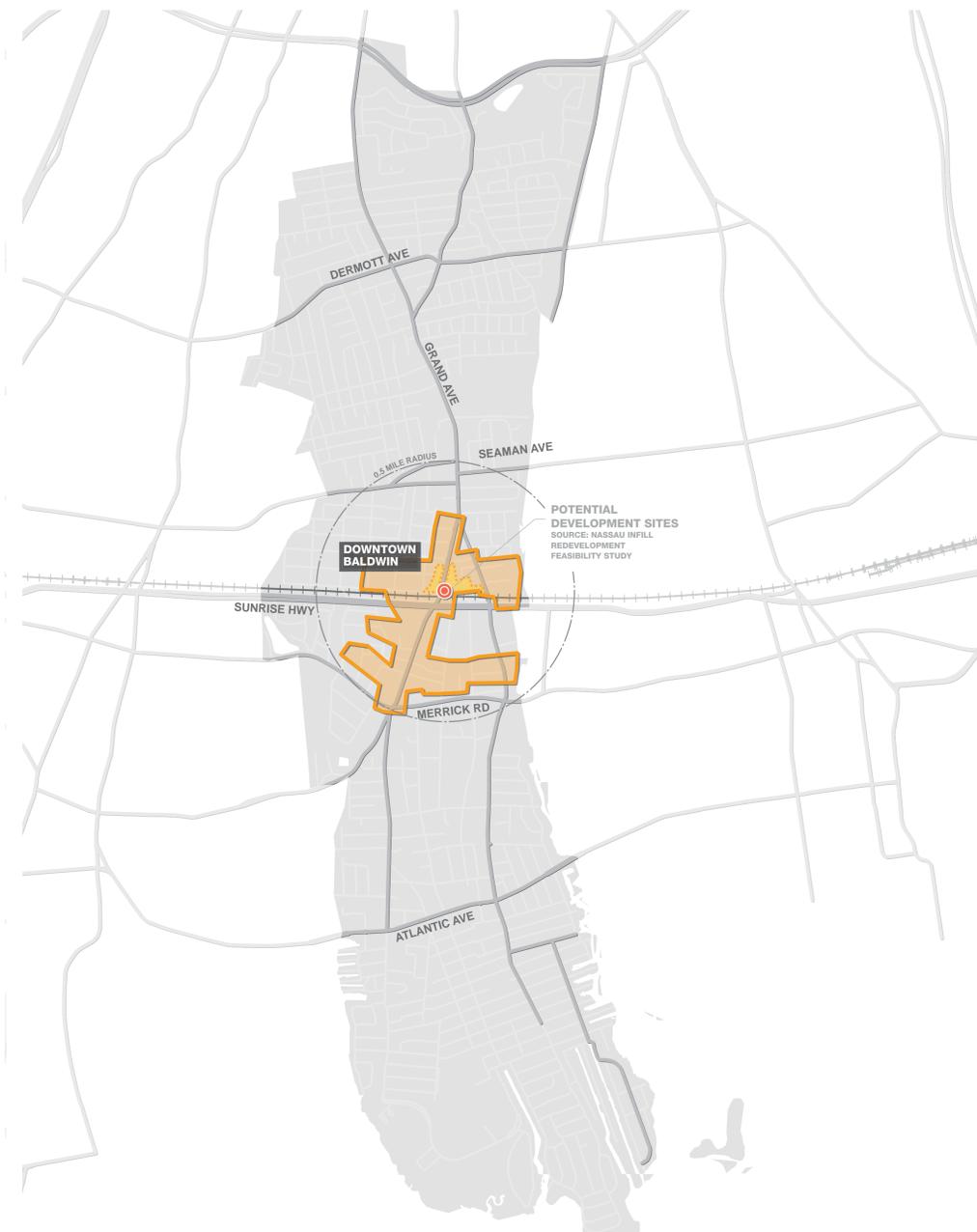


P1

Downtown and Commercial Corridor Resiliency Plan

Perform a planning and resilience study to identify housing and commercial business opportunities for downtown Baldwin

Cost Estimate: \$1,100,000



Key Facts

- Project Type: Planning and Additional Study
- Recovery Function: Infrastructure
- Project Location/Municipality: Downtown Baldwin
- Primary Target Area Affected: Baldwin and Baldwin Harbor
- Consistency with NYRCR: Drive economic growth
- Potential Beneficiaries: Baldwin and Baldwin Harbor Residents

Project Information

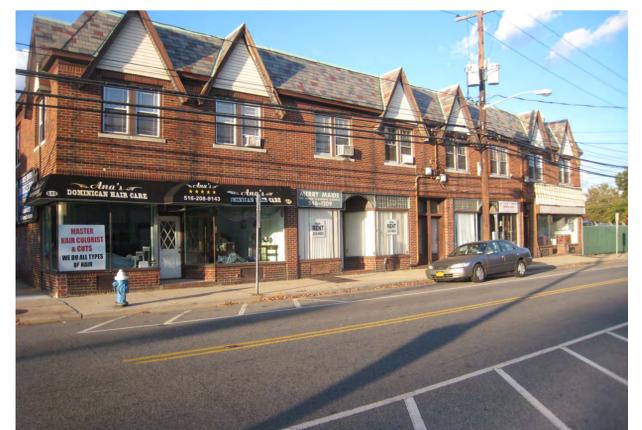
This project would entail a planning and resiliency study to plan for the future of downtown Baldwin. The study would identify opportunities for housing and commercial business creation to move out of high and extreme flood risk areas to a central location close to LIRR stations. New housing would diversify the current housing mix that is currently almost exclusively single-family homes and would assist young people, seniors, and low/moderate income residents in being able to stay in Baldwin, or prospective residents the ability to move to the area.

The project would seek to create ties with business owners to establish business improvement districts in the community and invest in public space improvements. It would also assess emergency needs related to Downtown as a hub for major evacuation routes (car, rail, mass transit) and evaluate demand for hotel uses that could provide additional shelter during emergencies.

Opportunities for the use of existing buildings/facilities for temporary shelters in the downtown area would be identified, along with microgrid opportunities with alternative power generation, and stormwater management, including green infrastructure, that new development should incorporate or that could be done by existing property owners.

It would also include recommendations for new zoning and building codes to make downtown more resilient, and the potential repurposing of Milburn Elementary School (currently closed) to be used as Community Resource Center which none exists for the hamlets.

A multi-modal transportation study should be performed to identify improvements for LIRR station access, and measures should be taken to improve traffic flow within the station area. This includes signal optimization and route improvements for bicycles and pedestrians.



A planning study could identify new opportunities for commercial growth in downtown Baldwin



A traffic study should be performed to identify potential improvements for the LIRR station area

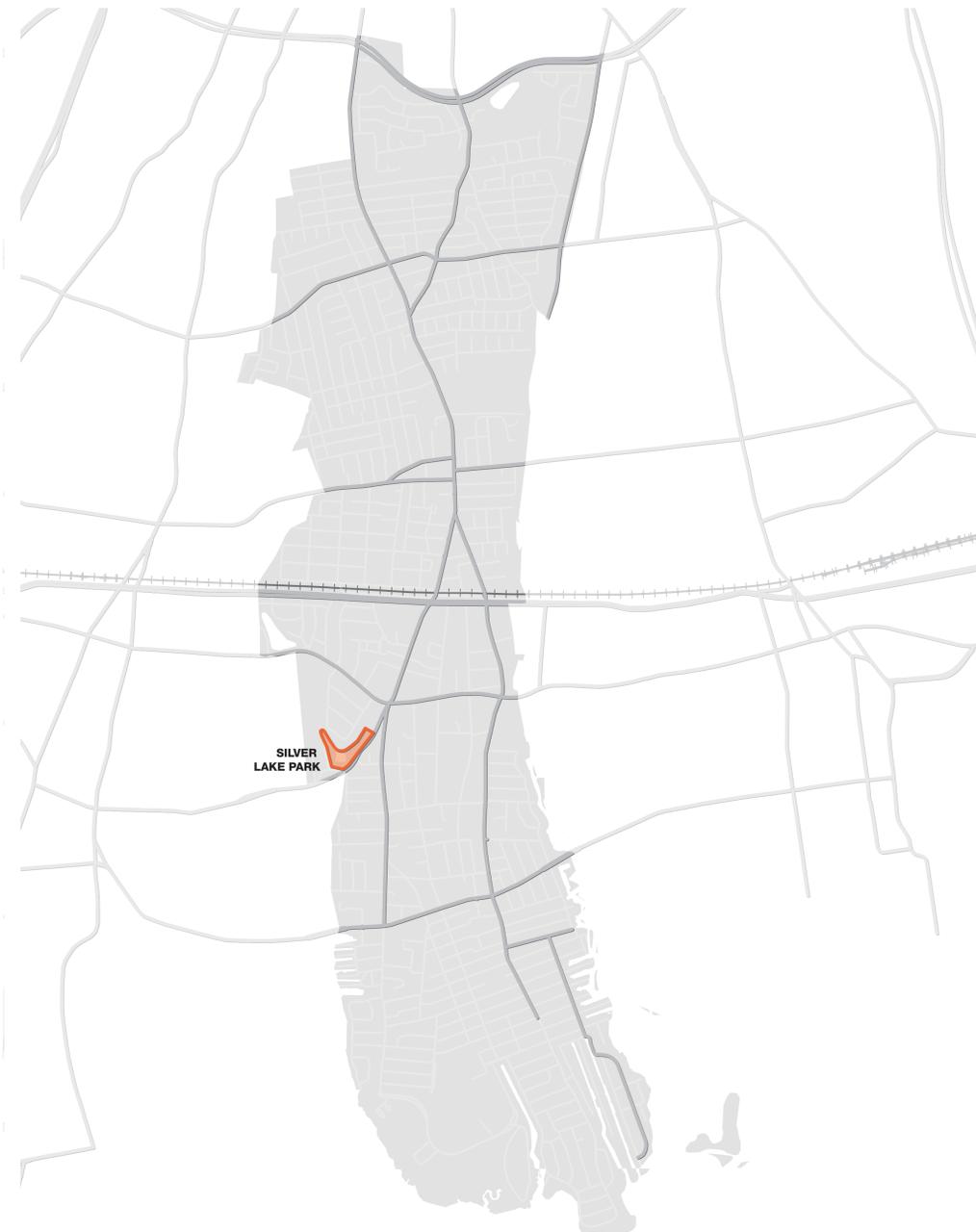


P2

Silver Lake Park Drainage Improvements

Perform a comprehensive drainage study to identify flooding issues and guide improvements to Silver Lake Park's drainage system

Cost Estimate: \$600,000



Key Facts

- Project Type: Planning and Additional Study
- Recovery Function: Natural and Cultural Resources
- Project Location/Municipality: Silver Lake Park
- Primary Target Area Affected: Baldwin and Baldwin Harbor
- Consistency with NYRCR: Increase resiliency of key assets
- Potential Beneficiaries: Baldwin and Baldwin Harbor residents

Project Information

Perform a comprehensive drainage study to identify issues with localized flooding from regular during regular rain events and natural disasters (Hurricane Irene and Superstorm Sandy) at Silver Lake north of Foxhurst Road and surrounding areas. Possible damage, inadequate facilities at or near the outfall at Silver Lake north of Foxhurst Road has caused local flooding issues during rain events and natural disasters (Hurricane Irene and Superstorm Sandy) and has been flagged by several local residents. Work closely in conjunction with Nassau County to monitor the floatables control pilot project that is currently planned for Milburn Pond. This Nassau County pilot project will serve as a demonstration project that can be applied at other waterbodies along the South Shore. Silver Lake may be a potential site for a future floatable debris control project based on the success of the pilot project, where this would reduce upstream flooding in the area of Lofts Pond.

This project would include an environmental study concerning freshwater fish migration (e.g. alewife). This study would then guide the design and construction of drainage improvements (e.g. tide gate, dams, retention basins), which may include lake edge repair and possible new park/playground with dog run for community use



Silver Lake Park experiences regular, localized flooding during rain and storm events



Tide gates prevent tide waters from entering and flooding the drainage system

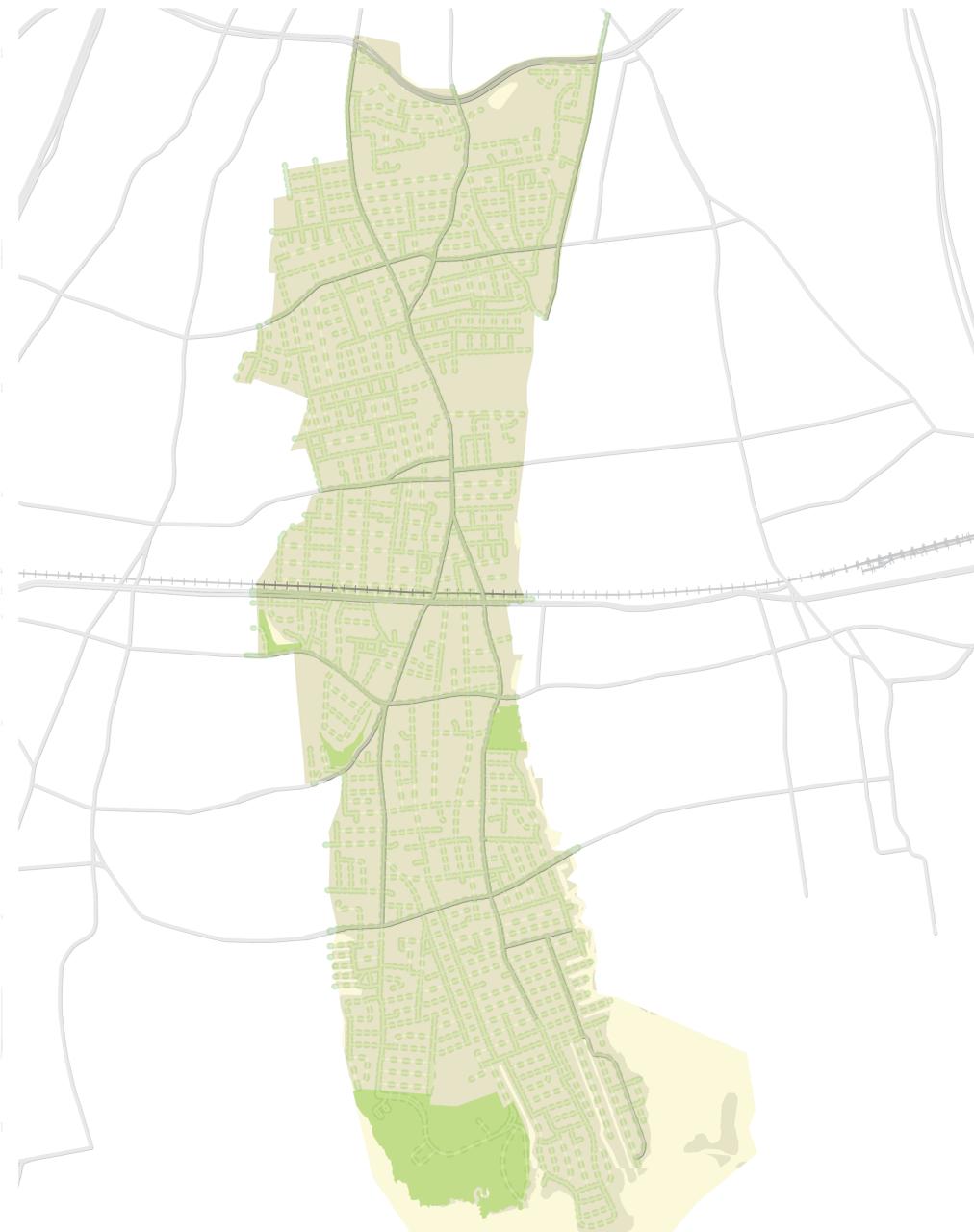


P4

Green Infrastructure: Tree Planting Program

Replace trees that were lost or damaged during recent storms in Baldwin and Baldwin Harbor neighborhoods

Cost Estimate: \$1,500,000



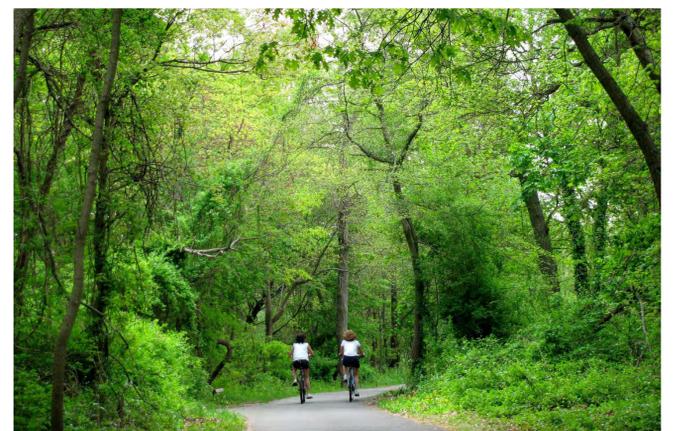
Key Facts

- Project Type: Water Control Facilities
- Recovery Function: Health and Social Services
- Project Location/Municipality: Baldwin and Baldwin Harbor
- Primary Target Area Affected: Baldwin and Baldwin Harbor
- Consistency with NYRCR: Increase resiliency of key assets
- Potential Beneficiaries: Baldwin and Baldwin Harbor residents

Project Information

This project is part of a larger green infrastructure program which includes the study, prioritization, and installation of stormwater management and green infrastructure features within the community to reduce flood impacts and control erosion.

The Tree Planting Program proposed here incorporates the planting of 1,000 trees throughout Baldwin and Baldwin Harbor. The past four years of storms have brought down a number of trees throughout many neighborhoods. Replacing and planting additional trees will help reduce surface water runoff, decrease soil erosion, and provide many other environmental benefits to community residents.



Trees help reduce surface water runoff, prevent soil erosion, and provide many other community benefits



The Tree Planting Program aims to plant 1,000 trees throughout Baldwin and Baldwin Harbor



P5

TOH Bulkhead Replacement and Upgrades within Baldwin

Inspect, replace and raise existing bulkheads at street and canal ends owned by Town of Hempstead

Cost Estimate: \$5,000,000



Key Facts

- Project Type: Protective Measures
- Recovery Function: Infrastructure
- Project Location/Municipality: Baldwin and Baldwin Harbor
- Primary Target Area Affected: Waterfront properties in Baldwin and Baldwin Harbor
- Consistency with NYRCR: Address short, medium, and long-term risks
- Potential Beneficiaries: Baldwin and Baldwin Harbor residents

Project Information

This project will inspect and identify the bulkheads at street ends and canal ends that fall under the Town of Hempstead (TOH) ownership that require replacement as a result of recent storms and raising to improve resiliency.

The project will prioritize, design and construct 1000 linear feet of bulkhead along the Baldwin and Baldwin Harbor waterfront. It includes a detailed inspection of all existing bulkheads to identify specific issues that need to be addressed and potential regulatory changes. Existing bulkheads at street ends and canal ends that fall under TOH jurisdiction will be examined. Bulkheads should be within the recommended TOH height range of 6.5-7.5 ft NGVD.

Geographic Information System (GIS) data should also be updated following the inspection for ongoing asset management. Potential street/canal ends that appear to be under TOH jurisdiction include: Madison St (Parsonage Pl, Warren St, Arthur St, Lincoln St), Canoe Pl, Fishermans Rd, Bertha Dr, Bertha Ct, North End Dr, Bay Front Dr, Colony Dr, Bay Front Pl, South Dr, Northern Blvd, Jackson Pl, Van Buren Pl, Hayes, Pl, Washington Pl, Jefferson Pl, Cornell Pl, Cornell Ave, and Steele Blvd.



Bulkheading along waterfront properties



Many bulkheads are aging and in need of repair

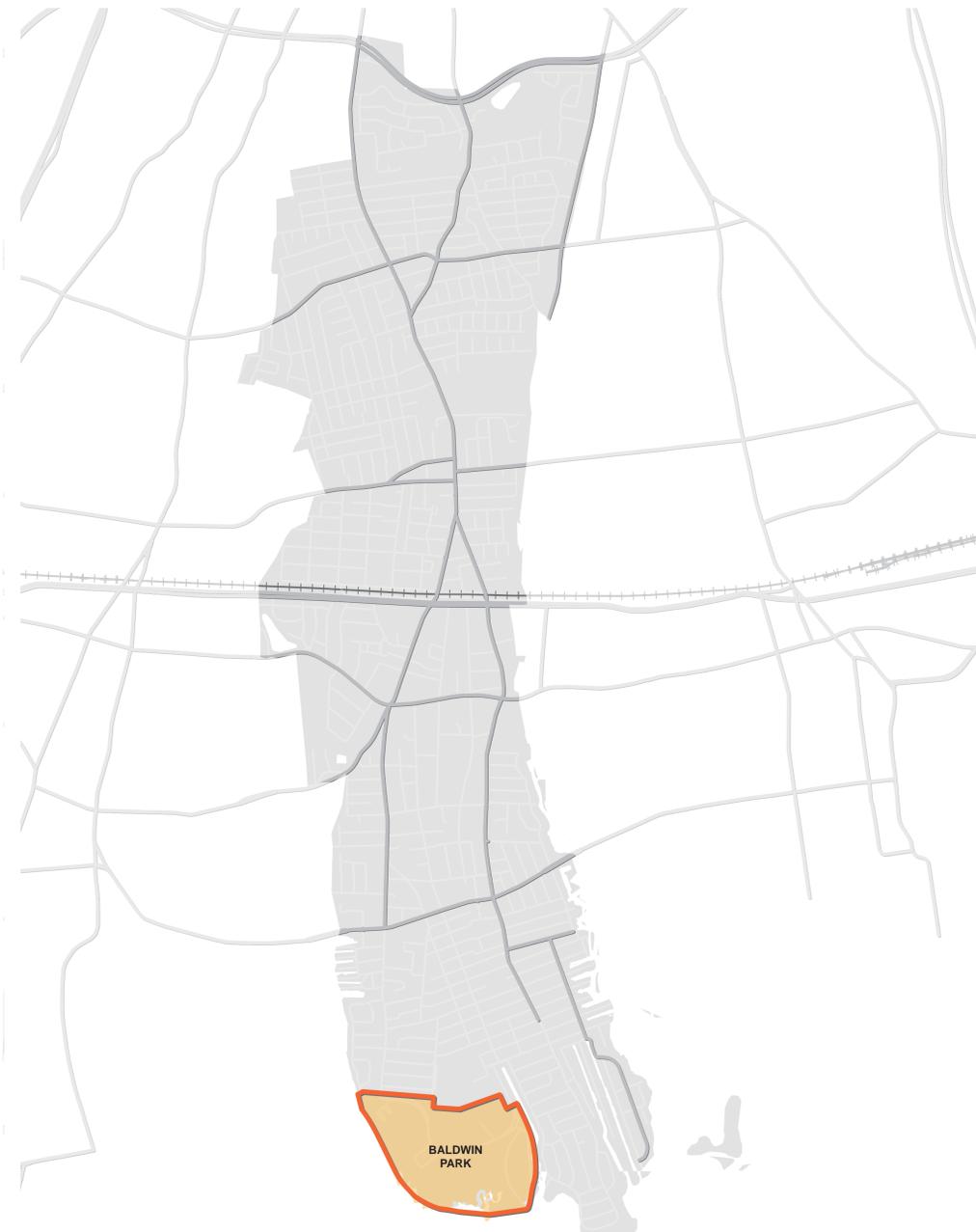


P6

Baldwin Park Water Promenade

Rehabilitate waterfront areas damaged by Sandy and other recent storms, and create new amenities for community members

Cost Estimate: \$3,800,000



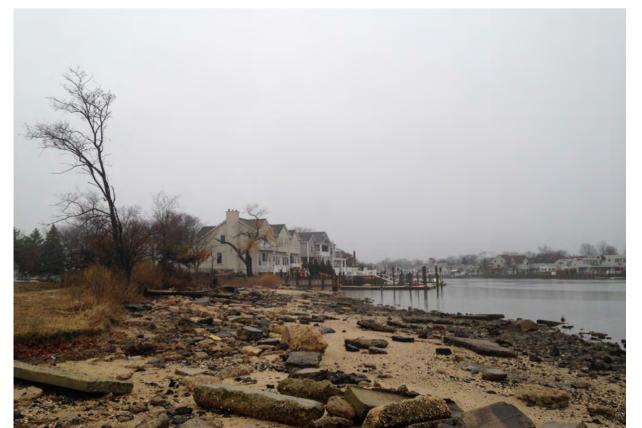
Key Facts

- Project Type: Recreational
- Recovery Function: Infrastructure
- Project Location/Municipality: Baldwin Park
- Primary Target Area Affected: Baldwin Park
- Consistency with NYRCR: Increase resiliency of key assets
- Potential Beneficiaries: Baldwin and Baldwin Harbor residents

Project Information

This project focuses on oceanfront areas that remain unprotected and suffered soil erosion damage during Hurricane Irene and Superstorm Sandy. It entails the strategic implementation of storm protection measures along the shoreline to minimize further erosion and damage by attenuating storm surge and tidal wave action.

The project would rehabilitate areas damaged by Sandy and previous natural disasters. Permanent waterfront access would be provided at Baldwin Park for residents to enjoy various recreational purposes (South Shore Blueway). This includes the design and construct structural and natural features to create a promenade along Parsonage Cove and Middle Bay.



Recent storms have caused widespread erosion and beach damage in oceanfront areas



This project includes the creation of a waterfront promenade along Parsonage Cove and Middle Bay

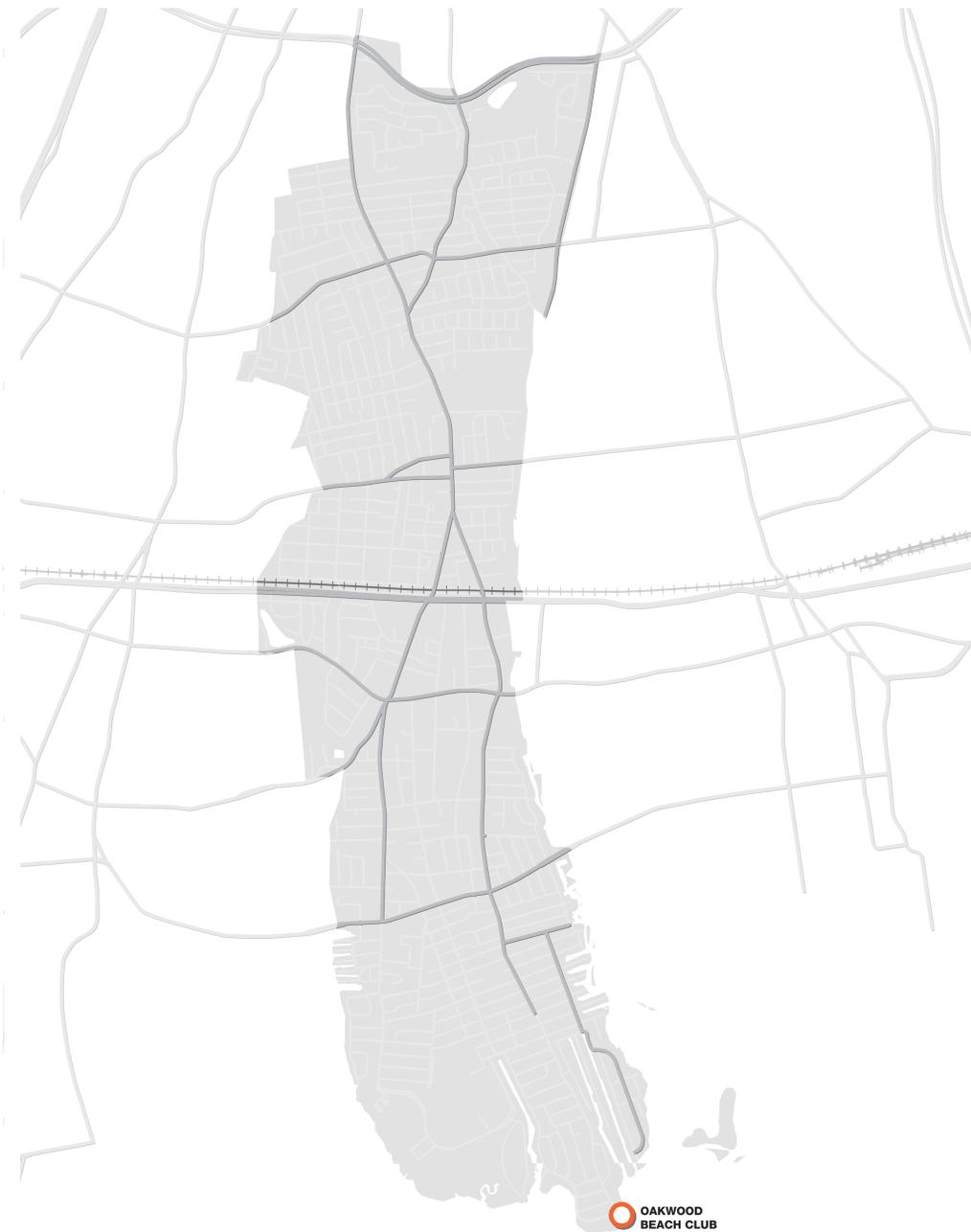


P7

Oakwood Beach Restoration

Work with the Town of Hempstead to determine capital improvements that would restore Oakwood Beach for community use

Cost Estimate: \$75,000



Key Facts

- Project Type: Planning and Additional Study
- Recovery Function: Natural and Cultural Resources
- Project Location/Municipality: 5 Milburn Avenue
- Primary Target Area Affected: Baldwin and Baldwin Harbor
- Consistency with NYRCR: Drive economic growth
- Potential Beneficiaries: Baldwin and Baldwin Harbor residents

Project Information

The Oakwood Beach Club was established in 1962 as a privately beach on the south shore. Membership was limited to a small area in Baldwin Harbor. The club's pool and facilities were added later with membership contributions, and membership was eventually opened to all of Baldwin and the surrounding communities.

Because of wetlands erosion and environmental concerns the Oakwood Beach Club, now the Baldwin Harbor Pool Club, no longer allows swimming in the bay. This project proposes a study to identify options for restoring Oakwood Beach for use by the entire community.

This would entail working with the Town of Hempstead to determine capital improvements, manage operations and maintenance issues, and a possible transfer of ownership to municipal control.



Due to wetland erosion and environmental concerns the Club's beach area is no longer open



This project proposes a study to determine if Oakwood Beach can be restored for community use





Integrated Communication Network

A regionally coordinated, one-stop-shop for disaster and emergency information, communication and training

Cost Estimate: (Phase 1) \$20,000 - \$100,000 per CR Area

Project Information

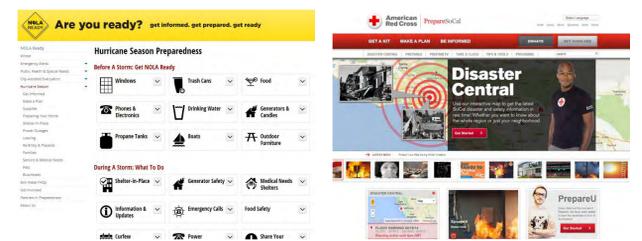
Create a single source for comprehensive information and emergency assistance and establish a communication network that more effectively links the local government with emergency management agencies, faith-based groups, and non-profit organizations to direct aid and recovery efforts to the community's socially vulnerable populations.

Benefits: Phase 1 of this project would evaluate existing emergency communication systems and determine additional needs, with an emphasis on coordination across multiple jurisdictions. Phase 2 would establish a centralized location (such as a website) with consistent "branding" to make disaster information identifiable, and regular updates to keep information current. Phase 3 would include the creation of an educational component, using the website to promote educational seminars on disaster planning. Both Phase 2 and 3 have the potential for private and nonprofit sponsorships and partnerships.

Relationship to Disasters: During and after Superstorm Sandy many residents did not know where to look for emergency information. Some community members did not understand the severity of the storm and were unable to evacuate after conditions became unsafe, putting themselves and emergency responders at risk. Following the storm, power outages and lack of cellphone service left residents unable to communicate with friends and family members, and without a means to find emergency resource information.

Key Facts

- Project Type: Emergency Readiness
- Recovery Function: Community Planning and Capacity Building
- Project Location/Municipality: Nassau County
- Primary Target Area Affected: Nassau County
- Consistency with NYRCR: Coordinate with regional initiatives
- Potential Beneficiaries: All Nassau County residents impacted by future disasters



Business Continuity Program

Establish a business continuity program to ensure that businesses can maintain essential functions during and after emergency events

Cost Estimate: \$35,000 - \$40,000 per CR Area

Project Information

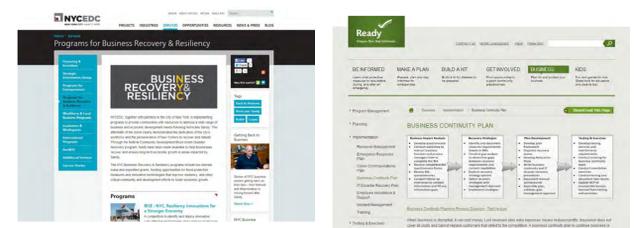
Business continuity planning ensures that businesses have the capability to maintain essential functions during a range of potential emergencies. The assistance provided by a Business Continuity Program would include planning assistance, access to alternative spaces or facilities, communications provisions, and provisions for vital records backup and management.

Benefits: The Business Continuity Program would help small businesses to create their own plans for continuing operations under adverse conditions, such as a major storm. The program would work with Adelphi University and the Business Continuity Institute to lead training sessions for local business owners. Training sessions will include assisting business owners to create a database to store, update and/or view temporary emergency power requirements for their establishments. This data will help owners procure emergency power generation supplies before a disaster, and prioritize temporary power requirements.

Relationship to Disasters: After Superstorm Sandy some 59 Baldwin and Baldwin Harbor businesses, representing 441 employees, applied for disaster management assistance. These applications verified a total of \$2.0 million in real property damage, \$496,030 of machinery damage, an inventory loss of \$88,132 and a leaseholder improvement loss of \$164,807. Of these applications, only 11 (18.6%) were approved for an amount totaling \$337,500 or roughly one eighth of the \$2.8 million in verified damage assistance applied for.

Key Facts

- Project Type: Emergency Readiness
- Recovery Function: Economic, Community Planning and Capacity Building
- Project Location/Municipality: Nassau County
- Primary Target Area Affected: Nassau County
- Consistency with NYRCR: Drive economic growth
- Potential Beneficiaries: Nassau County businesses impacted by future disasters





South Shore Stormwater System Modeling and Analysis

Evaluate condition and ownership of stormwater drainage systems and identify solutions for stormwater management

Cost Estimate: \$500,000 - \$600,000 per CR Area

Project Information

This project would document the condition and ownership of stormwater drainage systems in the region, and use hydraulic and hydrologic modeling to study surface and subsurface stormwater drainage patterns. A study of the Sunrise Highway Conduit would also be performed to address drainage issues in upland areas.

Benefits: Modeling and analysis is necessary to help identify and prioritize solutions for stormwater management. This includes capital projects, updated maintenance requirements, regulatory improvements, public awareness programs, and other property owner assistance measures. These initiatives would increase the capacity of the stormwater system and reduce flooding issues in the region.

Relationship to Disasters: Rain and storm surge during Sandy overwhelmed the stormwater drainage system and exacerbated flooding. Additionally, localized flooding is frequently observed during heavy rainfall or high tides.

Key Facts

- Project Type: Planning and Additional Study
- Recovery Function: Infrastructure
- Project Location/Municipality: Nassau County
- Primary Target Area Affected: Nassau County
- Consistency with NYRCR: Increase resiliency of key assets
- Potential Beneficiaries: Nassau County residents and businesses



South Shore Shoreline Conditions Analysis and Restoration Program

Analyze shoreline conditions and incentivize coordinated improvements to reduce erosion and mitigate flooding

Cost Estimate: \$100,000 - \$200,000 per CR Area

Project Information

Develop a program to incentivize and provide support for coordinated and continuous shoreline improvements along private waterfront properties, including measures to reduce erosion and provide protection against tidal action and storm surge. This program would include the creation of a digital inventory to assess shoreline conditions, and analyze potential strategies to restore shorelines to pre-Irene and pre-Sandy conditions. Pilot projects should be implemented and monitored at a local level.

Benefits: Shoreline improvements such as hard or hybrid structures, living shorelines, wave attenuation measures such as oyster reefs, and other natural solutions can help mitigate shoreline erosion and protect coastal properties from flooding and degradation.

Relationship to Disasters: Irene and Sandy caused widespread damage to Long Island's southern coastline. Many protective coastal features were affected, compromising their ability to control erosion and flooding.

Key Facts

- Project Type: Protective Measures
- Recovery Function: Natural and Cultural Resources, Infrastructure
- Project Location/Municipality: Nassau County
- Primary Target Area Affected: Nassau County
- Consistency with NYRCR: Increase resiliency of key assets
- Potential Beneficiaries: Nassau County residents





Lifeline Transportation Network

Identify and establish a system of local roads that lead to evacuation routes and Community Resource Centers

Cost Estimate: \$100,000 - \$120,000 per CR Area

Project Information

Perform a study to identify a system of local roads that lead to Nassau County designated evacuation routes, Community Resource Centers, and evacuation centers. These “Lifeline Roads” should be prioritized for resilience and response measures such as debris cleaning, and clearly identified with uniform signage. Street lights and signals should be independently powered, and cell phone towers in proximity to the network should be required to maintain additional backup power resources.

Benefits: Establishing and publicizing a designated lifeline transportation network would ensure that residents and emergency responders can move throughout the community during and immediately after a major storm event.

Relationship to Disasters: Emergency responders had difficulty accessing heavily flooded areas during Sandy, and some residents who did not or were unable to evacuate before the storm made landfall were trapped in their homes. Even after the storm, debris on roadways made movement difficult.

Key Facts

- Project Type: Planning and Additional Study
- Recovery Function: Infrastructure
- Project Location/Municipality: Nassau County
- Primary Target Area Affected: Nassau County
- Consistency with NYRCR: Increase resiliency of key assets
- Potential Beneficiaries: Nassau County residents



Regional Energy Action Plan

Evaluate options for distributed generation and microgrid implementation, and smart grid technology integration

Cost Estimate: (Initial study) \$1,000,000

Project Information

Perform a study to identify opportunities for distributed generation and microgrid deployment, and smart grid integration into the existing electricity distribution system. Potential projects should incorporate community-driven planning and design, and leverage public-private partnerships for funding resources.

Benefits: Distributed generation resources can lower energy costs, and combined with a microgrid system can enhance grid reliability for all electricity customers. Smart grid technology can help utilities identify and service faults and outages faster, and allows for more efficient and reliable operation. These technologies also create new opportunities for jobs in clean energy industries, and contribute to a cleaner environment.

Relationship to Disasters: During Sandy, Irene, and many other minor storms damage to overhead utility lines resulted in power outages, which lasted for days in some parts of the region.

Key Facts

- Project Type: Utilities
- Recovery Function: Infrastructure
- Project Location/Municipality: Nassau County
- Primary Target Area Affected: Nassau County
- Consistency with NYRCR: Coordinate with regional initiatives
- Potential Beneficiaries: Nassau County residents and businesses

