-south access for the major canals at the western border of Massapequa. This roadway is a two lane, secondary road which runs from Merrick Road to Brockmeyer Drive, at the southern shore of extreme western Massapequa.
- Alhambra Road – is a north-south secondary road that provides direct access to Seacrest Park on the south shore of Massapequa from Merrick Road.
- Cedar Shore Drive – provides north-south access in the Biltmore Shores area within Massapequa. This roadway is a secondary road which runs from Merrick Road to the Grand Lagoon at the southern shore.
- Harbor Lane – provides north-south vehicular access for the residents and canals in the Incorporated Village of Massapequa Park. This roadway is a two lane, secondary road which runs from Merrick Road to the southern shore and supports residential uses.

- West Shore Drive – is a north-south secondary road that provides access to residences along Jones Creek in the Nassau Shores portion of Massapequa. The roadway is a two lane secondary road that supports residential uses.
- South Bay Drive – is an east-west secondary roadway within the Nassau Shores community in Massapequa. This two lane roadway provides access to the canals along the southern shore of Nassau Shores between Sunset Road in the west, and East Shore Drive to the east.
- Clocks Boulevard – is a north-south secondary roadway that provides access between Merrick Road to the north and communities along the southern shore of East Massapequa. This roadway operates with medium traffic and supports residential land uses.

See Map 3-1 for a depiction of the study area’s roadway system

3.2 Bicycle/Pedestrian

There are a number of different types of bicycle facilities located along the south shore of the Town of Oyster Bay providing approximately 14 miles of pedestrian and bicycle access throughout the estuary. Some are designated as suggested on-street bike routes by the New York State Department of Transportation and are depicted in a map published in 2001 entitled *Your Guide to Long Island Bikeways* (www.nysdot.gov). Suggested on-street bike routes offer no signage and are the most difficult for novice users to navigate.



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 STUDY AREA BOUNDARY
 PARCELS

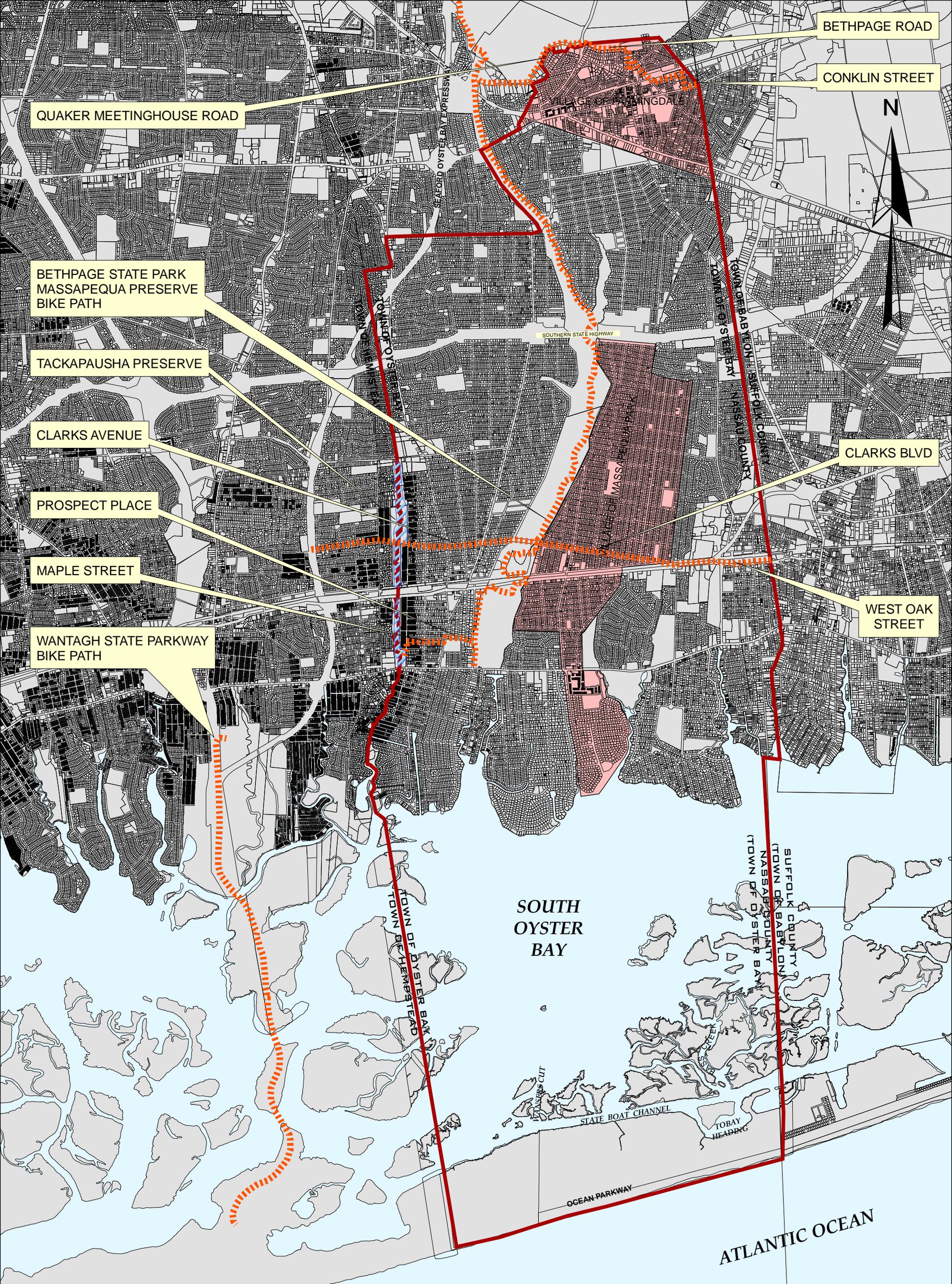
MAP 3-1
TOWN OF OYSTER BAY ESTUARY
PUBLIC USE AND TOURISM
ROADWAY SYSTEM



Some are designated as on-street bike routes, which are clearly marked by signage and offer a higher degree of safety for the novice bicyclist. Additionally, some are designated as off-street bicycle/pedestrian paths and are separated from other vehicular traffic, which provides the highest level of safety and comfort for novice bicyclists (NYSDOT, 2001). Map 3-2 depicts existing bicycle routes within the study area.

A designated on-street bike route is located in Farmingdale which extends a total of 1.8 miles from Bethpage State Park in the west to the Route 110/Nassau County line in the east (see Map 3-2). The route operates along 0.3 miles of Bethpage Road, 0.12 miles of Main Street, 102 yards of Melville Road, 0.2 miles of Secatogue Avenue, 0.5 miles of Eastern Parkway, 140 yards of Denton Avenue and 0.5 miles of Conklin Street (SR 24). This on-street bike route is clearly marked by signage and was observed as being lightly used by bicyclists during field observations.

Part of a suggested on-street bike route that traverses through the Towns of Hempstead, Oyster Bay and Amityville passes through the south shore of the Town of Oyster Bay. Within the study area, 2.0 miles of Clark Avenue/Clark Boulevard, 0.12 miles of Front Street, and 0.75 miles of Sunrise Highway/Old Sunrise Highway are designated as part of that route. During field visits, no signage was observed to mark the route and a small number of bicyclists were observed using the route.



- Legend**
- - - EXISTING BIKEPATH
 - ▨ TACKAPAUSHA_PRESERVE
 - ▭ STUDY AREA BOUNDARY
 - PARCELS



MAP 3-2
TOWN OF OYSTER BAY ESTUARY
PUBLIC USE AND TOURISM
EXISTING BICYCLE ROUTES

Three off-street hiking paths are located within the Tackapausha Preserve, located along the western border of the Town of Oyster Bay between Massapequa and Seaford.

- One path is located in the northern portion of the preserve (located north of Sunrise Highway. This path is approximately 1 mile long and traverses through a red-maple swamp forest within the preserve.
- Another path is located in the central portion (located between Sunrise Highway and Clark Avenue). This path is approximately 0.75 miles in length and affords users a view of a dam and weir system that was built by the Brooklyn Water Company in 1893 to supply drinking water to Brooklyn, New York.
- A third path is located in the northern portion (located between Clark Avenue and Jerusalem Avenue). This path is approximately 1.5 miles long and traverses through preserved wetlands (Nassau County Department of Parks, Recreation and Museums, 2004).

Lastly, an off-street bicycle/pedestrian path connecting Bethpage Park to Merrick Road is located entirely within Massapequa Preserve and east of the Bethpage State Parkway right-of way. This two lane bicycle/pedestrian path begins on the south shore at the corner of Ocean Avenue and Merrick Road. The path then winds its way north through Massapequa Preserve for approximately 0.9 miles to Sunrise Highway, where bicyclists and pedestrians must cross the six-lane arterial highway at a crosswalk. The path then

continues north through the Massapequa Preserve for approximately 2.3 miles crossing Clark Avenue and Linden Street via crosswalks. North of Linden Street, the path crosses over the Southern State Parkway on a bridge and eventually ends up along the eastern border of the Bethpage State Parkway right-of-way. The path then follows the eastern border of the parkway right-of-way approximately 2.6 miles to Bethpage State Park. The total length of this path is approximately 5.8 miles (NYSDOT, 2001). This path is clearly signed and the asphalt pavement is well maintained. During field observations, it was noted that the path was being used moderately by pedestrians as well as bicyclists.

3.3 Boating

Docks

It is estimated that over 200 docks exist along the shoreline, canals, and bulkheads of the South Shore Estuary (SSER CMP, 2001). These structures occur as both floating and fixed structures, and are of various lengths and configurations. Most of these docks serve private residential use, although a few are associated with commercial facilities.

Marinas

The study area contains a small number of marinas and yacht clubs that service the local and regional boating community. These facilities are described as follows:

- *Tobay Boat Basin* is located on the barrier island at the eastern end of the Town. This Town of Oyster Bay-owned and operated facility has approximately 135 slips of various lengths, and provides electricity outlets, potable water, picnic area,

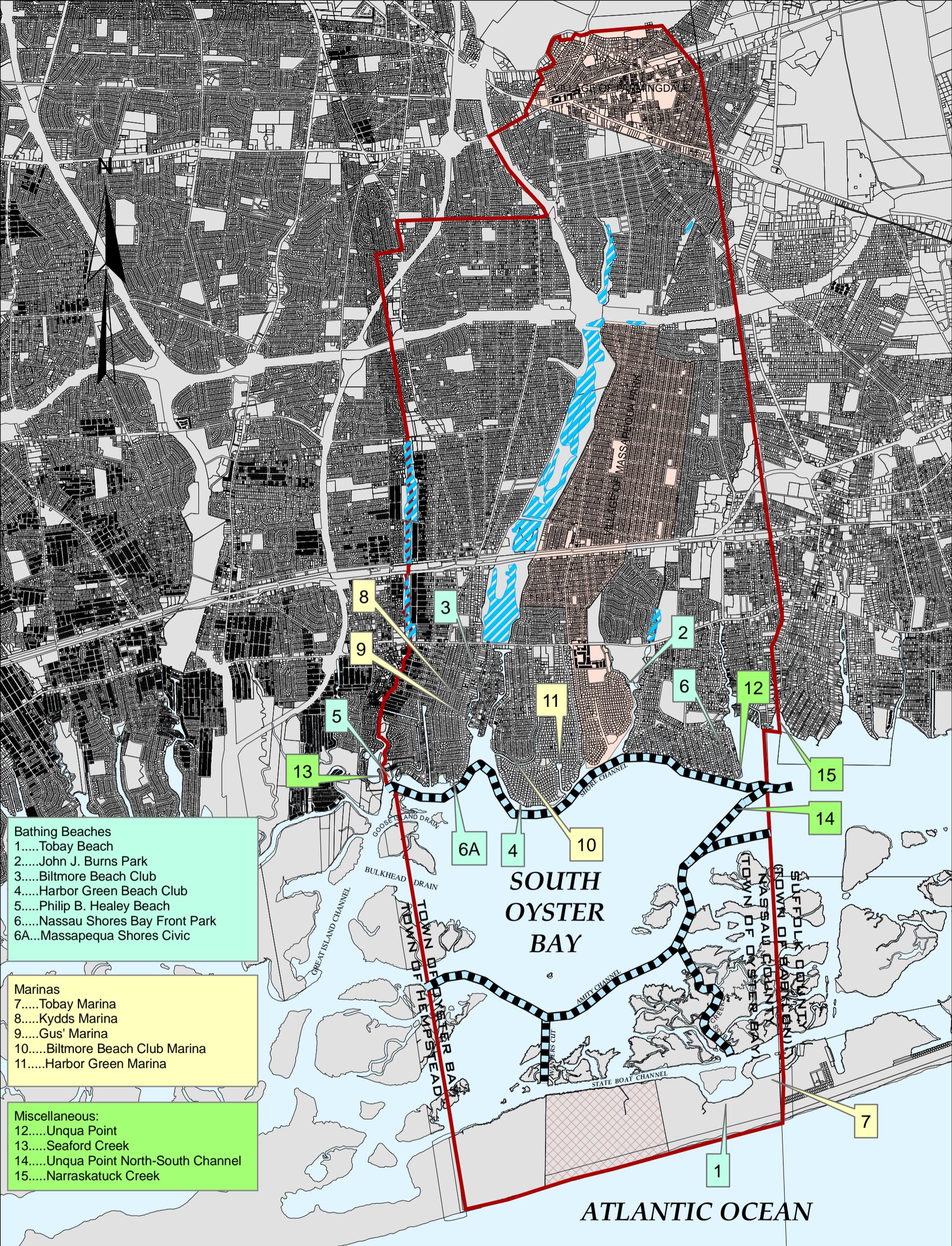
- concession stand and a vessel fueling station. Tobay Boat Basin is the only marina in this portion of the South Shore Estuary that provides a vessel waste pump-out facility and pump-out vessel.
- *Kydd's Marina* is located on Alhambra Road. This private facility is equipped for wet and dry dock storage, boat repairs, and operates two 10-ton lifts. A marine store is also located on the premises. There are approximately 25 boat slips of various lengths available for boats being repaired by Kydds. All the slips have dockside water and electric available. No slips are available for seasonal docking.
 - *Gus' Marina* is a small marine and boat parts store located on Alhambra Road. Services provided by this private marina are winter storage, boat hauling and boat motor repairs. A vessel fueling dock, boat ramp and restrooms are located at this facility. There are approximately 11 seasonal slips with water and can accommodate up to 25-foot vessels.
 - *Biltmore Beach Club Marina* is a small private facility located on Biltmore Boulevard in Massapequa Cove. This facility is open to Biltmore Beach Club members only and provides dockage for approximately 90 vessels. The site provides a boat launching ramp for its members.
 - *Harbor Green Shore Club Marina* is a private facility available to members only. It is located at the head of Grand Lagoon off Sunset Boulevard. The marina has parking

for approximately 32 vehicles and three floating docks that can moor about 50 vessels of various lengths.

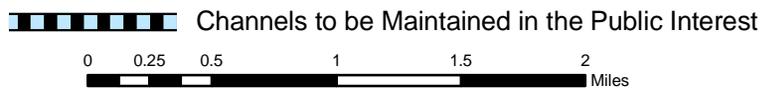
Navigational Channels

There are six designated navigational channels within the study area and a number of public and private shoreline access points in the study area. These features are shown on Map 3-3 and are discussed below.

- *The State Boat Channel* was created by dredging and contains the deepest areas in the bay with depths generally exceeding 15 feet in the center of the channel at mean low tide. The State Boat Channel runs east to west just north of the barrier island and links the water of the Town of Hempstead on the west to the waters of the Town of Babylon on the east.
- *Amity Channel* extends in a southwesterly direction from the Town boundary (east of Unqua Point), between the marsh islands, and then westerly to the boundary of the Town of Hempstead, connecting with Bulkhead Drain. Average depth is approximately 10-feet (NOAA chart 12352, 2003).
- *Shore (North) Channel* enters Town waters near Unqua Point, on the east, and runs west along the mainland to connect with Great Island Channel, near the mouth of Seaford Creek. Average depth is under 10-feet (NOAA chart 12352, 2003).



MAP 3-3
 TOWN OF OYSTER BAY ESTUARY
 PUBLIC USE AND TOURISM
 NAVIGATION CHANNELS &
 PUBLIC AND PRIVATE SHORELINE ACCESS



- *Goose Island Drain Channel* is a small passageway that branches off of Shore Channel near Goose Island, which also connects with Great Island Channel. Average depth is approximately 5-feet (NOAA chart 12352, 2003).
- *Unqua Point North-South Channel* connects Narraskatuck Creek with the East-West Channel that follows the Town of Babylon shoreline to the Village of Babylon and provides access to Great South Bay. Dredging of the Unqua North-South Channel is the responsibility of Suffolk County (the boundary between Nassau County and Suffolk runs down Narraskatuck Creek). The last County dredging project took place in 1984. Average depth is approximately 11-feet (NOAA chart 12352, 2003).
- *Wanser's Cut* located south of Squaw Island is a navigational lane that connects between the State Boat Channel and Amity Channel. It intersects with the State Boat Channel in the vicinity of the John F. Kennedy Memorial Wildlife Sanctuary. Average depth is approximately 10-feet (NOAA chart 12352, 2003).

Shoreline Access Points

There are numerous shoreline access points along the South Shore Estuary. Land along the north shore of the Estuary/South Oyster Bay has been nearly entirely developed with dense single-family residences. There are no significant parcels of land that are not developed or used as parks or shore access. Hundreds of homes have direct private access to the bay shoreline or the banks of area creeks or man-made canals. Private

pedestrian, fishing, and boat access is available at most of these private homes and swimming may be feasible at some.

A few private beach clubs and marinas were also identified along the shore as were small and medium sized neighborhood parks each with restricted access to the water preventing fishing or boat launching. These facilities and access points are restricted to members. Examples of private shore access and facilities include Massapequa Shores Civic Association Beach, Harbor Green Shore Club and Marina, Harbor Beach Club, and Biltmore Beach Club Marina.

There are many streets that terminate or “dead-end” along the north shore of South Oyster Bay and its creeks and canals. All are blocked off with guard rails or fencing or are overgrown with marsh reeds. Many of these areas are bulkheaded and curbed and a few have rip-rap on the shoreward side. The suburban residential nature of these areas and no space for parking greatly restricts the usefulness and desirability of providing public access at these locations and promoting tourist activities within the neighborhoods.

John J. Burns Park provides major public waterfront access with two large boat ramps that allow access to the South Shore Bay and more than sufficient parking. TOBAY Beach and Boat basin offers public boat, pedestrian, and swimmer access to the shoreline. Public beach access is also available at Phillip B. Healy Beach off of Florence Avenue.

3.4 Parking

Through a number of field visits, it was concluded that an adequate supply of public parking is provided at a number of locations within the Town's portion of the estuary, including:

- Phillip B. Healey Park, to serve the needs of the users of the park facility;
- Shoreville Park, which is intended for users of this facility;
- John J. Burns Park, which serves users of the park facility and the users of the boat ramp; and
- The large parking lot located on the barrier island that serves the users of Tobay Beach/Boat Basin.

3.5 Transportation Infrastructure and Access Issues

The inventory and analysis of conditions in the study area identified the following transportation access issues that will be addressed by the *Estuary Public Use and Tourism Study*.

- Currently, bicycle and pedestrian facilities in the study area are made up of disconnected, stand alone segments that provide limited opportunities for bicyclists to travel between local and regional recreational facilities.
- There is a lack of signage along all existing bicycle and pedestrian routes that identify nearby local area attractions.

- Non-motorized links are needed to connect the barrier island beaches to each other as well as to Massapequa, Massapequa Park and Farmingdale to provide additional access to recreational opportunities throughout the estuary.

4.0 EXISTING RECREATIONAL FACILITIES

Recreational facilities provide opportunities for tourists and local residents to engage in educational and athletic activities. These facilities can also increase the aesthetics of an area by providing open space, increased foliage and a protective habitat for various species of wildlife. In most cases, the quality of life in the area also increases as a result.

4.1 Inventory of Existing Recreational Facilities

In the fall of 2004, CA staff performed an inventory of all recreational facilities within the study area (including Massapequa, the Village of Massapequa Park and the Village of Farmingdale). Recreational facility information was obtained through investigations of local maps, past studies and through field visits. The following are the results of that inventory broken into two categories (parks/beaches and historical sites):

Parks/Beaches

- *Tobay Beach*: The Town of Oyster Bay owns this 120 acre parcel, located along the northern side of the Jones Island barrier beach. It offers a half-mile long bathing beach along the bay, two restroom/concession pavilions (one located on the ocean beach and one located at the marina), playgrounds, picnic areas, a 135-slip marina, and parking lot (which can accommodate 3,400 vehicles). A heliport is also located at this facility which is used for air rescue activities.
- *John J. Burns Park*: This Town-owned and operated facility is the largest Town parkland on the mainland, consisting of approximately 51 acres. This facility, located just south of Merrick Road, is intensively used as a public recreation area, and offers

a wide variety of services and amenities, including: playgrounds, two platform tennis courts, six lighted tennis courts, two basketball courts, two handball courts, three soccer-lacrosse fields, a baseball field, two softball fields, a Little League field, two boat launching ramps, shoreline fishing, the Bay Constable building, and a parking areas that can accommodate 80 vehicles. Seven acres on the eastern portion of the park bordering Jones Creek has been designated by the Town as a nature preserve.

- *Biltmore Beach Club*: This private club is located on the west side of Biltmore Boulevard. The site provides a bathing beach, playground, pool, restroom, game room and a paved parking lot.
- *Harbor Green Beach Club*: This private club located along Riviera Drive. The property contains various amenities including a pool, pavilion, playground, basketball court, bathhouse, beach volleyball court, tennis court, bathing beach, and a 40 space parking lot.
- *Philip B. Healey Beach (formally Florence Avenue Beach)*: This Town-owned facility comprises a total of 6.96 acres located at the east end of Florence Avenue. Amenities include a bathing beach, playground, picnic area, restroom/pavilion, gazebo, shoreline fishing, and parking area. The use of this facility is restricted to Town residents only.
- *Colleran Park*: Located at the south tip of the Incorporated Village of Massapequa Park in Bar Harbor at the end of Whitewood Drive, west of Jones/Unqua Creek. This

- 3.7-acre park, includes a tot lot and views of South Oyster Bay and is designed for quiet relaxation. No buildings or parking lots are located on the property, and recreational amenities are limited to a playground and park benches. The natural shoreline towards the southern tip of the park provides informal access to water.
- *Shoreville Park (also known as Anchor Park):* This 7.7-acre community park, located on Anchor Drive, is owned by the Shoreville Park Civic Association. This recently renovated facility contains tennis courts, playgrounds, a baseball field, soccer field, basketball court and a small parking lot. The park is entirely fenced and bulkheaded along the Venetta Lagoon. The park also serves as a recreational fishing location.
 - *Massapequa Shores Civic Association Beach:* This three-quarter acre facility, located at the end of Dolphin Place, is owned by the Massapequa Shores Civic Association and is not open to the public. The site consists of a tented picnic area, outside shower, portable lavatory, small playground area and a small beach front.
 - *Clocks Boulevard Park:* This 1.4-acre Town-owned neighborhood park is located at the end of Clocks Boulevard at the eastern portion of the HMA. The park is completely fenced in except for an opening for pedestrians. Amenities include park benches and paved walkways along the waterfront. There is no parking lot and no water access.

- *Alhambra Beach*: Located at the end of Alhambra Road, this 0.94-acre Town-owned waterfront property consists of a 24-space parking area. There is a minimal beachfront on the southwestern edge and rip-rap structure located on southeastern edge and road end. A small park adjacent to Alhambra Beach contains a seating area surrounded by a bulkhead. The park is lined with gravel and there are no facilities on the site.
- *East Shore Drive Park*: This 1.9-acre park is owned by a private homeowner's association and is located at the end of East Shore Drive, in the Nassau Shores area of eastern Massapequa. Amenities include a playground, gazebo, lighted walkways and a scenic overlook pier. There are no parking spaces available except for one handicap space.
- *Jomar Beach Civic Association Beach* – This is a small beach park located at the end of Jomar Place. It is a privately maintained park with a small lawn area, basketball court, and picnic area. The beachfront is partially bulkheaded and contains a small natural beach.
- *Harbor Green Shore Club*: This private club located along Riviera Drive. The property contains various amenities including a pool, pavilion, playground, basketball court, and bathhouse. The entire waterfront along Grand Canal is bulkheaded.

- *Brady Park:* Located along Lake Shore Drive at Front Street, Brady Park is considered to be the most active park in Massapequa Park, this public facility contains a number of amenities including a little-league baseball field, a children's playground, basketball, bocce, shuffleboard, and horseshoe courts, and a community center (which is used by senior citizens and other local programs).
- *Mansfield Park:* This facility is located at the northern part of the Village west of Lake Shore Drive at Walker Street. It contains a baseball diamond and two football/soccer fields. The Massapequa State Park bicycle and jogging path goes through Mansfield Park as does a meandering stream. Motorized vehicles are prohibited and the natural setting provides residents with a peaceful sanctuary from the stress of daily living.
- *E.W. Allen Town Park:* Located along Motor Avenue in Farmingdale, this facility provides a children's play area, a basketball court, two handball courts, three lighted tennis courts, two horseshoe courts, two shuffleboard courts, eight concrete checkerboards, a football field, two baseball fields and a soccer field. An ample amount of parking is provided for people wishing to visit the facility and restrooms are also provided. A skate park is also available on the premises for Oyster Bay residents who obtain a membership.
- *Massapequa Preserve:* Massapequa Preserve is 423 undeveloped acres of woodlands, ponds, lakes and freshwater wet-lands that border Massapequa Creek for

almost 4 miles, from South Farmingdale to Merrick Road. The Preserve is home to hundreds of species of plants and animals. Originally part of the N.Y. City water supply property, the Preserve was acquired by Nassau County in 1981. Massapequa Preserve is managed by the Nassau County Department of Recreation and Parks, and is the largest passive-use park in the County.

- *Peninsula Golf Club:* Located along Cedar Drive at Nassau Road, this private facility provides a 9-hole golf course for patrons.
- *Marjorie Post Park:* Located at the intersection of Unqua and Merrick Roads this 42.5 acre park contains a number of amenities including a children's play area, picnic area with barbecue grills, tennis courts, handball courts, a basketball court, a lakeside walking area, a swimming pool, a diving pool, a children's wading pool, an ice skating rink and a roller hockey rink.
- *Bethpage State Park:* Located along the northern border of the study area along Quaker Meeting House Road, this 1,475-acre park boasts one of the nation's finest public golf complexes and a polo field. Also offered in this facility are: two softball fields; a polo field (permit required); a playground (handicapped accessible); 5.5 miles of bridle paths; stables (rentals); 2.5 miles of bike paths; a picnic area; eight clay tennis courts (fee based), four all-weather courts (fee based); and a golf pro shop.

- *Local Park at Margaret Drive:* Located along the northern side of Margaret Drive, this smaller local facility is comprised of a basketball court and a children's playground.
- *Local Park at Amherst Drive:* Surrounded by residential development, this smaller local facility provides an entrance for patrons on Amherst Street and is comprised of a basketball court and a children's playground.
- *Local Park at Merritt Road:* Located west of the intersection of Merritt Road and Lockwood Avenue, this local facility is comprised of a tennis court and a baseball field.
- *Local Park at East Drive:* Located east of East Drive, this state preserve contains over 7 acres of wooded land and is considered a passive use facility.
- *Local Park at Richard Place:* Located at the intersection of Renee Place and Richard Place, this small local park provides a baseball field for patrons.
- *Local Park at Philadelphia Avenue:* Located at the intersection of Philadelphia Avenue and Pennsylvania Avenue, this passive use park provides 0.3 acres of parkland for users.

- *Local Park at Westwood Road:* Located adjacent to the Carmans Road School for students with disabilities, this small local facility provides two basketball courts for patrons to use.
- *Local Park at Cherry Street:* Located at the eastern terminus of Maple Avenue in Farmingdale, this 4.75 acre facility provides two baseball fields and a children's playground.
- *Local Park at Hunter Ridge Road:* Located between Hunter Ridge Road North and North Pine Street, this one acre facility provides a baseball field, a basketball court and a children's playground.
- *Local Park at Cedar Shore Drive:* Located between Hunter Ridge Road North and North Pine Street, this 1 acre facility provides a baseball field, a basketball court and a children's playground.
- *Local Park at Sunset Boulevard:* Located at the corner of Gloucester Road and Sunset Boulevard, this 2.5 acre facility is comprised of a children's playground, a basketball court, a roughed out dirt baseball field and two tennis courts.

Historic Sites and Organizations

Historic sites can draw tourism to an area, provide diverse recreational opportunities to local and regional residents and affords educational opportunities to residents of the area.

There following are the historic sites located within the study area:

- *Tackapausha Preserve:* Named in memory of Tackapausha, the leader of the Massapequa Indian Tribe, this 84-acre preserve, located north of Merrick Road along the western border of Massapequa and Seaford, is a wildlife sanctuary devoted to nature, recreation, hiking and education. Biological surveys of the area reveal an unusual variety of plant life, including several species of Atlantic white cedar, gama grass and a small rush. The preserve also provides habitat for over 170 species of birds, along with several small mammal species including raccoon, muskrat, gray squirrel, and opossum.

A museum providing historical educational opportunities is also located in the preserve. The Tackapausha Museum and Preserve's displays and exhibits include live animals, plants, and preserved specimens interpreting the natural history of Long Island. Throughout the year, the museum offers a variety of natural history programs to school and other organized groups. On weekends, films and lectures/demonstrations about the local history of wildlife on Long Island are offered to the general public.

- *The Historical Society of the Massapeguas:* Located on Merrick Road, across from Cedar Hill Drive, this society was formed in 1969 to preserve Old Grace Church, on Merrick Road across from Cedar Shore Drive. The historical society is housed in a historic complex made up of the church (mentioned above), the Floyd Jones Library (opened in the late nineteenth century), and an 1880s servants cottage that was saved from demolition on its former site across Merrick Road in 1986. There are 700 members of the society and regular events are scheduled throughout the year such as local festivals and tours of the historic complex. The Floyd Jones Library is open for research on Wednesdays and Saturdays throughout the year.

- *Farmingdale/Bethpage Historical Society:* This society was founded at a meeting in historic Powell House, Merritt Road, Farmingdale, on April 12, 1964. Although they hold regular meetings at that location, the group however does not reside in a permanent office.

Chartered by the University of the State of New York as an incorporated non-profit educational and cultural organization, its members enjoy many programs and activities, including:

- Guest speakers lecturing on local and regional history.
- The preservation of local history through voices of older residents.
- Guided tours of historic Bethpage and Farmingdale.
- Concerts of Early American music.
- Bus trips to historic sites and museums.

- An Annual Founders Day Dinner and Strawberry Festival.

According to their website (Farmingdale-Bethpage Historical Society, 2002), the Farmingdale/Bethpage Historical Society's purposes are:

- To encourage and develop the historical appreciation of the public by promoting historical study of the Farmingdale and Bethpage areas.
- To foster the collection of papers and articles of historical value for exhibition and preservation.
- To promote appreciation of our area's heritage by encouraging preservation of structures of historical or architectural significance.
- To hold public meetings periodically for discussion of topics of historical interest.

A total of 32 sites, totaling over 760 acres of land devoted to recreational facilities were found within the study area. The facilities include hiking and biking trails, playgrounds, a wide variety of outdoor recreational fields and courts, swimming pools, fishing areas, golf courses, skating facilities, wildlife preserves, and historic sites. Thirty sites were considered to be parks/beaches and 2 were considered as being historical sites. See Map 4-1 for a depiction of recreational sites within the study area.

4.2 Existing Recreational Facilities Issues

The inventory and analysis of conditions in the study area identified the following recreational facilities issues that will be addressed by the *Estuary Public Use and Tourism Study*.

- There is a current lack of and potential for historical or other types of museums within the study area to generate tourism and provide diverse recreational/educational opportunities for local residents.
- There is a need for the Farmingdale-Bethpage Historical Society to establish a permanent place to present their collection of historical resource material. This would enable present and future residents of the Bethpage Purchase to more fully appreciate their heritage and attract history buffs from other regions in the area.

5.0 EXISTING EDUCATIONAL RESOURCES

Educational resources can provide opportunities for residents to learn about the estuary and draw tourism to the study area through the enhancement of public facilities. Examples of the different types of educational resources that can enhance an area include: interpretive programs, local outreach and formal education.

5.1 Interpretive Programs

JFK Sanctuary at Tobay Beach

Established in 1959, the John F. Kennedy Memorial Wildlife Sanctuary is a 500 acre sanctuary considered to be one of the most important refuges for waterfowl in the Northeast United States. Located on the western end of the Town of Oyster Bay portion of the barrier island, the sanctuary is owned by the Town of Oyster Bay and managed by the New York State Department of Conservation. In order to access the refuge, visitors must first obtain a permit pass from the Town Parks Department.

The sanctuary, also known as Tobay Sanctuary, has been designated a New York State Significant Coastal Fish and Wildlife Habitat (SCFWH). According to the Fish and Wildlife values in the SCFWH Project Description, the sanctuary contains a diversity of natural barrier beach habitat types that are unusual in Nassau County and are extremely valuable to wildlife throughout the year. Concentrations of waterfowl occur at the sanctuary during spring and fall migrations (March – April and October – November, respectively).

The sanctuary provides critical nesting habitat for a wide variety of avian species, and feeding habitat for a number of Federal and State listed endangered and threatened bird species. Located within the preserve, the 36-acre Guggenheim Pond provides an important wintering habitat for 27 documented species of waterfowl and consistently supports one of the highest concentrations of wintering American black duck (*Anas rubripes*) on Long Island. During the summer season, the pond provides foraging habitat for least tern and a variety of herons and egrets.

As a result of the year-round concentrations of birds at this sanctuary and its accessibility, the area is very popular as a bird watching area, attracting visitors from throughout Long Island. The sanctuary has an observation tower and well maintained trails. This area is open to the public for bird watching, but visitors must first obtain a permit from the Town of Oyster Bay Department of Parks.

5.2 Local Outreach

People in the Reserve learn about their environment from a variety of information sources. Mass media outlets, including newspapers, magazines, television, and radio reach the broadest audience. More than a dozen daily newspapers and a multitude of non-daily newspapers carry stories about Estuary Reserve issues. In addition, special releases such as Newsday's annual "Fun Book" provide detailed information on Long Island's coastal environment.

Numerous public and private organizations also reach out to the general public and various target audiences. These organizations include: environmental groups; sports and recreation clubs; neighborhood and civic groups; business and industry groups; academic institutions; and State and federal agencies. In their on-going efforts to capture the interest of all kinds of people, they use many avenues of outreach, including: newsletters; brochures; guide books; web sites; videos and slide shows; displays and exhibits; trade shows; workshops and conferences; and a variety of summer, evening and weekend programs for adults and children. How effective all these diverse organizations are in raising awareness about the estuary is not known, nor is it very clear how the delivery of information might be better orchestrated to improve the overall level of understanding. A public perceptions survey conducted in 2000 by the South Shore Estuary Reserve Council provided insight into this situation. It found that respondents appear to differ markedly in the pathways by which they get useful information about the estuary. Fourteen percent of the respondents received information from only one or two sources while 20% say they receive information from eight or more sources. A small percentage (about 5%) actually said they received no useful information from any source. These results are important because, although cause and effect are hard to determine, there is ample evidence that respondents who depend on different sources of information differ from each other in terms of demographics, behavior and attitudes (Cornell Local Government Program, 1998).

5.3 Formal Education

Academic institutions can provide a wealth of information about the estuarine environment. Two public school districts providing primary and secondary level education are located within the study area (Massapequa Union-Free School District and Farmingdale Union-Free School District). These districts serve approximately 14,700 school-age children within the study area.

There is no central source of information on what public schools and teachers are doing to educate elementary, middle and high school students about the Reserve. Massapequa High School is actively promoting in-class and extracurricular programs related to the South Shore Estuary Reserve; incorporating related topics into their regular classroom work; teaching environmental monitoring techniques, and offering students opportunities to learn from field biologists and work on restoration projects at nature preserves in the Reserve.

Currently, there are many sources of information that teachers have at their disposal. They can go to traditional sources, such as teacher associations (e.g., the NYS Marine Education Association, the NYS Outdoor Education Association, the National Science Teachers Association), or they can log onto the Internet. Entities such as the National Science Foundation, the Smithsonian Institution, the National Park Service and the Eisenhower National Clearinghouse for Mathematics and Science Education are all accessible via the Internet and provide volumes of information for teachers. Educational training opportunities for educators are offered by one of three local Board of

Cooperative Educational Services organizations; the Suffolk County Organization for the Promotion of Education; Queens College and other local universities; as well as various non-profit organizations.

5.4 Existing Educational Issues

The inventory and analysis of conditions in the study area identified the following educational program issues that will be addressed by the *Estuary Public Use and Tourism Study*.

- There is a need to enhance the existing interpretive program within the JFK Wildlife Sanctuary at Tobay Beach to provide additional opportunities for users to view scenic vistas along the Great South Bay and Atlantic Ocean.
- There is a need to bring additional special programs focusing on Estuary topics into the classrooms of elementary, middle and high schools within the study area.
- There is a need to increase opportunities for teachers to obtain professional training that pertains to the Reserve.
- There is a need for a varied program of outreach activities targeted to different audiences to increase awareness of the Estuary.

6.0 RECREATIONAL FACILITY IMPROVEMENT AND EXPANSION OPPORTUNITIES

As part of the analysis, a number of alternatives to improve and expand recreational opportunities and commercial tourism were considered. Some that were found not to be feasible include the construction of a pedestrian/bicycle bridge and the introduction of ferry service from Massapequa across the Great South Bay to the Jones Beach barrier island. Massive construction costs or redundancy in service were factors that led both ideas to be dismissed. Others included the construction of an amusement park east of Jones Beach and the construction of hotels along the barrier island. A strong potential for public opinion against development along the barrier island and the lack of sufficient open space in other regions of the study area to accommodate such massive structures were factors that led to the dismissal of these options.

The project study area, including the Massapequa community and the Incorporated Villages of Farmingdale and Massapequa Park, are all at or very close to saturation development conditions. An inventory of possible future open space and recreational sites revealed very little that could be reasonably used for open space, recreation, or water-dependent or water-enhanced uses within the study area. The north shoreline of the South Shore Estuary is densely developed with single-family residences and a few small public parklands and private clubs. There is very limited potential for additional parklands, recreational facilities, tourist destinations, or public access points to the water. However, one small tract of land located on the west side of Alhambra Road, near the shoreline, showed some potential. The south shore of the estuary within the Town, on the barrier island is entirely parkland and wildlife sanctuary with no opportunities for

parkland expansion. The following opportunities can help in maximizing recreational and tourism benefits with minimum construction costs.

6.1 Utilize Vacant Waterfront Land for Appropriate Uses

Only one vacant property located along the shoreline was identified as having potential for a possible water-dependent, water-enhanced, or tourism-based land use. This property is located on the west side of Alhambra Road in Massapequa, opposite Gus' Marina, and north of a boat yard and park and public parking area that is adjacent to the shoreline. The property is roughly three-quarters of an acre, is zoned for general business (GB), and has direct access to the mouth of the Massapequa River at Massapequa Cove.

The property was formerly used as a restaurant or catering facility; however, the previous improvements on the site were recently demolished and no plans for new development had been submitted to the Town as of the time this report was being prepared. Due to the property's location along the waterfront, near water-dependent and water-enhanced uses, and within an existing commercial zone, some potential exists for a suitable, compatible, and supportive water-related commercial use.

The property is small to moderate in size. The size of the property is similar to most other lots in the area and is sufficient to support a number of viable land uses. However, it is not big enough to support a major land use that requires a great deal of land. Moreover, uses such as single-family residences or non-water dependent uses including certain retail and industrial businesses (which can also have environmental effects) are

not recommended as they would only further limit the availability of appropriate locations for water-dependent or water-enhanced uses. Suitable uses at this site include but are not limited to a marina, expansion of existing nearby waterfront uses (i.e., marinas, boatyard), or new marine-related business, public park with shore access, a restaurant, club, catering facility, or other similar waterfront use.

This location was cited as part of the Town's South Shore Estuary Reserve Waterfront Development Plan including consideration of rezoning this and other nearby commercial properties to a Waterfront-A (WF-A) and/or Waterfront-B (WF-B) designation. The Waterfront-A district is a non-residence zone that is specifically designed to address waterfront properties and promote the establishment or perpetuation of land uses that require or can uniquely benefit from a waterfront location. Waterfront-B sites are targeted for those that do not have direct frontage on the water but that enjoy a close relationship with the shore and water-dependent uses.

The WF-A and WF-B districts were established to:

- ensure appropriate zoning to promote, create, and sustain a mix of waterfront and water-dependent and water-enhanced neighborhood businesses and recreational uses in suitable waterfront locations;
- provide adequate land use, density, and environmental controls so as to guide future growth and protect vital natural resources; and to
- redevelop and revitalize waterfront areas in a carefully planned, economically beneficial, and fiscally-responsible manner, subject to appropriate standards and procedures.

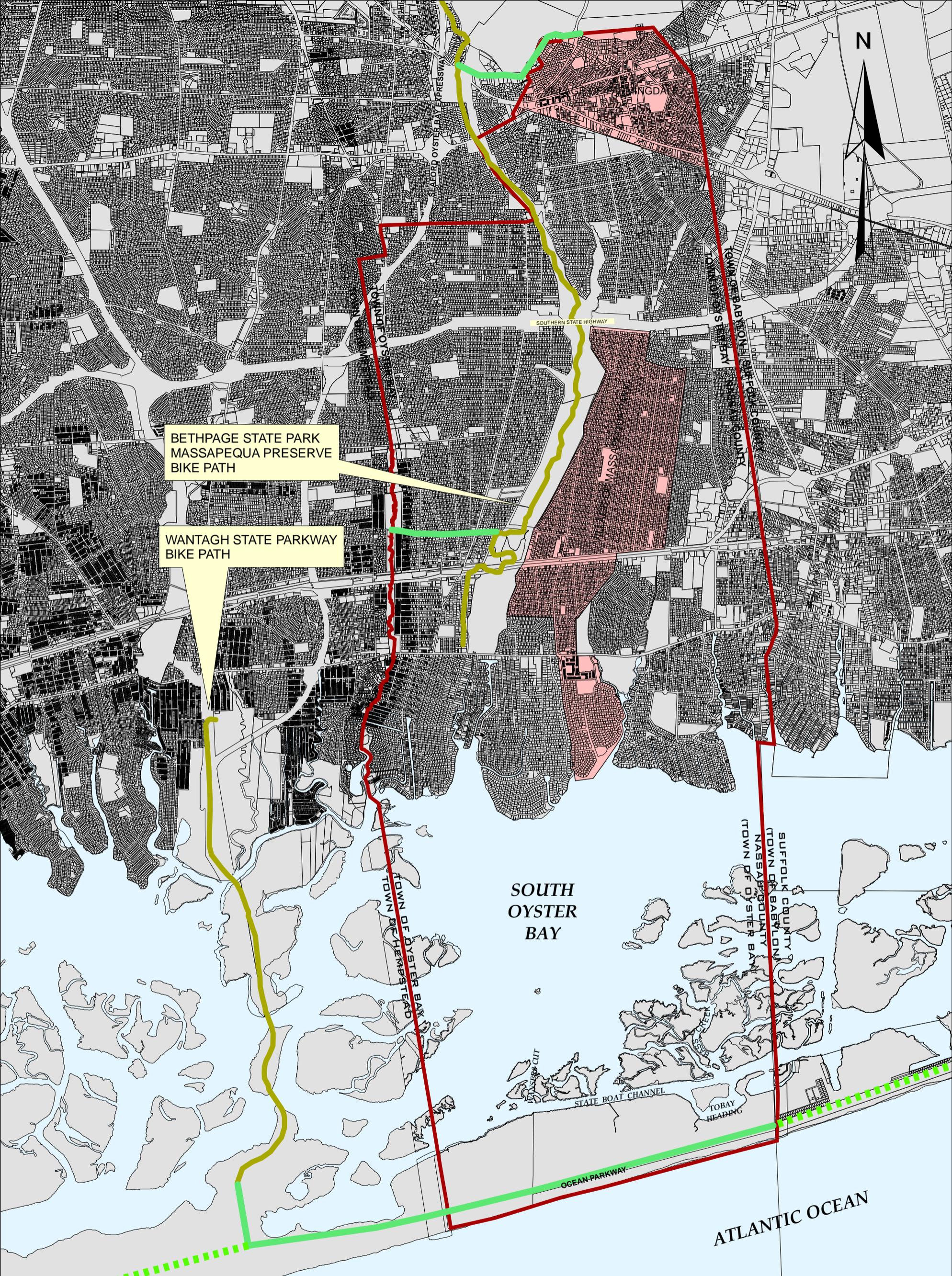
6.2 Preservation of Existing Private Recreational Facilities

One significant open space and recreational facility near the shore is the Peninsula Golf Club. Peninsula Golf is owned privately by PGC Holding Corp. There are two parcels associated with the 50.8-acre golf course including a 37.7-acre parcel and a 13.1-acre parcel which is separated from the larger site by Cedar Drive. The two properties comprising the Golf Club are centrally located on the Nassau Shores peninsula and are zoned R1-10 (single-family residences on lots of 10,000 square feet or more). The site is currently surrounded by relatively dense single-family residential development and is used as a residentially compatible and desirable recreational land use. If the two properties were to be put up for sale in the future, public efforts to preserve all or a portion of these lots as public parkland or a public golf course, would be beneficial to the community.

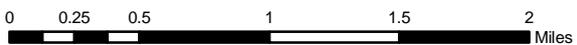
The Town's 2006 *Final Groundwater and Open Space Protection Plan (For Areas Outside of the Oyster Bay Special Groundwater Protection Area)*, 2001 *Nassau County Open Space Plan*, and 1999 *South Shore Estuary Reserve Open Space Preservation Study* recognize this property as having particular value and potential for open space preservation, specifically in regard to possible outdoor recreational uses (Frederick P. Clark Associates, Inc., 2001 and Cashin Associates, 2006). The studies note the importance of preserving the land due to its quality open space and recreational potential in a densely-developed residential area that is in close proximity to the South Shore Estuary.

6.3 Farmingdale Station Railroad Museum

An opportunity to expand on the number of historic destinations within the study area exists inside the Village of Farmingdale. The Long Island Railroad's Farmingdale station is an historical structure dating back to 1890. It is a two-story brick building, located along the southern border of the railroad's right-of-way and is surrounded by existing medium-density commercial and residential development. Based on visual observations of the general structure of the edifice, it was determined that a museum with a small collection of memorabilia could be accommodated on the second floor. This museum could draw regional patrons to the area via bicycle (since it is located along an already designated on-street bike route), car or train (see Map 6-1).



- Legend**
- STUDY AREA BOUNDARY
 - BIKEPATH**
 - EXISTING BIKE PATH
 - RECOMMENDED BIKE PATH
 - POSSIBLE FUTURE BIKE PATH



MAP 6-1
TOWN OF OYSTER BAY ESTUARY
PUBLIC USE AND TOURISM
RECOMMENDED BICYCLE ROUTES

6.4 Unified Bicycle and Pedestrian System

Based on the information collected through various maps, past studies, and multiple field visits, CA believes that all of the bicycle/pedestrian route segments within the study area should be linked together to form a town-wide bicycle system to provide improved access to existing recreational facilities and future recreational opportunities within the study area. In order to achieve this goal, the following is recommended:

- A new designated on-street bike route should be installed along Clark Avenue/Clark Boulevard throughout the Town to provide safe, rider-friendly east-west access to the existing bike paths at Tackapausha Preserve and to the Massapequa Park to Bethpage State Park bike path. The Town should coordinate with the Town of Hempstead to extend the designated bike route through Wantagh to connect with the Wantagh State Parkway bicycle/pedestrian path that provides non-motorized access to the Jones Beach barrier island.
- A new designated on-street bike route should be installed along Central Avenue and Quaker Meeting House Road in Farmingdale to provide safe, rider-friendly access between the Massapequa Park to Bethpage State Park bike path and the proposed Farmingdale Train Station Museum, Farmingdale Village central business district, existing Farmingdale designated on-street

bicycle route, and the Airport Plaza shopping mall located along Route 110 at the border of Nassau and Suffolk Counties.

- New and improved signage should be constructed to guide riders along the new bikeway system and provide information about recreational opportunities located along the route they are traveling.
- Promotional brochures containing maps of the unified bicycle/pedestrian system and information on activities within the study area should be made available to local residents in various locations, such as libraries, supermarkets, community centers, schools and recreational sites. An electronic version of this brochure could be produced for the Internet, and be accessed by potential tourists and day-trippers in the region.

A unified bicycle system could draw local citizens and potential day-trippers from the region as a result of its linkage to area-wide recommended on-street bike routes. (See Map 6-1 for a depiction of future bicycling routes within the study area).

6.5 Barrier Island Bikeway

Feasibility Assessment

During the fall of 2004 and spring of 2005, CA staff conducted site visits along Ocean Parkway on the barrier island east of Jones Beach. Results from these site

visits indicated that there is sufficient room along the northern side of Ocean Parkway to build a two-lane bicycle path with a width of between 10 and 14 feet. Only small portions of vegetative brush that flank the northern border of the Ocean Parkway right-of-way would have to be removed to construct the path. Additionally, bike path crossings would have to be constructed at entrance points to the various beach communities and public facilities that line the northern shore of the barrier island. Both of these factors will most likely prove to be cost efficient and ensure that construction costs for the project would be kept to a minimum.

To increase bicycle and pedestrian access and provide a non-motorized linkage to adjacent recreational resources (such as Robert Moses State Park and Captree State Park in Suffolk County); CA believes that a bicycle and pedestrian path should be constructed along the Ocean Parkway on the barrier island from the Wantagh Parkway at Tobay Beach to the Robert Moses Causeway at Captree State Park.

The NYS DOT is in the preliminary design stage to construct a shared-use path for non-motorized use (bicyclists, pedestrians, etc.) along the Ocean Parkway in the Towns of Hempstead, Oyster Bay, Babylon, and Islip between the Wantagh State Parkway and the Robert Moses Causeway. The proposed 14.4-mile Ocean Parkway Shared-Use Path would connect the existing Wantagh State Parkway Multi-Use Path from its southern terminus at Jones Beach State Park in Nassau

County, continue along the north side of Ocean Parkway to Captree State Park in Suffolk County. The provision of non-motorized transportation facilities is consistent with NYDOT's Smart Growth Policy.

Corridor Management Plan

The NYSDOT's draft Scenic Byway Corridor Management Plan for selected historic Long Island Parkways includes specific sections of six parkways and has established a vision for these historic parkways that recommends stewardship strategies to preserve, protect, interpret and enhance their features. These recommendations aim to balance the functionality of the roadway with the protection and promotion of the parkways' aesthetic and environmental attributes. Also, potential for byway tourism and recommended strategies for promotion, interpretation and marketing the Parkway are addressed in the plan. The development of this plan included the formation of an advisory committee comprised of local and regional stakeholders who developed an action plan and implementation schedule, with suggested agency, group and individual responsibilities and a plan for collaboration to benefit the byways, adjacent parklands, neighboring communities and byway visitors. The six parkways include;

- Bethpage State Parkway;
- Wantagh State Parkway (south of Southern State Parkway);
- Meadowbrook Parkway (south of Southern State Parkway);
- Loop Parkway;

- Bay Parkway; and
- Ocean Parkway.

Segments of some of these parkways are in the SSER and/or the Town of Oyster Bay. The Town should use the plan as a guide for improving and maintaining natural and cultural heritage along these corridors, as well as the attractions that they serve. Scenic for management plans have been prepared are eligible for funding through the Federal Scenic Byways Program administered by the Federal Highway Administration (www.byways.org).

6.6 Educational Expansion Opportunities

JFK Sanctuary at Tobay Beach

The existing trail system located within the JFK Sanctuary at Tobay Beach could be improved through interpretive signage along its trails and the construction of additional perches. New signage would provide information about local species of wildlife and vegetation located along trails within the sanctuary. All new signage would be required to conform to the aesthetics of the area. As a result CA recommends that any new signage be composed of wood and color schemes be rooted in earth tones. Additional perches would allow for expanded opportunities for bird watchers to view local wildlife and allow new opportunities for users to view uninterrupted vistas along the Great South Bay and the Atlantic Ocean.

Estuary-Related Training for Educators within the Study Area

Some teachers may lack the knowledge to present multi-disciplinary estuarine-related topics. To correct this situation, expanded opportunities for teachers to obtain training in methods and content relating to estuarine ecology must be provided for both classroom and field settings. Support should be solicited from existing training providers. In order to motivate teachers to seek additional training, it may be necessary to work with school districts to provide in-service credits (e.g., salary increments associated with professional development) as additional compensation for educators who complete their training.

Educational Special Programs Related to the Estuary

To increase the exposure of students to the estuarine environment, teachers should take advantage of potential opportunities on or near school grounds. In addition, efforts should be made to bring special in-school programs to classrooms.

Examples of possible activities for primary and second level students include:

- The development of gardens and habitats on school grounds using local species of vegetation. An example of this idea has proved successful in Suffolk County. Called "Out of the Classroom and into the Garden", this program provides training for teachers interested in developing school gardens. The program is a joint venture of Suffolk County Cooperative Extension, Suffolk County Organization for the Promotion of Education, and individual teachers. A garden has been developed in Sayville.

Also, the the National Wildlife Federation assists schools in developing outdoor classrooms called **Schoolyard Habitats®**, where educators and students learn how to attract and support local wildlife. These wildlife habitats become places where students not only learn about wildlife species and ecosystems, but also outdoor classrooms where they hone their academic skills and nurture their innate curiosity and creativity. For more information contact the National Wildlife Federation, Schoolyard Habitat Movement at www.nwf.org.

- The adoption of nearby tributary or wetland areas by local schools and participation in cleanup and monitoring activities at these sites. An example of this idea has already been proven successful within the study area. Called the “South Shore Estuary Watch”, this program, begun by the Massapequa High School Science Research Program and expanding to other high schools in the area, trains students to gather and test soil and water samples from selected sites in their communities.
- In the past, the SSER Office coordinated an American Littoral Society annual beach clean up each year at Jones Beach. In 2009, over 75 people participated in collection of over 660-pounds of marine debris from Seal Beach which is adjacent to the fishing piers on the bay side of Jones Beach. The cleanups are coordinated and debris collection data are compiled by the American Littoral Society using a protocol devised by the Ocean Conservancy for the International Coastal Cleanup held each September since 1986. Past

participations included members of the Coast Guard Auxiliary, the New York State Marine Education Association, the Environmental Resource Management Foundations, general public stakeholders, and volunteers from the local Boy and Girl Scout troops, high school and college students. Information on volunteering for the beach cleanup can be found at www.estuary.cog.ny.us.

- The South Shore Estuary Learning Facilitator Program (sSELF) was designed to empower school and/or community groups to be active stewards of their local estuarine environment through education and monitoring. Increased scientific monitoring of the estuary's water quality and fostering citizen appreciation, education and stewardship of its resources are important objectives of the SSER CMP. A learning facilitator from the sSELF program visits with a group to offer monitoring assistance and works to facilitate a monitoring/action project at a particular site of interest to the group. The sSELF program supplies the materials and equipment necessary and trains the group members. In addition the program has held workshops at Dowling College and the Long Island Maritime Museum.

Estuary Outreach

To increase local awareness of the Estuary, brochures promoting Estuary facts and attractions should be provided at local recreational centers (such as Tobay Beach, Massapequa Park, the Tackapausha Preserve, Bethpage State Park, as well as smaller local parks and community centers. Brochures can include maps of bicycle/pedestrian paths, historical sites, recreational centers (such as parks,

beaches and community centers), and information on local events and programs related to the Estuary.

Local newspapers can also be a great conduit for outreach information via advertisements or columns in local newspapers. This method of outreach could potentially reach more residents of the area, and possibly even regional day-trippers depending on the newspaper's area of circulation. Dates and descriptions of local events related to the Estuary and contact information for local groups related to the Estuary could be included in newspaper advertisements and/or columns.

The production of a local cable TV program can also reach mass quantities of local and regional residents. Through a cable television program, information on Estuary activities and attractions could be broadcast on a regular basis, and can be produced for very little money if geared for public access stations in the area. South Shore Estuary educational facts could comprise part of the broadcast and as a result, be an opportunity for teachers to introduce Estuary topics into their classrooms.

Whenever possible, the Town should work with the South Shore Estuary Reserve Council and the New York State Department of State South Shore Estuary Reserve office to implement recommendations in the *Long Island South Shore*

Bayway Strategic Implementation and Marketing Plan (in addition to the SSER *Comprehensive Management Plan*). Priorities include but are not limited to:

- installing New York State Coastal Resource Interpretive (NYSCRIP) signage at the John R. Kennedy Wildlife Sanctuary and other locations to be determined;
- non-motorized water trail development for canoeing and kayaking;
- creation of an interconnected system of shared-use paths for bicyclists and pedestrians;
- creation of a shared-use path along the barrier beach from Jones Beach to Robert Moses state parks coordinated with the New York State Dept. of Transportation generally and Ocean Parkway specifically;
- recognition of Bayway Destinations and Connectors;
- use of Bayway logo on appropriate signage, publications, and webpages; and
- use of Reserve and Bayway websites for outreach and education.

The Long Island South Shore Bayway Strategic Implementation and Marketing Plan can be accessed on the SSER website at: www.estuary.cog.ny.us.

6.7 Sources of Funding

Coastal Zone Management Act (CZMA) – the CZMA has been integral in the provision of resources for community redevelopment initiatives such as feasibility studies, planning, engineering, and site plan development. Section 306A of the

CZMA provides financial resources to acquire land for the purpose of providing public access to coastal areas. NYSDOS oversees many of the State's coastal protection programs and is responsible for administering federal funds to local communities.

Transportation Equity Act for the 21st Century (TEA-21) – The Nassau Suffolk Transportation Coordinating Committee (NSTCC) is authorized to administer the initiatives of TEA-21. TEA-21 provides funding for a number of transportation-related projects including bikeway and stormwater control projects that are proposed for the purpose of improving environmental quality.

New York State Environmental Protection Fund (EPF) – The EPF was created in 1993 to provide funding for environmental protection initiatives. NYSDOS, Office of Coastal, Local Government and Community Sustainability has the authority to issue 50/50 matching grants for use in a range of activities, although priorities can differ from year to year. Types of projects assisted by EPF grants have included:

- Waterfront redevelopment including both planning and implementation of construction initiative, providing public access, and environmental enhancements.
- Coastal education programs, and tourism development; and

- Development and effectuation of Local Waterfront Revitalization Programs (LWRP) or other similar local initiatives.

Funds are also provided to the NYSDEC to the Office of Parks, Recreation and Historic Preservation for the acquisition and preservation of land to be included as public parklands under Title 7.

Waterfront Redevelopment – NYSDOS, in cooperation with the Empire State Development Corporation and other involved state agencies, offers funding and technical support to local governments for preparing and administering waterfront development plans for derelict and underutilized waterfronts, property, and structures which present a potential for redevelopment by being located within or in proximity to a business district that is served by adequate utilities and transportation infrastructure, and where development will:

- result in the creation of public access opportunities between commercial districts and the waterfront;
- significantly revitalize economic vitality in existing business districts;
- promote and expand the recreational, cultural and economic opportunities of the waterfront; and
- augment the protection of environmental resources in project areas.

Funding and technical guidance is provided for necessary planning, design, feasibility analyses, marketing, institution of economic development programs, and project completion.

Candidates for funding are chosen based upon demonstration of community leadership, the ability to effectively develop partnerships with the public and governmental agencies, a willingness of the community at-large to endorse project objectives, and a reasonable expectation of economic success.

Save Our Environmental Assets Fund (SEA Fund) – By public referendum approved in November of 2000, the Town of Oyster Bay created SEA Fund. The conception of the fund involved the floating of a \$30 million dollar bond to finance a variety of project types. The 2000 SEA Fund was so successful at meeting its intended goals that the Town decided to place another \$30 million dollar bond initiative (SEA FUND II) on the November 2, 2004 ballot. The initiative, which earmarked \$20 million for open space and parkland acquisition and \$10 million for parks improvements, was overwhelmingly approved by a margin of more than two to one. The funds are slated to be dispensed in accordance with site selection criteria that will be established by an Environmental Bond Fund advisory committee.

The fund is specifically earmarked for land acquisition, preservation of environmentally significant and sensitive areas, implementation of water front

enhancements, and improvements to parks and other recreational facilities. Because many of the Town's parklands and greenways are located adjacent to environmentally significant surface water bodies in the study area, there is a potential to utilize some of these funds toward ensuring adequate stormwater controls and the institution of other projects and activities which will support area water quality improvements, and enhance recreational facilities and open spaces.

Town Capital Improvement Funding/Municipal Bonds – The Town could also fund storm water infrastructure projects through a variety of standard municipal financing mechanisms such as the use of Town Capital Improvement Funds and General Obligation Bonds (Municipal Bonds).

Although towns are eligible to receive lower interest rates than most other entities when they pledge the full faith and credit of their taxing authority to guarantee payment, bond or less than one million dollars usually do not meet the minimum requirements for cost-effective underwriting and can, as a result, be prohibitively expensive to issue. One way to fund projects, such as a county-wide infrastructure improvement, is to create a multi-jurisdictional alliance that can integrate its plans and financial need and consolidate any debt incurred by the funding process.

Consolidation of debt may include the following:

- Development of a project-specific, multi-jurisdictional district;

- Utilization of regional or State funding resources to finance projects; and
- Consolidation of bonds of a number of local municipal entities so as to have one joint issue.

Providing outdoor recreational facilities and public access to the shoreline of the South Shore Estuary are significant factors in maintaining a high quality of life associated with many of the communities along the south shore of Long Island. The SSER CMP contains recommended actions focused on improving water quality, restoring and protecting living resources, expanding public use and enjoyment of the estuary, sustaining and expanding the estuary-related economy and increasing education, outreach and stewardship in the Reserve. Based on the CMP recommendations and implementing the recreational facility improvements and expansion opportunities discussed in this study, the Town of Oyster Bay will continue to be dedicated to promoting sound use and conservation of the Estuary's resources as well as increasing public use and overall tourism to the Estuary.

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