



New York Rising
Community Reconstruction Program

Lido Beach and Point Lookout Conceptual Plan

October 2013



This document was developed by the Lido Beach and Point Lookout Planning Committee as part of the NY Rising Community Reconstruction (NYRCR) Program within the Governor's Office of Storm Recovery. The NYRCR Program is supported by NYS Homes and Community Renewal, NYS Department of State, and NYS Department of Transportation. Assistance was provided by the following consulting firms:

- URS Corporation*
 - The LiRo Group*
 - Sustainable Long Island*
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Foreword

The New York Rising Community Reconstruction (NYRCR) program was established by Governor Andrew M. Cuomo to provide additional rebuilding and revitalization assistance to communities damaged by Superstorm Sandy, Hurricane Irene, and Tropical Storm Lee. This program empowers communities to prepare locally-driven recovery plans to identify innovative reconstruction projects and other needed actions to allow each community not only to survive, but also to thrive in an era when natural risks will become increasingly common.

The NYRCR program is managed by the Governor's Office of Storm Recovery in conjunction with New York State Homes and Community Renewal and the Department of State. The NYRCR program consists of both planning and implementation phases, to assist communities in making informed recovery decisions.

The development of this conceptual plan is the result of innumerable hours of effort from volunteer planning committee members, members of the public, municipal employees, elected officials, state employees, and planning consultants. Across the state, over 102 communities are working together to build back better and stronger.

This conceptual plan is a snapshot of the current thoughts of the community and planning committee. The plans will evolve as communities analyze the risk to their assets, their needs and opportunities, the potential costs and benefits of projects and actions, and their priorities. As projects are more fully defined, the potential impact on neighboring municipalities or the region as a whole may lead to further modifications.

In the months ahead, communities will develop ways to implement additional strategies for economic revitalization, human services, housing, infrastructure, natural and cultural resources, and the community's capacity to implement changes.

Implementation of the proposed projects and actions found in this conceptual plan is subject to applicable federal, state, and local laws and regulations. Inclusion of a project or action in this conceptual plan does not guarantee that a particular project or action will be eligible for Community Development Block Grant – Disaster Recovery (CDBG-DR) funding. Proposed projects or actions may be eligible for other state or federal funding, or could be accomplished with municipal, nonprofit or private investment.

Each NYRCR Community will continue to engage the public as they develop a final plan for community reconstruction. Events will be held to receive feedback on the conceptual plan, to provide an understanding of risk to assets, and to gather additional ideas for strategies, projects and actions.



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1 Introduction and Background

The State of New York has developed the New York Rising Community Reconstruction (NYRCR) Program, an innovative post-disaster planning process, to help communities hardest hit by Superstorm Sandy, Hurricane Irene and Tropical Storm Lee rebuild better and safer based on a community-driven planning process.

Communities will use the planning process to assess their vulnerabilities to future natural disasters, and will develop NYRCR Plans. The NYRCR Plans will address repairing existing damage, mitigating future threats to the community, and fostering the economic future of the community. In a manner consistent with the National Disaster Recovery Framework, NYRCR Plans will include the needs, risks, and opportunities related to six Recovery Support Functions: Community Planning and Capacity Building, Economic Development, Health and Social Services, Housing, Infrastructure, and Natural and Cultural Resources.

The planning process used to develop an NYRCR Plan will help communities to become more resilient, develop an understanding of risk, and identify measures that will reduce or manage that risk. The planning process will include an evaluation of factors that contribute to risk, including the potential intensity of storms in the community, local topographic and shoreline conditions that may affect the impact of storms on assets, and the capacity of assets to return to service after a storm. Community assets include, but are not limited to, housing, roads, schools, utilities, natural areas, and commercial areas.

By developing an NYRCR Plan, a community will position itself to obtain funding to implement projects that will enhance resiliency in the face of future threats.

The NYRCR Plan for Lido Beach and Point Lookout will:

- Assess the community's vulnerability to the adverse effects of future natural disasters
- Identify where funds should be used to repair or reconstruct critical facilities and essential public assets damaged or destroyed by Superstorm Sandy



Point Lookout Beach, September 2013



- Identify projects that will increase the communities' resilience, provide protection to vulnerable populations, and protect economic assets

Approximately \$3 million has been allocated for each of Lido Beach and Point Lookout by the State of New York through the Community Development Block Grant for Disaster Recovery for reconstruction. The NYRCR Plan will identify other potential funding sources.



Lido Beach Passive Nature Preserve, September 2013

1.1 Conceptual Plan for the Lido Beach and Point Lookout Community Reconstruction Plan

This document contains the Conceptual Plan for developing the Lido Beach and Point Lookout NYRCR Plan, which will be led by the NYRCR Planning Committee and will include input from the public. A conceptual plan is a snapshot of the current thoughts of the community and planning committee. The plan will evolve by March 2014 as communities analyze risk, needs and opportunities, and potential costs and benefits of alternative projects and actions, and establish priorities.

The NYRCR Planning Committee consists of the community representatives listed in Table 1.

Table 1: Members of the Lido Beach and Point Lookout NYRCR Planning Committee

| Member | Organization/Affiliation |
|------------------------|---|
| Co-Chair Adeline Quinn | Business owner, Environmental Scientist |
| Co-Chair Denis Collins | Fire Chief of Point Lookout Lido Fire District |
| Joseph Brennan | Business owner |
| Henry Cuttler, DDS | President, Lido South Homeowners Association |
| Thomas Doheny | Business owner |
| Darlene Haut | President, Lido Homes Civic Association |
| Gregory Goldberg | Point Lookout Civic Association |
| Donald Kelly | President, Point Lookout Lido Property Owners, Inc. |
| Elizabeth Kelly | President, Board of Managers for Lido Townhouses |
| Pauline Seremetis | Business owner, Lido Beach Civic Association |
| Jeremy Thornton | National Surfrider Foundation |
| Richard Tighe | President, Point Lookout Civic Association |

The NYRCR Planning Committee co-chairs were selected by the State of New York in consultation with community members. The remaining members of the Committee





Figure 2: Geographic scope of the Lido Beach and Point Lookout NYRCR Plan

1.3 Community Overview

The communities of Lido Beach and Point Lookout are in the Town of Hempstead in Nassau County, NY on the south shore of Long Island. The two communities are on the eastern end of Long Beach Island, the westernmost of the outer barrier islands off Long Island’s South Shore.

The communities are surrounded by Reynolds Channel to the north, the Atlantic Ocean to the south, Jones Inlet to the east, and the City of Long Beach to the west. According to the U.S. Census Bureau, the land area of Lido Beach is approximately 1.7 square miles, and the land area of Point Lookout is approximately 0.2 square mile.²

Lido Beach and Point Lookout share health and social services and infrastructure assets with the adjacent City of Long Beach. The City of Long Beach School District serves both Lido Beach and Point Lookout. Lido Elementary School / Long Beach Pre-K Center, Long Beach Middle School, and Long Beach High School are in Lido Beach. The City of Long Beach wastewater treatment plant receives sanitary sewage from Lido Beach.

The communities are connected to the mainland by the Loop Parkway Bridge, which is between Point Lookout and Lido Beach, the Long Beach Bridge in the City of Long Beach, and the Atlantic Beach Bridge at the western end of the island.

1.3.1 Lido Beach

Lido Beach is a Census Designated Place (CDP) and an unincorporated area of the Town of Hempstead with a population of 2,897.³ Of the 1,084 households in Lido Beach,

² City Data. 2013. Point Lookout, NY. Available at <http://www.city-data.com/city/Point-Lookout-New-York.html>. Accessed October 25, 2013.

³ U.S. Census Bureau. 2013. 2010 Population Finder. Available at <http://www.census.gov/popfinder/>. Accessed October 25, 2013; U.S. Census Bureau. 1990. Table 3: Land Area, Population, and Density. Available at <http://www.census.gov/population/www/censusdata/files/places/36ny.txt>. Accessed October 25, 2013.



approximately 39 percent have at least one person over 65 years, which is higher than the State average of 25 percent. Approximately 9 percent of the population of Lido Beach is veterans, which is higher than the State average of 6 percent.

Approximately 80 percent of Lido Beach's residential structures were built before 1960. Building codes have gone through substantial updates since 1960 to increase the resistance to seismic, wind, and flood events and to incorporate revisions related to life safety and accessibility. Older housing stock may be more vulnerable to damage by storm events than more modern buildings constructed to meet modern codes.

The median income of Lido Beach is \$113,430, and the median value of owner-occupied units is \$754,800. Approximately 95 percent of the homes are owner-occupied.⁴ On average, homeowners and renters in Lido Beach spend more than 35 percent of their total annual income for housing. The U.S. Department of Housing and Urban Development's threshold for affordability is 30 percent of a household's annual income for housing costs.⁵

1.3.2 Point Lookout

Point Lookout is a CDP at the eastern end of Long Beach Island and an unincorporated area of the Town of Hempstead. Approximately 37 percent of households in Point Lookout have at least one person over 65. Veterans comprise nearly 10 percent of the community's population. The percentages of senior citizens and veterans closely mirror those of Lido Beach, with both percentages higher than those of the State.

More than half (63 percent) of Point Lookout's housing stock was constructed before 1939. As with Lido Beach, this older housing stock may be more vulnerable to damage from storm events than buildings constructed more recently.

Of the approximately 815 residences in Point Lookout, 78 percent are occupied. Of the 636 occupied residences, most are owner occupied and 130 are renter occupied.⁶

In Point Lookout, approximately 38 percent of the homeowners spend more than 35 percent of their income on mortgage payments. The median income is \$107,354, and the median home value is \$777,893.⁷

⁴ U.S. Census Bureau. 2007-2011. American Fact Finder. Available at http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_5YR_DP04. Accessed October 25, 2013.

⁵ U.S. Housing and Urban Development. Affordable Housing (October 28, 2013). Available at http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/affordablehousing/. Accessed October 28, 2013.

⁶ City Data. 2013. Point Lookout. Available at <http://www.city-data.com/housing/houses-Point-Lookout-New-York.html>. Accessed October 25, 2013.



1.4 Existing Development

Lido Beach has five areas of residential development. Development began in the early 1920s, starting with the Lido Dunes neighborhood⁸ and proceeded in phases. Approximately 44 percent of the housing units in Lido Beach were constructed between 1960 and 1969.⁹

Most of the current housing stock in Point Lookout (approximately 53 percent) was constructed before 1939.¹⁰



Point Lookout Playground, September 2013

Infill of newer single-family residences has occurred throughout the history of both communities.

Lido Beach has two Passive Nature Preserves that occupy approximately 50 acres. The preserves are located to the north of Lido Boulevard. The western preserve is adjacent to Long Beach schools and covers approximately 37 acres. The eastern preserve is the Town of Hempstead Lido Nature Preserve.

Lido Beach has a tidal salt marsh on the bay side of the island that covers 185 acres from the Lido Beach Golf Course to the Town of Hempstead West Marina. The tidal salt marsh is owned by New York State Department of Environmental Conservation and the U. S. Fish and Wildlife Service.



⁷ Ibid.

⁸ Lido Beach Civic Association. Undated. Lido History. Available at http://www.lidodunes.org/sandbar_community.php. Accessed October 25, 2013.

⁹ Onboard Informatics. 2012. Lido Beach, NY Houses and Residents. Available at <http://www.city-data.com/housing/houses-Lido-Beach-New-York.html>. Accessed October 25, 2013.

¹⁰ Ibid.

Both Lido Beach and Point Lookout are 98 percent developed. Development in the Lido

Malibu Park, Lido Beach, September 2013

Beach Passive Nature Area Nature Preserves, tidal salt marsh, and parkland is prohibited. Well over 50 percent of the land in the communities is tax exempt. Tax exempt land includes the public schools, which comprise the largest amount of tax exempt land, the nature preserves, the tidal salt marsh, and the Town of Hempstead and Nassau County parks and beaches. Development is primarily residential and is regulated by the Town of Hempstead Municipal Building Code Ordinance.

2 Summary of the Effects of Superstorm Sandy

Superstorm Sandy struck New York on October 29, 2012, bringing a storm surge of 9 to 12 feet above normal tide levels from Kings Point on the western end of Long Island Sound to the Battery on the southern tip of Manhattan.¹¹

Superstorm Sandy is the largest storm in New York's recorded history to land ashore and devastated New York. The storm caused 53 fatalities,¹² destroyed an estimated 305,000 homes,¹³ affected more than 2,000 miles of roads, produced catastrophic flooding in subways and tunnels, and damaged major power transmission systems. Fourteen counties in New York were declared Federal disaster areas.¹⁴ Economic losses in New York were estimated to be between \$30 and \$50 billion, with an estimated \$10 to \$20 billion in insured losses.¹⁵

According to the NYRCR Planning Committee, the majority of homes and businesses in Lido Beach and Point Lookout experienced flooding and sustained various levels of structural damage as a result of Superstorm Sandy.

¹¹ National Hurricane Center. *Tropical Cyclone Report Hurricane Sandy (AL182012) 22-29 October 2012* (February 12, 2013). Available at: http://www.nhc.noaa.gov/data/tcr/AL182012_Sandy.pdf. Accessed October 25, 2013.

¹² Centers for Disease Control and Prevention. "Deaths Associated with Hurricane Sandy, October – November 2012." *Morbidity and Mortality Weekly Report* (May 24, 2013). Available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6220a1.htm>. Accessed October 25, 2013.

¹³ National Hurricane Center. *Tropical Cyclone Report Hurricane Sandy (AL182012) 22-29 October 2012* (February 12, 2013). Available at: http://www.nhc.noaa.gov/data/tcr/AL182012_Sandy.pdf. Accessed October 25, 2013.

¹⁴ State of New York. State of New York Action Plan for Community Development Block Grant Program Disaster Recovery (April 2013). Prepared by the New York Homes and Community Renewal Office of Community Renewal. Federal Register Docket No. FR-5696-N-01.

¹⁵ EQECAT. "Post-Landfall Loss Estimates for Superstorm Sandy" (November 1, 2012). Available at <http://www.eqecat.com/catwatch/post-landfall-loss-estimates-superstorm-sandy-released-2012-11-01/>. Accessed October 25, 2013.



U.S. Housing and Urban Development (HUD) statistics show that as few as 10 percent of homes in the eastern part of Point Lookout and between 73 and 100 percent of homes in the western part of Point Lookout sustained damage.¹⁶ HUD data show that damage was sustained by 73 to 100 percent of homes in most of Lido Beach, but that 25 to 47 percent of homes in the areas of Lido Beach to the west of Lido Beach Town Park and between Lido Boulevard and Ocean Boulevard were damaged.¹⁷ Some structures, including the high school, sustained wind damage. Power was out for at least 2 weeks in the area. The storm did not disrupt the supply of potable water, which is derived from an aquifer approximately 1,500 feet below ground. The storm seriously damaged the wastewater treatment plant in the City of Long Beach that serves part of Lido Beach, and septic tanks in the remainder of Lido Beach and throughout Point Lookout failed to function properly because of inundation. The storm seriously damaged the stormwater drainage system in Lido Beach and Point Lookout, causing some conveyance structures to fill with sand and others to collapse or break.

Lido Beach Towers experienced flooding that reached the ceiling of the first floor, with 18 first-floor apartments damaged or destroyed. Sandy also destroyed the building's electrical system and elevators.¹⁸

The Federal Emergency Management Agency (FEMA) deployed a Mitigation Assessment Team (MAT) to New Jersey and New York to investigate building performance during the storm. Based on the assessment, the MAT reached these conclusions:¹⁹

- **Buildings:** Buildings on strong foundations above the level of flooding that occurred from Superstorm Sandy performed well. Buildings below the flood level sustained damage as a result of inundation, hydrodynamic forces, waves, or floating debris loads. Many buildings affected by flooding had basements with finishes, contents, and mechanical, electrical, and plumbing systems that were damaged.
- **Dunes:** The presence of wide beaches and tall, wide dune fields reduced damage to buildings and infrastructure landward of the dunes; conversely, low and narrow beaches and dunes were completely eroded in many areas, and buildings and infrastructure landward of low and narrow dunes were subject to damage by waves and inundation.

¹⁶ HUD. 2013. Sandy Damage Estimated by Block Group. Available at http://www.huduser.org/maps/map_sandy_blockgroup.html. Accessed October 25, 2013.

¹⁷ Ibid.

¹⁸ Peter Applebome, "Towers rich in history, await rebirth after storms" (November 12, 2012), *The New York Times*. New York.

¹⁹ FEMA, Mitigation Assessment Team Report: Hurricane Sandy in New Jersey and New York (in press)



- **Erosion control structures:** The effectiveness of erosion control structures (e.g., bulkheads, seawalls, revetments) varied widely, depending on the height, age, and condition of the structures and on the beach condition seaward of the structures. Some buildings within 10 to 20 feet of erosion control structures parallel to the shore were damaged by floodwater and/or erosion, even when the erosion control structures survived.

A storm tide is the water height above the North American Vertical Datum of 1988.²⁰ The storm tide at the Lido Townhouses was observed to be a U.S. Geological Survey (USGS) high-water mark of 10.2 feet, and the storm tide near the intersection of Hewlett Avenue and Beech Street was recorded as a USGS high-water mark of 9.3 feet.

Sustained winds of 49 knots with gusts of up to 64 knots were recorded in Point Lookout.²¹

Because the dune system provided protection along the ocean side of Lido Beach and Point Lookout, the majority of flooding occurred from the bay side.

3 Existing Conditions

This section contains a summary of the review of relevant plans and studies and the actions that have been taken since Superstorm Sandy as part of the recovery.

3.1 Review of Existing Plans and Studies

Existing local, regional, State, and Federal plans and studies relevant to Lido Beach and Point Lookout were reviewed to identify goals, regional visions, and ongoing or proposed projects.

The Planning Team reviewed more than 20 Nassau County, Town of Hempstead, and regional plans and studies with direct or indirect connections to Lido Beach and Point Lookout. Most of the documents were at least 4 years old and did not address the lingering financial effects of the recession that began in 2008, or the effects of Hurricane Irene in 2011 or Superstorm Sandy in 2012.

The regional plans may not apply directly to the conditions in Lido Beach or Point Lookout. The key issues from the plans are listed in Section 7. A list of the plans that were reviewed is provided in Appendix A.

²⁰ National Hurricane Center. *Tropical Cyclone Report Hurricane Sandy (AL182012) 22-29 October 2012* (February 12, 2013). Available at http://www.nhc.noaa.gov/data/tcr/AL182012_Sandy.pdf. Accessed October 25, 2013.

²¹ Ibid.



3.2 Actions since Superstorm Sandy

Since Superstorm Sandy, Lido Beach and Point Lookout have used FEMA funding to implement the following actions:

- Repair of public facilities in Point Lookout
- Repair of parks and recreation facilities in Point Lookout
- Repair of schools in Lido Beach
- Repair of Lido Boulevard pump station in Lido Beach
- Repair of private homes and places of business

4 Community Vision Statement

Discussion of a community Vision Statement began during an NYRCR Planning Committee meeting on September 24, 2013. Two draft Vision Statements were developed and presented for discussion to the NYRCR Planning Committee on October 8, 2013. The NYRCR Planning Committee indicated that blending the two Vision Statements would be preferable. A blended Vision Statement might read as follows:

**Vision Statement for the Communities
of Lido Beach and Point Lookout**

Point Lookout and Lido Beach will continue to be vibrant, island residential communities that provide a healthy environment and resilient infrastructure and maintain a high quality of life for residents and visitors by preserving natural resources, providing beautiful beaches, bay, and other recreational opportunities, and through the working waterfront.

At a Public Engagement Meeting on October 15, 2013, the majority of the attendees selected the following vision statement:



**Vision Statement for the Communities
of Lido Beach and Point Lookout**

Lido Beach and Point Lookout will enhance quality of life through the preservation of natural resources, access to beaches and the bay, and expanding recreational opportunities. We will strengthen our communities' ability to respond to future natural disasters by reinforcing infrastructure, maintaining regional connections, and planning for resiliency.

The NYRCR Planning Committee will review all vision statements to achieve consensus on a single statement that will be finalized by March 31, 2014.

5 Description of Assets and Risks

This section describes the progress that has been made to date on the identification of community assets and the risk assessment for Lido Beach and Point Lookout.

5.1 Identification of Assets

An asset is a resource whose loss or impairment would compromise any critical facilities or any essential cultural, social, economic, or environmental functions of the community.²² Assets can be but are not limited to people, community services, natural resources, or physical locations.

The NYRCR Planning Committee has not finalized the list of community assets for the Lido Beach and Point Lookout NYRCR Plan. The list is anticipated to be finalized by March 31, 2014.



Point Lookout Fire Station, September 2013

However, the NYRCR Planning Committee has completed a preliminary identification of community assets. Table 2 is a draft list of community assets. Appendix B provides a map of the identified community assets.

²² NYCZR Guidance (2013).

Table 2: Draft List of Community Assets

| Lido Beach | |
|--|---|
| Asset Name | Location |
| Storm drainage infrastructure | — |
| Lido Beach Synagogue | 1 Fairway Rd. |
| Town Park at Malibu | 1150 Lido Blvd. |
| Lido Beach – Point Lookout Fire District | 150 Lido Blvd at Greenway Rd. |
| Lido Beach Golf Club | 225 Lido Blvd. |
| Town Park Lido Beach West | 232 Lido Blvd. |
| Lido Elementary School / Long Beach Pre-K Center | 237 Lido Blvd. |
| Long Beach Middle School | 239 Lido Blvd. |
| Marvel Dairy Whip | 258 Lido Blvd. |
| Dunes Delicatessen | 300 Lido Blvd. |
| Long Beach High School | 322 Lagoon Dr. West |
| Town Dept. of Water Facility | 616 Lido Blvd. |
| Camp Anchor | 630 Lido Blvd. |
| Lido Beach Town Park | 630 Lido Blvd. |
| School District Offices | 630 Lido Blvd. |
| CNG fueling facility for school buses | 659 Lido Blvd. |
| Nike Alternative School and Environmental Center | 659 Lido Blvd. |
| District school bus parking area | 659 Lido Blvd. |
| Town Park at Sands | 710 Lido Blvd. |
| Lido townhouses | 750 Lido Blvd. |
| Adult group homes | Adjacent to western boundary of Point Lookout Town Park |

| Point Lookout | |
|--|------------------------------------|
| Asset Name | Location |
| Housing (single family) | — |
| Storm drainage infrastructure | — |
| Town of Hempstead Dept. of Conservation and Waterways Laboratory | 1 Parksdale Dr. |
| Lido Point Lookout Fire Dist. | 102 Lido Blvd. |
| U.S. Post Office | 110 Lido Blvd. |
| Point Lookout Town Park | 1300 Lido Blvd. |
| Town Public Safety Facility (Point Lookout) | 1300 Lido Blvd. |
| Ted's Fishing Station | 143 Bayside Dr. |
| Town Dept. of Water, Main Treatment Plant | 330 Lido Blvd. |
| Town Dept. of Water, Well #1 | 330 Lido Blvd. |
| Town Dept. of Water, Well #2 | 330 Lido Blvd. |
| Water tower | 330 Lido Blvd. |
| Cedarhurst Ave. Playground | 35 Cedarhurst Ave. |
| Point Lookout Community Church | 60 Freeport Ave. |
| Scotty's Marina and Fishing Station and Restaurant | 72 Bayside Dr. |
| Our Lady of the Miraculous Medal | 75 Parkside Dr. |
| Point Lookout Rescue Company | Bayside Dr. at Parksdale Dr. |
| Recreation area (Point Lookout) | East end of Lido Blvd. |
| Point Lookout Volunteer Fire Company | East of 102 Lido Blvd. |
| Ye Olde Firehouse (meeting hall) | East of Point Lookout Fire Station |



| Lido Beach | |
|---|--|
| Asset Name | Street |
| Lido Beach Park District | From Allevard Street to Prescott Street (ocean side) |
| Nickerson Beach | Lido Blvd. |
| Housing (single-family homes and townhomes) | Lido Homes; Lido Towers; Lido South; Lido Dunes; Lido Townhouses |
| Pumping station | Regent Dr. |

| Point Lookout | |
|---|----------------------------|
| Asset Name | Street |
| Fire Dept. Training Facility | Point Lookout Town Park |
| Town Dept. of Parks and Recreation Facility | In Point Lookout Town Park |
| Lido Beach Passive Nature Preserve | Lido Blvd. |
| East Marina | Lido Blvd. |
| West Marina | Lido Blvd. |
| Town Energy Park | Lido Blvd., Point Lookout |
| Groins and Erosion Control/Protection | Oceanside of Point Lookout |
| Commercial buildings | Lido Blvd. and Bayside Dr. |



Once the list of assets has been finalized, detailed information about each asset, landscape attributes in the vicinity of the asset, and the vulnerability of the asset to flood damage will be collected for the Community Asset Inventory. Assets will then be prioritized based on factors such as importance to the communities, probability of being affected by flooding, and restoration time.

5.2 Identification and Understanding of Risk

The NYRCR Planning Committee has not finalized the risk assessment. The assessment will be finalized by March 31, 2014.

Table 2 displays the working list of community assets. The list was developed by the NYRCR Planning Committee during their October 8, 2013, meeting and was expanded on during the October 15, 2013, Public Engagement Meeting. Appendix B is a map showing the locations of identified community assets.

Figure 3 shows that almost the entire planning area is at risk of flooding. The areas in red are subject to damage due to both flooding and wave action, and the areas in orange are prone to flooding.

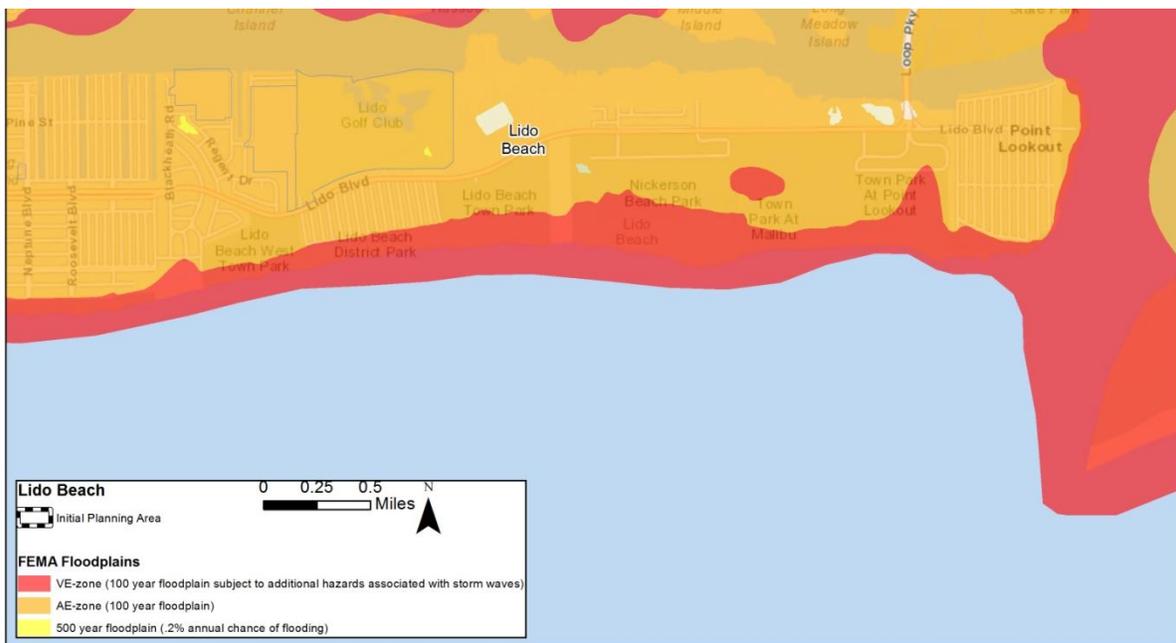


Figure 3: Lido Beach and Point Lookout floodplain map

After finalization of the Conceptual Plan, a risk assessment to determine the potential impact of hazards on community assets will be conducted. The results will help guide the selection of the most appropriate and cost-effective projects or actions from among the

various alternatives suggested during the planning process. The risk assessment will help the communities select the methods of mitigating future risk.

The risk assessment process starts with calculating a Risk Score based on the Risk Assessment Tool developed by the New York State Department of State. The Risk Score is calculated using the following formula:

$$\text{Hazard} \times \text{Exposure} \times \text{Vulnerability} = \text{Risk}$$

In this equation, Hazard represents the severity of the hazard event; exposure represents the risk area; and vulnerability represents potential level of impairment. New York State Department of State risk areas are described in Table 3.

Table 3: New York State Department of State Risk Areas

| Extreme Risk Area | High Risk Area | Moderate Risk Area |
|---|---|---|
| FEMA Coastal V Zones | FEMA 1% (100-year) annual flood risk (FEMA Zone V and Zone A) | FEMA 0.2% (500-year) annual flood risk |
| NWS advisory thresholds for shallow coastal flooding | Areas within 3 feet elevation of NWS advisory thresholds for shallow coastal flooding | Areas within 3 feet of elevation of FEMA 1% annual flood risk (base flood elevations) |
| Areas within 3 feet of elevation of mean higher high water shoreline from the National Oceanic and Atmospheric Administration | — | Area bounded by SLOSH Category 3 hurricane inundation zone |
| Areas prone to erosion | — | — |

Source: New York State Department of State
 FEMA = Federal Emergency Management Agency
 NWS = National Weather Service
 SLOSH = Sea, Lake, and Overland Surge from Hurricanes

The assessment of risk will include a cost-benefit evaluation for mitigation projects that are of particular importance to the communities. The final list of proposed projects and actions will consist of projects and actions that will effectively reduce risk and be cost effective.



6 Public Involvement Process

Lido Beach and Point Lookout have a long history of active resident participation in community meetings.

The NYRCR Planning Committee meetings on September 24, October 8, and October 22, 2013, were open to the public, and audience participation was invited (through questions at the end of the meeting and public comment cards).



Public Engagement Meeting, October 15, 2013

The first Public Engagement Meeting was held on October 15, 2013, and was attended by more than 30 residents. The meeting opened with an overview of the NYRCR planning process. The overview was presented by the committee Co-Chairs and the Planning Team. Most of the meeting involved a facilitated breakout session during which participants were asked for feedback on the Vision Statement, assets, needs, and vulnerabilities. Attendees provided suggestions for strategies that may make the communities more resilient and for potential projects or actions. Near the end of the meeting, the attendees at each table presented their key concerns and recommendations.

The public was notified of the Public Engagement Meeting and informed about the NYRCR planning process through information and flyers distributed electronically by:

1. NYRCR Planning Committee
2. Civic associations
3. Facebook

7 Identification of Needs and Opportunities

This section describes the needs and resilience and revitalization opportunities that have been identified to date, primarily from the review of relevant plans and studies, the NYRCR Planning Committee meetings on September and October 2013, and the Public Engagement Meeting on October 15, 2013.

The needs and opportunities include a local focus, but mitigating the risk of damage from future storms to increase resilience requires local action and regional coordination (see Section 10).



The NYRCR Planning Committee has not finalized the identification of needs and opportunities. Finalization will occur by March 31, 2014. The needs and opportunities that have been identified to date are described in the following sections.

7.1 Community Planning and Capacity Building

Needs

- **Zoning regulation modification.** Zoning regulations restrict the allowable distance (30 feet or approximately 2.5 stories) from the existing grade of the road to the peak of a roof, which makes elevating a two-story house and remaining in compliance with zoning nearly impossible. Zoning regulation modification would be necessary.
- **Electric power.** Power was not available in homes or businesses for at least 2 weeks after Superstorm Sandy in either Lido Beach or Point Lookout.
- **Less fragmentation of maintenance responsibility.** Municipal and county government departments are responsible for maintaining designated parts of Lido Boulevard, resulting in inefficiencies in making repairs and plowing snow.
- **Expedited process for obtaining permits required by New York State.** The established process for obtaining a permit from the New York Department of Environmental Conservation for land-water interface projects, such as for bulkheads, revetment, or dredging, has been very time-consuming for local government.

Opportunities

- **Electricity from wind.** The Town of Hempstead Energy Park in Point Lookout provides electric power from a wind generator. The facility could be used as a community resource for recharging cell phones during power outages.
- **Alternative sources of energy.** The Town of Hempstead Conservation and Waterways Department can identify opportunities for alternative sources of energy so businesses can operate during and after a storm.



7.2 Economic Development

Needs

- **Establishment of a steady customer base.** Small businesses struggled to rebuild a steady customer base after Sandy. There is a need for building a larger customer base, which could include residents and visitors.
- **Viable working waterfront in Point Lookout.** The waterfront provides recreation and economic benefits to the communities, but enhanced and expanded docking space is needed.
- **Protection of businesses from flooding.** Small businesses were flooded because of Superstorm Sandy and also experience a frequent loss of business from nuisance flooding on roads that prevents customers from accessing the businesses.



Commercial Development, Point Lookout, September 2103

Opportunities

- **Increase in business opportunities.** Economic development investments and financial assistance programs and grants are available for small businesses. Business owners can work with the Nassau County Industrial Development Agency and the Town of Hempstead Economic Development Agency to increase business opportunities.
- **Development of gateways.** Point Lookout and Lido Beach can develop aesthetically pleasing gateways at entry points to attract visitors. (There is a gateway into Point Lookout along Lido Boulevard, but not at the entrance from Loop Parkway.)

7.3 Housing

Needs

- **Flooding.** Flooding from the ocean and the bay as a result of Superstorm Sandy affected almost every home in the NYRCR Planning Area. There is a need to protect homes from flooding while maintaining the character of the existing neighborhoods.
- **Repetitive flood loss.** Approximately 20 properties in Lido Beach and 7 properties in Point Lookout are classified by the National Flood Insurance Program as repetitive flood loss properties.



House in Lido Beach, September 2013

- **Alternative power.** All homes in Lido Beach and Point Lookout were without power or gas for at least 2 weeks after Superstorm Sandy. An alternative source of electricity or a back-up source of power is needed to avoid similar outages in the future.
- **Maintenance of the residential character of communities.** Residents indicated during meetings of the NYRCR Planning Committee in September 2013 that they are not generally in favor of increasing tourism or public access to beaches, preferring to keep traffic to a minimum so that streets remain safe for walking and biking. Moreover, neither Lido Beach nor Point Lookout is identified in the Nassau County Master Plan as a “target growth area”²³ or in the New York Metropolitan Transportation Council Plan 2040 - Regional Transportation Plan as a “desired growth area.”²⁴

Opportunities

- **Alternative power generation systems.** The three adult group homes in Lido Beach have pioneered the use of solar panels for power generation and could provide information to homeowners in Lido Beach and Point Lookout on the panel sizes that

²³ Nassau County. *Nassau County Master Plan Land Use: Target Sustainable Development to Growth Areas* (2010). Available at http://www.nassaucountyny.gov/agencies/EconomicDevelopment/Docs/PDF/Chapter3LandUse_000.pdf. Accessed October 28, 2013.

²⁴ New York Metropolitan Transportation Council. *Plan 2040 - Regional Transportation Plan* (September 4, 2013). Available at http://www.nymtc.org/files/RTP_PLAN_2040_docs/Public%20Review%20Drafts/Plan%202040%20Full%20Document/Plan%202040%20Main%20Document.pdf. Accessed October 28, 2013.

are appropriate for single-family homes and how to secure solar panels to withstand hurricane force wind.

- **Alternative energy pilot program.** The Energy Master Plan of the Town of Hempstead Conservation and Waterways Division²⁵ proposes the development of a micro-grid that could provide a limited amount of electric power to homes and businesses in Point Lookout.

7.4 Health and Social Services

Needs

- **Emergency medical care.** The Long Beach Medical Center has been closed since Superstorm Sandy. Traveling to the next closest hospital is time-consuming and potentially dangerous.
- **Protection of school buildings from flood and wind damage.** Superstorm Sandy caused flood damage to the elementary and middle schools in Lido Beach and wind and flood damage to the high school in Lido Beach.
- **Increase resiliency of fire department facilities.** The emergency response facilities in Lido Beach and Point Lookout are older, ground-level structures and are at risk of flood and wind damage. Increased resiliency may be achieved by retrofitting the buildings with hurricane-resistant doors, windows, and roofs and elevating utility systems above anticipated levels of flooding.
- **Continuation of services for disabled youth and adults.** Services need to be continued through the adult group homes and Camp Anchor and the potential for future damage should be reduced by rebuilding damaged dunes.

Opportunities

- **Use of schools for community hot meals.** The schools that were damaged are being repaired through the FEMA Public Assistance Program. The schools could be retrofitted to be used as a community resource for hot meals because the cafeterias are on the second floor.
- **Electricity for food storage at high school.** Generators with a sufficient amount of fuel could be used to generate electricity for food storage in the high school cafeteria.

²⁵ Energy Master Plan of the Town of Hempstead Conservation and Waterways Division. Town of Hempstead Project Energy (Undated). Available at http://www1.eere.energy.gov/office_eere/pdfs/schneider_hempstead.pdf. Accessed October 28, 2013.



- **Urgent or emergency care center.** Medical providers have expressed an interest in opening an urgent care or emergency care center on the island.
- **Wind damage mitigation.** The potential for wind damage could be reduced by installing wind-resistant roofs and windows.
- **Flood damage mitigation.** The potential for damage from flooding of fire department facilities could be reduced by wet floodproofing (elevating utilities above anticipated flood levels and allowing water to temporarily inundate the building) or by using temporary flood barriers.
- **Services for disabled adults and children.** The adult group homes and Camp Anchor were protected during Superstorm Sandy by dunes along the ocean side in Lido Beach. Dunes would protect the facilities in the future and allow them to continue to provide services to disabled adults and children.

7.5 Infrastructure

Needs

- **Stormwater management.** The lack of stormwater management is a regional issue. Localized flooding occurs even in small rain events because of the inadequate capacity of the stormwater system.
- **Maintenance of the stormwater drainage system.** Clogged storm drains and pipes limit the effectiveness of existing stormwater sewers.
- **Improvement of the stormwater drainage system.** Mechanical modifications to the existing stormwater drainage system, such as the installation of back flow preventers and Tideflex valves, may improve performance.
- **Consistent elevations of bulkheads.** Many private homeowners, business owners, and public facilities have installed bulkheads, but protection is only effective to the elevation of the lowest bulkhead.



Ocean Boulevard Path, Lido Beach, September 2013

- **Sanitary sewer system improvements.** Part of Lido Beach is connected to the City of Long Beach sewage treatment facility. The plant was rehabilitated in 2002 but needs further improvements.
- **Improved ability to manage wastewater.** Point Lookout uses cesspools and septic tanks, which discharge sewage into the groundwater during periods of flooding.

Opportunities

- **Study of the stormwater drainage system.** A stormwater drainage system study that includes mapping areas that experience frequent, nuisance flooding from tidal and rain events may identify ways to repair and retrofit the existing stormwater drainage system.
- **Enhancement of the drainage system maintenance.** Residents and business owners may have opportunities to work with the Town of Hempstead and Nassau County to increase the number of inspections and the speed of repairs of stormwater drainage systems along roadways maintained by either governmental entity.
- **Bulkheading.** Developing or raising bulkheads in coordination with the Town of Hempstead and the City of Long Beach may reduce the potential for erosion.
- **Reduction of potential for erosion.** The system of revetment or hard protection on the east side of Point Lookout could be expanded to reduce the potential for erosion.
- **Coordination with other municipalities on wastewater treatment.** The City of Long Beach and Bay Park are discussing ways to improve their wastewater treatment plants, which provide an opportunity for Lido Beach and Point Lookout to use their facilities and support a regional project.

7.6 Natural and Cultural Resources

Needs

- **Restoration of beaches.** Coastal erosion is a significant problem in Lido Beach and Point Lookout. Littoral drift moves sand from the eastern to the western end of Long Beach Island.
- **Restoration and replanting of dunes.** The front dune of the dual dune system that provided protection to Lido Beach was lost during



Sand Dunes, Point Lookout, September 2013



Superstorm Sandy. The engineered dunes were breached in two areas of Point Lookout, resulting in significant flooding from the ocean side.

- **Protection of native salt marshes.** Salt marshes have been largely filled and developed in the NYRCR Planning Area. A 185-acre salt marsh exists on the north side of Lido Beach and provides protection from bayside flooding. This area is protected by regulation from development.

Opportunities

- **Vegetation.** The Town of Hempstead may develop or increase the size of vegetated buffers and dune plantings along the ocean side to reduce the potential for erosion.
- **Marsh protection regulation.** Residents and business owners may support the Town of Hempstead's efforts to work with the New York Department of Environmental Conservation to permit revitalization of marshlands.
- **Protection of natural resources.** The Town of Hempstead is investigating the changes in marshes, small islands, and natural protection systems. The study may provide valuable information about trends and opportunities for protecting these resources.

8 Key Strategies and Potential Actions to Implement Strategies

Key strategies for increasing community resiliency were identified during initial discussions of the NYRCR Planning Committee and were validated during table discussions at the October 15, 2013, Public Engagement Meeting. Strategies will guide project and investment decisions and gradually transition at-risk assets from high-risk conditions to an acceptable lower level of risk.

This section lists one or more key strategies for each of the six Recovery Support Functions. Under each strategy, a few of the projects or actions that have been suggested by the NYRCR Planning Committee, by the public, or as a result of the review of existing planning documents are listed. At this point, these are only suggestions. As the plan development process continues, structural projects or other types of suggested actions will be closely examined. Feasible and cost-effective projects and actions that have potential to enhance resiliency will be proposed in the March 2014 NYRCR Plan.



8.1 Community Planning and Capacity Building

1. Protect schools so that students have a safe, supportive, and familiar environment after a storm
 - a. Replace roof and windows in the high school in cooperation with the City of Long Beach because the school serves the City of Long Beach students
 - b. Provide portable flood protection at the Elementary School / Pre-K Center and the Middle School
 - c. Address the problem of sinkholes/subsidence that led to six classrooms sinking at the Lido Complex
2. Establish one or more centers (e.g., Department of Conservation and Waterways, fire stations, high school) where residents can obtain reliable information after a storm and recharge cell phones
 - a. Install generators with adequate fuel storage capacity at fire stations and the high school
 - b. Expand the Department of Conservation and Waterways' ability to generate power using wind turbine and solar panels
 - c. Harden emergency response facilities

8.2 Economic Development

1. Improve stormwater drainage to reduce damage to commercial structures and disruption in the conduct of business
 - a. Protect existing retail businesses by studying the stormwater drainage system and the tendency of roadways to prevent drainage
 - b. Protect marinas by increasing the elevation of bulkheads on the bay side to a standard level
 - c. Develop gateways to Lido Beach (along Lido Boulevard) and Point Lookout (at base of Look Parkway Bridge)

8.3 Housing

1. Retrofit homes to reduce the potential for flooding
 - a. Encourage residents to elevate homes above calculated base flood level (1 percent chance in any given year)
 - b. Encourage residents not to use the basement and the first floor level of homes, if practicable, as living or storage space



- c. Encourage homeowners to invest in solar or other alternative sources of power to reduce the negative impact of a long-term power outage

8.4 Health and Social Services

- 1. Support a regional solution for medical services
 - a. Work with the City of Long Beach to restore emergency medical services

8.5 Infrastructure

- 1. Improve stormwater drainage
 - a. Determine the current capacity of the stormwater drainage system
 - b. Identify and repair blockages or breaks in the stormwater drainage system
 - c. Examine the potential for using valves and other mechanisms (e.g., Tideflex valves) to improve the efficiency of the stormwater drainage system
 - d. Study the nature of flooding along Lido Boulevard to identify mitigation measures
 - e. Raise the grade of land in areas where subsidence or sinking has been observed
- 2. Improve the protection provided by bulkheads
 - a. Determine a standard height for bulkheads
 - b. Work with the Town of Hempstead and City of Long Beach to raise and reinforce bulkheads to a standard height in areas where the Town has responsibility for bulkheads
 - c. Encourage private property owners to raise and reinforce bulkheads on their property to a standard height

8.6 Natural and Cultural Resources

- 1. Restore natural protective systems (dunes and salt marsh)
 - a. Work with the U.S. Army Corps of Engineers (USACE) to study the feasibility of replacing dunes lost during Superstorm Sandy
 - b. Work with the Town of Hempstead to use regulatory mechanisms to continue to protect existing salt marshes from development
- 2. Reduce potential for coastal erosion



- a. Expand the system of revetment along the east side of Point Lookout by working with the New York Department of Environmental Conservation and Department of State to obtain permits
- b. Replant existing dunes to prevent erosion by wind and water
- c. Replace dunes, which were breached and damaged by Superstorm Sandy, in front of Lido Towers and Town Park at Lido West

8.7 Socially Vulnerable Populations

- 1. Protect adult group homes and Camp Anchor from future ocean-side flooding
 - a. Work with the USACE and New York Department of Environmental Conservation to study the feasibility of replacing dunes lost during Superstorm Sandy and to identify opportunities for obtaining sand needed to replace and rebuild dunes
 - b. Replant existing dunes to prevent erosion by wind and water
- 2. Work with the Town of Hempstead to maintain a list of residents with special medical needs that should be addressed during a power outage or evacuation

9 Potential Key Projects Ready to Go

The NYRCR Planning Committee has not finalized the identification of the potential key projects. Finalization will occur by March 31, 2014.

The NYRCR Planning Committee has begun discussions of projects that are underway (under or close to construction), ready to go (securing funding or will start soon), and planned (initial scope/plan to pursue in the next 6 months).

Following a final determination of the key projects, project descriptions will be developed and will include the following information:



- Project sponsor
- Project name and location
- Categorization according to the six Recovery Support Functions
- Brief project description
- Community benefits
- Sustainability factors detailed as part of a regional sustainability plan
- Economic impacts
- Environmental benefits
- Health and social benefits
- Support for project (high, medium, and minimal)
- Estimated project cost
- Potential sources of funding
- Initial feasibility assessment
- Status of implementation
- Implementation timeline: immediate (less than 2 years), intermediate (within 2 to 5 years), long-range (more than 5 years)
- Regional coordination
- Coordination with outside agencies
- Project impact
- Alternatives
- Context map

Table 4 provides a list of repair projects that have been funded through the FEMA Public Assistance Program to prevent duplicating projects that are proposed in the NYRCR Plan. The Town of Hempstead has applied to the State of New York for Hazard Mitigation Grant Program funding for mitigation projects.

10 Regional Perspectives

Some of the issues addressed in the NYRCR Plan cross political jurisdictions and need to be coordinated on a regional basis. Coordination and further discussion will be needed with:

- National Grid
- Long Island Power Authority (LIPA)
- City of Long Beach
- Atlantic Beach / East Atlantic Beach
- Island Park
- LIREDC
- Nassau County
- Town of Hempstead
- USACE



- New York Department of Environmental Conservation AND Department of Sanitation



Table 4: FEMA Public Assistance Projects in Lido Beach and Point Lookout

| Project Name | Location | Reconstruction Category | Project Manager | Description |
|-----------------------------------|---------------|-------------------------|-------------------------|--|
| Lido Elementary and Middle School | Lido Beach | Education | Long Beach City Schools | Repair damage caused by Superstorm Sandy |
| Lido Print Shop Building | | | | Repair damage caused by Superstorm Sandy |
| Lido Athletic Facility | | | | Repair damage caused by Superstorm Sandy |
| Blackheath Pre-K | | | | Repair damage caused by Superstorm Sandy |
| Site 12, Lido Blvd. Pump Station | | Utilities | Nassau County | Repair damage caused by Superstorm Sandy |
| Women’s Bath House | Point Lookout | Other Public Facilities | Town of Hempstead | Repair damage caused by Superstorm Sandy |
| Civic Ball Field | | | | Repair restroom, storage |
| Carpenters Shop | | | | Repair Office, Plumbing Shop Extension |
| Tech Services Building | | | | Repair damage caused by Superstorm Sandy |
| Center Mall Area | | | | Repair damage caused by Superstorm Sandy |
| Center Mall Restrooms | | | | Repair restrooms |
| Garage | | | | Repair damage caused by Superstorm Sandy |
| Civic Beach Installations | | | | Repair damage caused by Superstorm Sandy |
| Civic Beach | | | | Repair restrooms, chair shack |
| Carpenter Shop | | | | Repair damage caused by Superstorm Sandy |
| Town Park | | Repair boardwalks | | |
| Central Warehouse / Town Park | | Parks and Recreation | Town of Hempstead | Repair damage caused by Superstorm Sandy |
| Cricket Field Shed | | | | Repair damage caused by Superstorm Sandy |
| Electric Shop | | | | Repair damage caused by Superstorm Sandy |
| Town Park Laborers Shop | | | | Repair damage caused by Superstorm Sandy |
| Town Park | | | | Repair damage caused by Superstorm Sandy |



The potential projects with a regional focus that have been discussed include:

- Partnering with the LIREDC to develop a pilot project for a micro-grid providing electric power in Point Lookout and/or Lido Beach
- Coordinating with LIPA to protect electrical power transmission and distribution facilities
- Working with LIPA to install smart meters on homes and businesses to better monitor energy usage and to build a smart grid
- Coordinating with the Town of Hempstead and Nassau County on restoring marsh and wetlands throughout the region
- Evaluating the need for intergovernmental agreements with neighboring jurisdictions during disaster response

11 Process for Evaluating Potential Actions and Projects

The NYRCR Planning Committee has not finalized the process for evaluating potential actions and projects to implement the strategies. The process will be finalized by March 31, 2014.

The NYRCR Planning Committee will prioritize the strategies under consideration during the development of the final NYRCR Plan using knowledge gained from the visioning process, information in the Community Asset Inventory, the needs and opportunities assessment, the risk assessment, and agreed-upon metrics, such as cost, time frame, and others, as identified through the outreach process.

Strategies may include bricks-and-mortar projects, policy decisions, political cooperative efforts, or other actions. Actions will be discussed in terms of reconstruction category, community benefits, extent of public support for the project, estimated project cost, funding, feasibility assessment, implementation measures, regional and outside agency coordination, project impact, and alternatives.

The process will also include a cost-benefit analysis for recommended capital projects and a suitable equivalent analysis for non-capital projects.

The result will be a prioritized list of projects, investments, and initiatives that include a detailed project descriptions, a list of potential funding sources, and ranking for implementation.

Implementation of the strategies will follow the three-step process shown in Figure 4.



Strategy Implementation

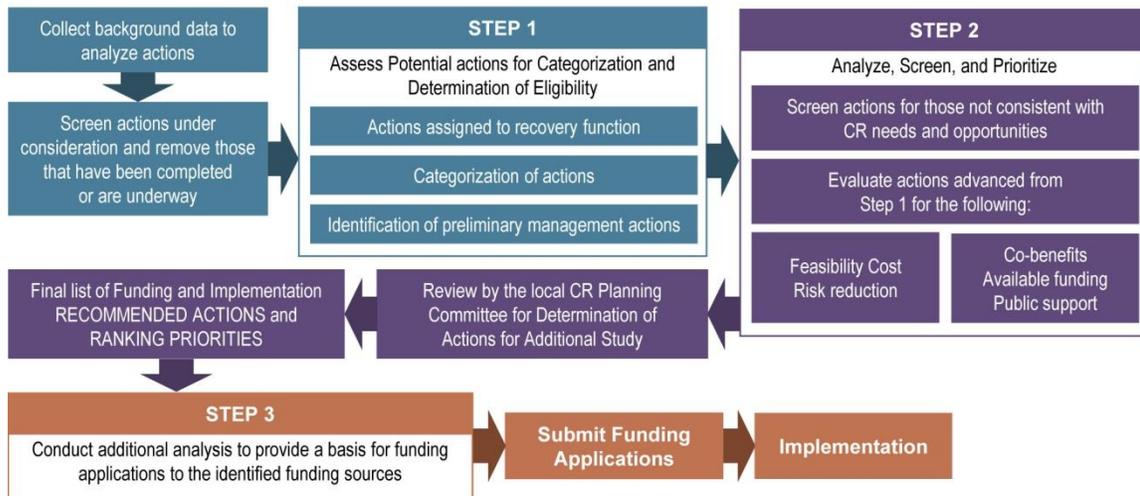


Figure 4: Strategy Implementation steps

12 Implementation Structure

The NYRCR Plan will include an implementation schedule that will summarize the strategies and actions and list the target dates for implementation, responsible implementing parties (individuals or organizations), and potential funding sources. Table 5 is a sample implementation schedule.

Table 5: Sample Implementation Schedule

| Reconstruction Category | Strategy | Action | Target Date | Responsible Parties | Potential Funding |
|--|----------|--------|-------------|---------------------|-------------------|
| Community Planning and Capacity Building | | | | | |
| Economic Development | | | | | |
| Housing | | | | | |
| Health and Social Services | | | | | |
| Infrastructure | | | | | |
| Natural and Cultural Resources | | | | | |

13 Next Steps

The planning process will include three more Public Engagement Meetings and several more meetings of the NYRCR Planning Committee. The next Public Engagement Meeting



for Lido Beach and Point Lookout is scheduled for Monday, November 4, 2013, at 7:00 PM. On November 4, the public will review this Conceptual Plan, determine if the key strategies and potential projects and actions are consistent with community sentiment, suggest additional projects and actions, and provide additional information about damages and vulnerabilities.

The planning process defined by the NYRCR Program consists of seven steps:

Step 1: Organize for Action has been completed with the establishment of the NYRCR Planning Committee.

Step 2: Inventory Assets is well underway, as illustrated in Table 2 and Appendix B.

Step 3: Assess Risk will occur as described in Section 5.2 as GIS data about the exact location of assets relative to the shoreline, presence of shore defenses, and of protective vegetation are further developed to assign a hazard, exposure, and vulnerability score and calculate a risk score.

Step 4: Determine Needs and Opportunities is well underway as illustrated in Section 7 of this document.

Step 5: Engage in Regional Planning Process to examine challenges that cut across political jurisdictions and must be considered on a regional basis began with the examination of existing planning documents and will continue over the next several months.

Step 6: Develop Strategies for Investment and Action began with the work of the NYRCR Planning Committee during September and October 2013 and will continue as the plan is developed. Section 8 of this document summarizes the key strategies and suggested projects and actions that may be effective in realizing the strategies. The list of alternative projects and actions will expand as the process continues and project and actions that are most appropriate for increasing resiliency in Lido Beach and Point Lookout will be identified through quantitative and qualitative analyses.

Step 7: Complete the NYRCR Plan will be accomplished by March 31, 2014. The NYRCR Plan will propose projects and actions that the communities of Lido Beach and Point Lookout have determined will most effectively enhance resilience.



Appendix A: Reviewed Plans and Studies Relevant to Lido Beach and Point Lookout

| Plan/Study Reviewed | Date | Relevant Information |
|---|------|---|
| Cleaner, Greener Long Island Regional Sustainability Plan | 2013 | Plan includes State's goals of reducing the amount of waste transported to landfills and reducing water pollution through improved management of stormwater runoff. |
| Cleaner, Greener Long Island Regional Sustainability Plan Appendices | 2013 | Appendix includes detailed information about projects and policies that advance green development in the Town of Hempstead, including Point Lookout and Lido Beach projects: <ul style="list-style-type: none"> • Construction of a 100-kilowatt solar photo-voltaic car canopy at East Marina in Point Lookout • Town of Hempstead Conservation and Waterways Department Energy Park in Point Lookout • Hydrogen Fueling station in Point Lookout • Compressed Natural Gas station in Lido Beach |
| New York State Action Plan for City of Long Beach Waste Water Treatment Plant Program Disaster Recovery | 2013 | Plan addresses natural hazards in Nassau County and concludes that the Town of Hempstead experienced the greatest level of damage to housing as a result of Superstorm Sandy in 2012 and the fourth greatest level of damage as a result of Hurricane Irene in 2011. The plan identified the re-opening of businesses that were closed following Superstorm Sandy as a top priority. |
| U.S. Army Corps of Engineers (USACE) Long Beach Island Re-Evaluation Report | 2012 | Report notes that all four groins at Lido Beach were in poor condition and in need of replacement and that while two of the three groins at Point Lookout were in good condition, they need to be extended by 100 feet. |
| New York Metropolitan Transportation Council Transportation Improvement Program | 2011 | Plan describes transportation preservation and rehabilitation projects, including inventory, replacement, and management of Town of Hempstead traffic signs. The plan does not identify the Loop Parkway Bridge or any other roadways in Lido Beach or Point Lookout as needing replacement. |
| Nassau County Community Health Assessment | 2010 | Study provides an overview of health care facilities in Nassau County. |
| Nassau County Community Health Assessment Update | 2010 | Study provides specific information on the services provided by each health care facility in the county. There are no health care facilities located in Lido Beach or Point Lookout. The closest facilities are located in the City of Long Beach: a county hospital (Long Beach Medical Center) and four nursing homes (Beach Terrace Care Center, Grandell Rehabilitation and Nursing Center, Komanoff Center for Geriatric and Rehabilitative Medicine, and Park Avenue Extended Care Center). |
| Nassau County Master Plan | 2010 | Plan provides goals for development in the County with a focus on downtown and transit-oriented development. The plan emphasizes the goals of preserving open space. The plan does not identify projects for Lido Beach or Point Lookout. |



| Plan/Study Reviewed | Date | Relevant Information |
|--|------|---|
| New York Metropolitan Transportation Council 2005–2030 Regional Transportation Plan | 2010 | Goals presented in the plan include the preservation of open space and wetlands, increasing the ability of residents to safely walk and bicycle, and the incorporation of the anticipated effects of climate change into transportation planning. Neither Lido Beach nor Point Lookout is identified as a “desired growth area.” Lido Boulevard Traffic Calming Improvements are proposed in the plan. |
| New York State Scenic Byway Corridor Management Plan for Select Historic Long Island Parkways, Nassau and Suffolk Counties, New York | 2010 | Plan outlines strategies to protect, improve, and promote New York State and National Scenic Byways including the Loop Parkway. Loop Parkway was constructed in 1934 and is eligible for listing in the State and National Register of Historic Places. Recent improvements were construction of wood guard rails and addition of wood light poles to maintain the Parkway’s historic character. The plan does not propose additional improvement on Loop Parkway. |
| Places to Grow: An Analysis of the Potential for Transit-Accessible Housing and Jobs in Long Island’s Downtowns and Station Areas | 2010 | Plan identifies Long Beach, but not Lido Beach or Point Lookout, as an area with high potential for transit-oriented development. |
| Long Beach City Oceanside Coastal Protection Plan | 2009 | Plan summarizes existing (2009) conditions of groins in Lido Beach and Point Lookout and summarizes a USACE erosion analysis for both communities: Lido Beach gains an average 4.2 feet of shoreline a year and Point Lookout loses 8.3 feet of shoreline a year. Summarizes information in both 2006 and 1995 USACE Storm Reduction Plans and recommends vital improvements/actions to correct deficiencies in the flood protection network of the oceanside of the City of Long Beach: groins 51 through 54 in Lido Beach were observed to be in poor condition and in need of replacement; in Point Lookout groins 55 and 56 were observed to be in good condition but required roughly 100 feet of additional length, needed to be repositioned, and should be replenished with additional armor and groin 58 (the terminal groin) was recommended for rehabilitation and to be extended by roughly 100 feet. |
| Coastal Protection Study, City of Long Beach, NY – Bayside Shore Protection Plan | 2009 | Study provides information on the existing conditions of the City of Long Beach’s stormwater management system and bulkheads. Recommends vital improvements/actions to correct deficiencies in the flood protection network of the bayside of the City of Long Beach. Predicts sea level rise of between 2.6 and 6.6 feet per year by 2100. |
| Long Island 2034 Visioning Initiative | 2009 | Regional goals presented in this document include enhancing economic prosperity, expanding social equity, and providing a healthy environment by protecting air and water quality and providing open space for recreational purposes. The plan identifies an island-wide community preference for redevelopment of already-developed properties through infill development and preservation of as much open space as possible. |
| Nassau County Stormwater Management Plan: Stormwater Runoff Impact Analysis | 2007 | Plan provides standard procedures for analyzing stormwater runoff. |
| Nassau County Multi-Jurisdictional Natural Hazard Mitigation Plan | 2007 | Plan identifies coastal erosion on the south shore of the island as well as along back bay as hazards. |



| Plan/Study Reviewed | Date | Relevant Information |
|---|------|--|
| Long Beach Island, NY Hurricane and Storm Reduction Plan: Atlantic Coast of Long Island, Jones Inlet to East Rockaway Inlet | 2006 | This plan reiterates the findings of a 1995 USACE study showing that groin repairs and dune improvements are needed at Lido Beach and Point Lookout. |
| A Vision for the South Shore Bayway | 2004 | Study developed by the Long Island South Shore Estuary Reserve describes the creation of a network of existing natural and cultural resources and recreational sites to be linked through various modes of transportation (e.g., pedestrian, bicycle, boat, car) throughout the South Shore Estuary Reserve with Montauk Highway and Merrick Road serving as the main road corridors. |
| Long Island South Shore Estuary Reserve Comprehensive Management Plan | 2001 | Plan proposes measures for reducing point source pollution, preserving coastal bird population and marine life habitat, and sustaining water-dependent businesses. Lido Beach and Point Lookout are part of the Western Bays. Priority projects include continued protection of the 60-acre St. Aubins property in Lido Beach. |
| City of Long Beach Comprehensive Plan | 2007 | Plan proposes conduct of a feasibility study that examines closing the wastewater treatment plant and sending wastewater to the Nassau County facility in Bay Park. |
| City of Long Beach Comprehensive Plan: Existing Conditions/Issues and Opportunities | 2005 | Plan explains that City of Long Beach wastewater treatment plant serves Lido Beach. Plan discusses deteriorated condition of the wastewater treatment plant. Plan explains that City of Long Beach schools are located in Lido Beach and that one branch of the Long Beach Public Library is located in Point Lookout. |
| Long Beach Island, NY Hurricane and Storm Reduction Plan: Atlantic Coast of Long Island, Jones Inlet to East Rockaway Inlet | 1995 | <p>Study describes the existing dune system and erosion protection system on Long Beach Island. Lido Beach is protected by four groins. Point Lookout is fronted by rip-rap revetment on the inlet side and three groins along the oceanside. Proposed projects for improving storm protection are:</p> <ul style="list-style-type: none"> • Island-wide rehabilitation of groins • Dune improvements (planting grasses, installing fencing) • Periodic beach renourishment |



Appendix B: Community Asset Map



Figure B-1: Community Asset Map

