

Union Beach Borough



Strategic Recovery Planning Report

Union Beach Borough Strategic Recovery Planning Report

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Prepared by:



T&M Associates
11 Tindall Road
Middletown, NJ 07748



Stan C. Slachetka, PP, AICP
NJ Professional Planner No.: 03508

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Executive Summary

When Superstorm Sandy struck the coast of New Jersey on October 29, 2012, it brought extensive damage to Union Beach Borough from both storm surge and wind damage. Approximately 90 percent of the Borough's land was flooded, ranging from 2 to 10 feet in depth. Union Beach reported that 60 properties were destroyed by Superstorm Sandy and 629 properties faced substantial damage. Approximately 24,500 tons of storm damage debris littered the Borough. Trees and power lines throughout the Borough fell. The Borough also faced total power outages for over two weeks. This list of impacts that Superstorm Sandy had on Union Beach is not exhaustive; the remaining impacts are extensive, and will be identified and discussed throughout this Strategic Recovery Planning Report.

Both in preparation for and in response to Superstorm Sandy, Union Beach Borough's actions have been comprehensive. Before and during Superstorm Sandy's landfall, Union Beach constructed emergency protective berms/dunes along the beachfront, evacuated residents, and performed rescues of stranded residents. In the days and weeks immediately following Superstorm Sandy, Union Beach barricaded flooded roads and hazards, patrolled the community, secured evacuated areas, contacted six contractors to remove storm-related debris, and performed 2,250 residential property inspections over a period of five days in order to determine which properties were safe for habitation.

In the weeks and months following Superstorm Sandy, Union Beach has taken the following recovery actions (some of which are ongoing and continue to date): Demolished over 252 homes; elevated 103 homes; applied for FEMA grants to repair and improve heavily damaged roads, Scholer Park, the shorefront promenade area, among other grants; repaired damages to the Borough's Public Works main building, municipal garage, and mechanics garage; and held various public meetings for residents regarding recovery options and assistance.

Union Beach Borough's recommended municipal actions to promote recovery from Superstorm Sandy and to reduce vulnerabilities from future storms include (but are not limited to) the following resiliency actions: updating the Borough's Master Plan Elements; promoting new business and economic development efforts along the Route 36 Corridor; relocating the Borough's Public Works site out of a major flood prone area; demolishing the remaining homes that serve as hazards to public health and safety; incorporating map amendments to move flood zone lines to more accurately depict which properties are truly at risk; and continuing to increase the Borough's participation in FEMA's Community Rating System.

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Borough Officials

Jennifer Maier, Borough Administrator
Anne Marie Friscia, Municipal Clerk

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Manuela Onacki, Construction Building Department
Michael Harriott, OEM Officer
Captain Charles Ervin, Police Department
Chief Scott Woolley, Police Department
Dennis Dayback, Borough Engineer

Project Team:

Stan Slachetka, PP, AICP
Jeffrey Cucinotta
Lori Thompson

Table of Contents

Introduction.....	1
Description of Union Beach Borough.....	2
Assessment of Existing Planning Documents.....	5
Union Beach Master Plan, 2005	5
Union Beach Land Use Plan Element, 2005.....	6
Union Beach Housing Plan Element, 2005.....	7
Union Beach Floodplain Management Plan, 2003.....	7
Union Beach Stormwater Management Plan, 2005, Amended 2007	9
Monmouth County Growth Management Guide, 1982.....	10
Monmouth County Master Plan Draft, 2013	11
Monmouth County Bayshore Region Strategic Plan, 2006.....	12
Monmouth County Multi-Jurisdictional Natural Hazard Mitigation Plan, 2009	13
Evaluation of Superstorm Sandy’s Impacts on Union Beach Borough	18
Damage to Homes	18
Damage to Public Buildings	22
Damage to Roads.....	22
Damage to Scholer Park.....	24
Damage to Shorefront Promenade Area and Park Amenities.....	25

Damage to Beaches..... 27

Community Vulnerabilities Exacerbated by Superstorm Sandy..... 28

Community Opportunities Created by Superstorm Sandy 28

Current Status of Post-Sandy Recovery Efforts..... 29

Demolition of Homes 29

Elevation of Homes 31

Sheltering and Temporary Essential Power (STEP) Pilot Program 32

Improvements to Roads..... 33

Improvements to Scholer Park..... 33

Improvements to Shorefront Promenade Area and Park Amenities 33

Army Corps of Engineers Flood Protection Project..... 34

Community Development Block Grant (CDBG) Disaster Recovery Programs 35

Small Business Administration Disaster Loans 36

Participation in FEMA’s Community Rating System 36

Community Outreach and Involvement..... 37

Monmouth County Long Term Recovery Group 37

Rebuilding Approaches That Will be More Resistant to Damage from Future Storms 38

Recommended Municipal Actions to Promote Recovery from Superstorm Sandy and to Reduce Vulnerabilities to Future Storms 39

Summary of Actions and Priorities..... 44

List of Figures

Figure 1: Regional Location..... 3

Figure 2: Key Community Facilities and Flood Hazard Areas..... 4

Figure 3: Damage to a Union Beach Home 20

Figure 4: The foundation of a destroyed home is flooded..... 20

Figure 5: A Destroyed Union Beach Home 20

Figure 6: Superstorm Sandy relocated a home into the street on Shore Road..... 20

Figure 7: Superstorm Sandy relocated a home into the street on Union Avenue 21

Figure 8: Superstorm Sandy relocated a home into the marsh area off of Jersey Avenue. 21

Figure 9: Debris and Damage to Homes on Lorillard Ave..... 21

Figure 10: Debris and Damage to Homes on Bayview Ave 21

Figure 11: Storm Debris Deposits on Rose Lane..... 23

Figure 12: Superstorm Sandy relocated a foot bridge from the Henry Hudson Trail onto Jersey Avenue. 23

Figure 13: Damages and Debris at Scholer Park..... 25

Figure 14: Damage to the Walkway along Firefighter’s Park..... 26

Figure 15: Damage to the Shorefront Area (1)..... 27

Figure 16: Damage to the Shorefront Area (2)..... 27

Figure 17: Damage to Beachfront Properties..... 27

Figure 18: Union Beach Homes Demolished Since Superstorm Sandy..... 30

Figure 19: A home is raised at Dock and Second Streets. 31

Figure 20: A home is raised on Fourth Street. 31

Figure 21: A home is raised on Edmunds Avenue. 31

Figure 22: A home is raised on Harris Avenue..... 32

Figure 23: A home is raised on Third Street..... 32

List of Tables

Table 1: Hazard Mitigation Action Strategies Identified by Union Beach Borough..... 15

Table 2: Census Tracts with “Severe” or “Major” Damage..... 19

Table 3: Severely Damaged Roads in Union Beach..... 23

Table 4: Recommended Actions to Recover from Superstorm Sandy and to Improve Response and Increase Resiliency to Future Storms40

Introduction

This Strategic Recovery Planning Report (SRPR) will serve as a blueprint to guide Union Beach Borough's recovery from the effects of Superstorm Sandy and to reduce vulnerabilities to future storms. Accordingly, the report:

- Evaluates the impacts on affected community features in Union Beach and addresses the conditions created or exacerbated by the storm;
- Articulates the planning goals, strategies, and priority actions that are most urgently needed to improve public safety, increase resistance to damage from future storms, and stimulate economic recovery; and
- Contains detailed descriptions of each of the projects proposed; a statement of need that demonstrates how each project relates to the impacts of Superstorm Sandy; why the project is important to the economic and environmental health of the community; the major tasks associated with each project; the estimated cost of implementation; identification of potential or actual funding sources to pay for project implementation; and estimated implementation dates.

Description of Union Beach Borough

Union Beach Borough is characterized in its Master Plan as an older suburban single-family residential and predominantly built-out community, of about 1.83 square miles in area. It is located in northeastern Monmouth County. Union Beach is bordered to the east by Keansburg Borough and the Thomas Creek, to the south by Hazlet Township, to the west by Keyport Borough and the Chingarora Creek, and to the north by Raritan Bay, as seen in Figure 1. The Township has approximately 3.8 miles of coastline fronting the Raritan Bay. The Borough also has two creeks that run north to south through the Borough, the Flat Creek and the East Creek.

Union Beach is also bordered to the south by NJ Route 36. The rest of the roadways in the Borough are local roads, which, other than Route 36, serve as the only other means of access to neighboring municipalities. The Borough's Land Use Plan Element (2005) states that land use in Union Beach is primarily characterized by residential uses (comprising 36.3% of the Borough's entire land area) and vacant land (comprising 26.1%). Other land uses in the Borough include rights-of-way/riparian lands (13.3%), industrial (11.4%), public environmentally constrained open space (11.3%), active recreation (3.5%), public/quasi-public (2.8%), and commercial (1.6%).

Union Beach has a population of approximately 6,252 (according to the U.S. Census Bureau's American Community Survey 2012 estimate) and 2,269 housing units. The Land Use Plan Element

anticipated the Borough's population to remain stable due to minimal available vacant land. These estimates do not take into consideration changes in population as a result of Superstorm Sandy.

Union Beach Borough is subject to flooding from hurricanes/tropical storms, which in the past have brought heavy precipitation, higher tides, and strong wave activity. In addition, tidal surges in Union Beach are often known to erode beachfront areas and block existing stormwater drainage systems. Roughly 90% of the Borough's land is located in a flood hazard area, and this includes majority of the Borough's buildings and key community facilities, as seen in Figure 2.

Prior to Superstorm Sandy there were 35 properties with repetitive loss claims in Union Beach, but now the Borough has over 500 homes listed on the Severe Repetitive Loss and Repetitive Loss lists. A repetitive loss property is defined as one in which a National Flood Insurance Plan (NFIP) claim of \$1,000 has been reported at least twice in the last ten years.

The entire Borough is in the Coastal Area Facility Review Act (CAFRA) zone. The CAFRA zone applies to development projects near coastal waters, and generally the closer an area is to the coast, the more heavily it is regulated by CAFRA law. The CAFRA law regulates almost all development activities involved in residential, commercial, or industrial development, including construction, relocation, enlargement of buildings, excavation, grading, shore protection structures, and site preparation.

Figure 1: Regional Location

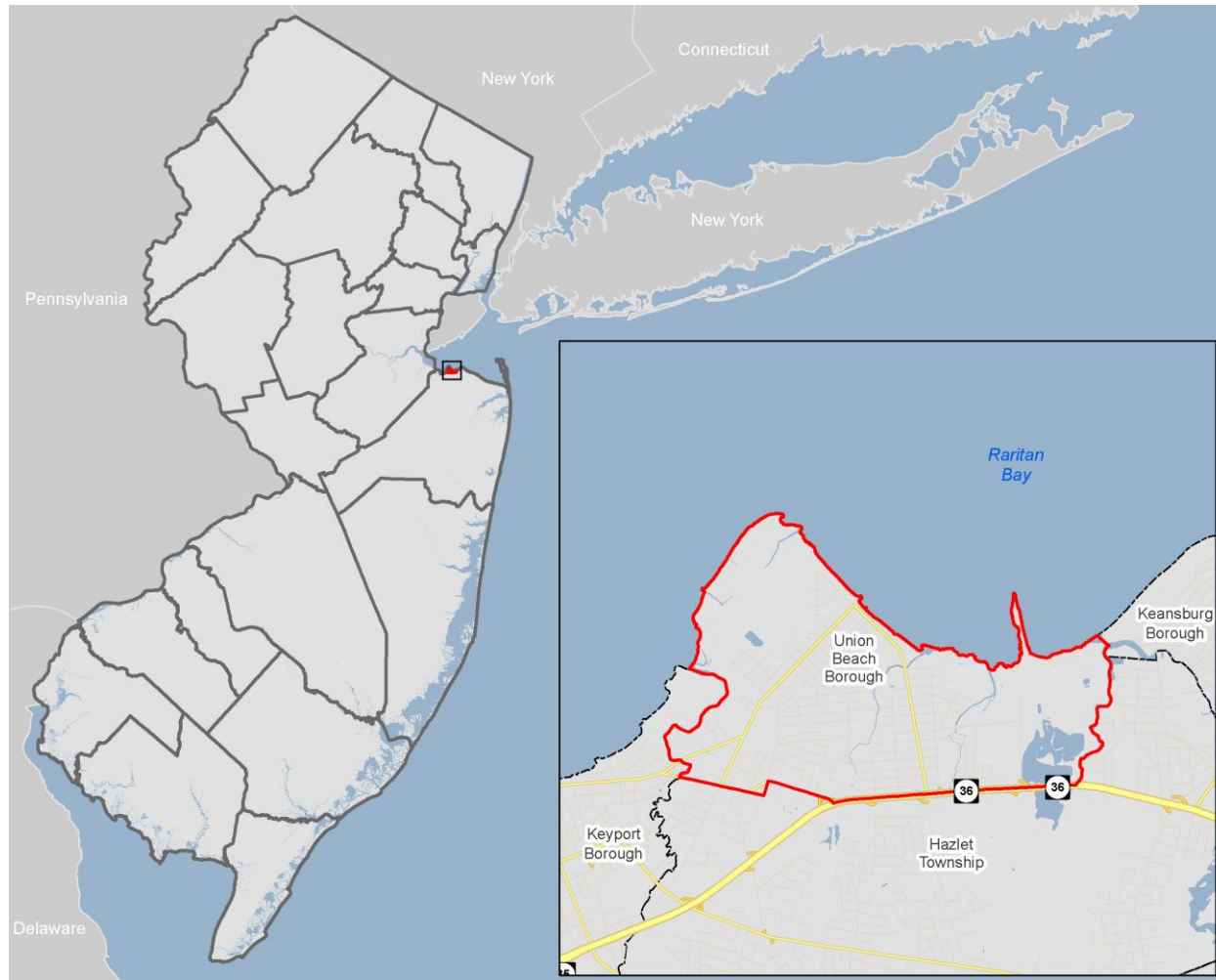
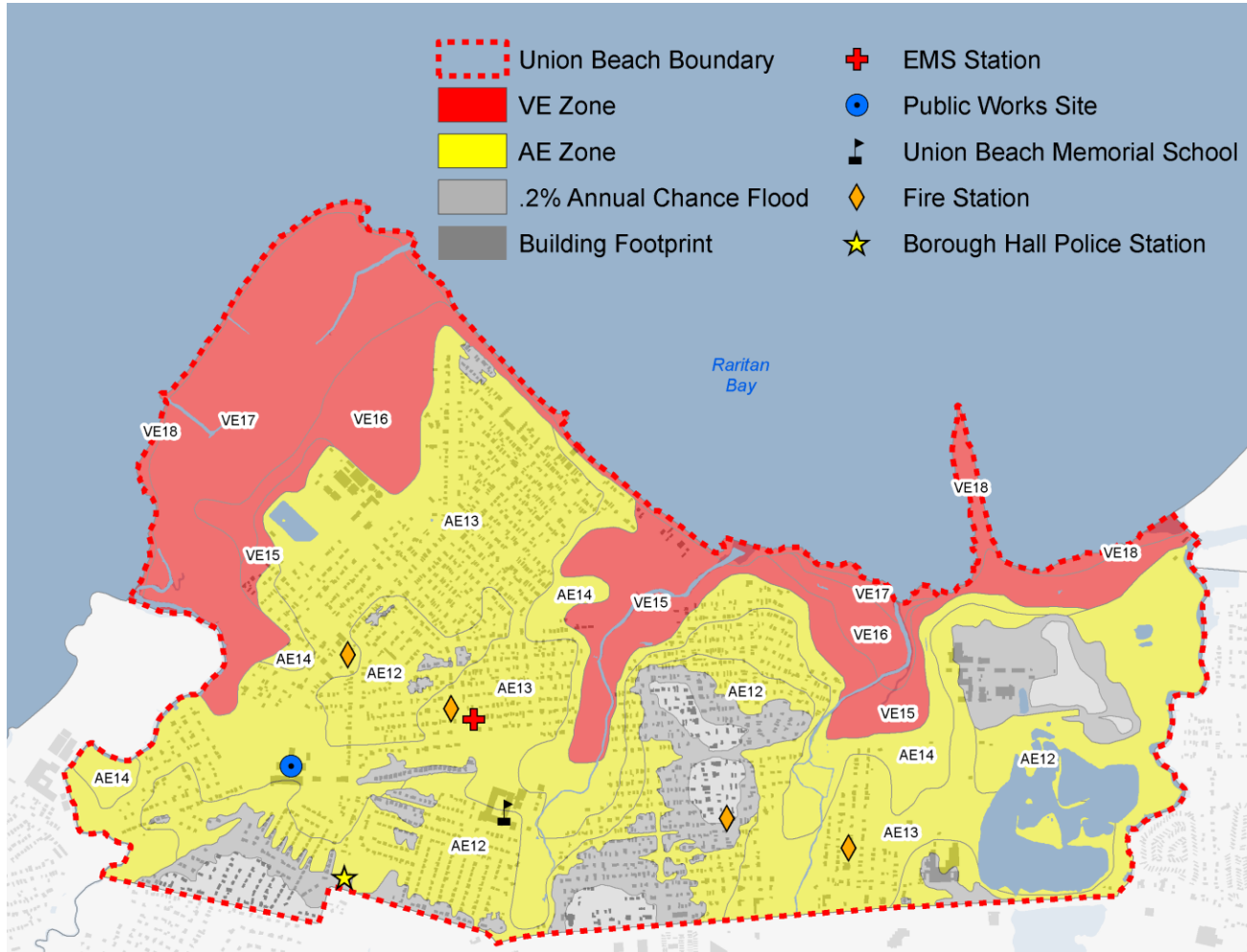


Figure 2: Key Community Facilities and Flood Hazard Areas



Assessment of Existing Planning Documents

Union Beach Master Plan, 2005

Union Beach’s Master Plan was adopted in 2005. It is comprised of the Land Use Plan Element, Housing Plan Element, and Stormwater Plan Element. The Plan breaks its goals and objectives down into various categories, the following of which are particularly significant to this SRPR:

Residential

- Identify sources of funds for rehabilitation of residential dwellings and provide assistance to property owners in procuring funds.

Commercial

- Strive to enhance and retain existing businesses and promote new business development along commercially zoned areas of Route 36, Union Avenue, Florence Avenue, and Front Street.

Circulation

- Improve the appearance of intermediate and major thoroughfares, such as Route 36, Union Avenue, and Florence Avenue.

Economic Development/Redevelopment

- Encourage the development of a diversified economic base that generates employment growth, provides increased tax rates, increases income levels, and promotes the reuse of underutilized properties.
- Capitalize on the Borough’s competitive advantages for economic development purposes including its land available for redevelopment.

Housing

- Encourage residential rehabilitation to improve substandard housing units and preserve neighborhood stability.

Community Facilities and Utility Infrastructure

- Improvement to stormwater management facilities along the bay front, roads, and intersections through effective infrastructure, maintenance, and replacement.
- Preserve and upgrade the existing utility infrastructure including water, stormwater management facilities, and wastewater treatment. Continue rehabilitation programs while pursuing selected replacement and expansion projects in order to accommodate growth and redevelopment.
- Encourage regularly scheduled infrastructure maintenance consistent with long range plans to avoid system failures.
- Maintain facilities that are in current use and renovate or reuse obsolete facilities for other uses.

Union Beach Land Use Plan Element, 2005

The Land Use Plan Element indicates the Master Plan's recommendations with respect to land use. It is intended to guide the Borough to develop more detailed land use regulations, which are regulated by the Borough's ordinances.

There are several land use issues which are addressed in the Land Use Plan and that are relevant to this SRPR, as follows:

- Need for better nonresidential design standards on Route 36.
 - Discussion of recreation and open space possibilities within the Borough.
 - Review uses that are no longer appropriate or missing appropriate uses in zone districts.
 - Need for commercial districts to have clearly defined uses to reflect the type of redevelopment most appropriate for the respective district.
 - Capitalize on the amenities of the waterfront, Heritage Trail, and Route 36 to encourage economic development into non-residential districts.
 - Address flooding problems and the impacts of the Federal Emergency Management Agency Regulations.
 - Land Use Element and Borough policies should be consistent with the State Development and Redevelopment Plan (SDRP) and NJ Coastal Management Rules.
- The Land Use Plan Element also outlines recommendations for all zoning districts in the Borough. More specifically, there are some key recommendations for the Single Family Residential (R-8) districts (those located in a floodplain) that are particularly essential to this SRPR and to promoting resilience in Union Beach. These are mostly centered on FEMA regulations (at the time of Plan adoption in 2005):
- All structural components must be adequately connected and anchored to prevent flotation, collapse, or permanent lateral movement of the building during floods.
 - Building materials and utility equipment must be resistant to flood damage. All machinery and equipment servicing the building must be elevated one foot above the Base Flood Elevation (BFE).
 - All utilities must be flood proofed to at least two feet above the BFE including: furnaces, heat pumps, hot water heaters, air-conditioners, washers, dryers, refrigerators, and similar appliances, elevator lift machinery, and electrical junction and circuit breaker boxes.
 - Any space designed for human habitation must be elevated to one foot above the BFE, including bedroom, bathroom, and kitchen, dining, living, family, and recreation room.
 - Uses permitted in the space below the BFE are vehicular parking, limited storage, and building access (stairs, stairwells, and elevator shafts only).

Union Beach Housing Plan Element, 2005

The 2005 Housing Plan Element is designed to achieve a goal of access to a variety of housing to meet municipal and regional housing needs with particular attention to low and moderate income household housing needs. It includes an inventory of Union Beach’s demographic, housing stock, and employment characteristics, as well as the Borough’s affordable housing obligation and growth share projection.

The following sections address Union Beach Borough’s cumulative affordable housing obligation for the period 1987 to 2014 in the form of a compliance plan, which identifies the various housing obligation requirements established by COAH. The Housing Plan Element also includes the compliance plans for COAH Cycles I, II, and II, including the Borough’s fair share responsibilities based on three components: prior round obligation, rehabilitation share, and growth share.

The Housing Plan Element’s outlines targeted goals in the form of a compliance plan, which identifies the various affordable housing obligation requirements established by COAH. The following are especially pertinent to this SRPR:

- Preserve established residential character wherever possible by preventing the intrusion of incompatible commercial and industrial uses into residential neighborhoods and promoting the rehabilitation of substandard units.

- Encourage residential rehabilitation to improve substandard units and preserve neighborhood stability.
- Promote the development of senior citizen housing that enables older residents to “age in place” including independent living, assisted living, and congregate care housing.

Union Beach Floodplain Management Plan, 2003

The Floodplain Management Plan was adopted in 2003. It includes four goals and seven recommendations. The following is a summary and status of each.

Goals:

- **Increase resident awareness of the impacts of tidal flooding on the Borough and measures that can be implemented to reduce the risks of flooding.** This has been ongoing since the adoption of the Floodplain Management Plan in 2003. The Borough practiced this goal in its 2013 Summer Newsletter, in which information was forwarded to all property owners regarding the impacts of flooding on the Borough and measures that can be implemented to reduce those risks. This information is also posted on the Borough’s website.
- **Acquire additional property along the Bayshore, streams, and flood prone areas to reduce the number of dwellings that are subject to flooding.** Union Beach has purchased properties on the water front, including

Fire Fighters Park. The Borough continues to look for opportunities to preserve properties in flood prone areas.

- **Encourage new development and construction to implement best management practices, as well as soil erosion and sediment control measures.** Various homes were lifted or demolished as a result of Superstorm Sandy. The Borough and the Borough Planning Board continue to require that all site plans and subdivisions, as well as capital improvement programs, comply with the NJDEP Stormwater Regulations and the Freehold Soil Conservation District standards.
- **Control development in areas subject to frequent flooding in order to avoid or mitigate the detrimental effects of development on the environment and the safety, health, and general welfare of the people of Union Beach.** The Borough continues to require that all new construction and substantial improvement complies with the Borough’s Flood Damage Prevention Ordinance. In 2013 the Flood Damage Prevention Ordinance was amended to reflect the Advisory Base Flood Elevation Maps.

The Plan’s recommendations are as follows:

- **Implementation of a complete flood protection system-** The cost of implementing a complete flood protection system continues to be not economically feasible. The Borough continues to work with the Army Corps of Engineers to pursue the implementation of a

combination of structural measures. In December 2008 a Value Engineering Study was conducted by the Army Corps of Engineers to review the selected Shore Protection Plan and to evaluate the State and Borough’s concerns and priorities as it relates to the Shore Protection and Flood Control Elements of the overall project. The Army Corps has completed their value engineering study and presented their findings at the December 2010 Borough Council Meeting. As part of the Superstorm Sandy Emergency Supplemental Bill (Public Law 113-2), the Army Corps is now conducting a limited reevaluation report of the shore protection plan to determine if the plan is economically justified, environmentally acceptable, and technically feasible. The reevaluation report is scheduled to be completed by mid to late April 2014.

- **Acquisition-** Union Beach did not acquire any additional property in 2013, though shore front properties have been acquired in the past. The Borough is pursuing possible acquisition of the sites through the Blue Acres program, including the site where Jakeabob’s restaurant was previously located (on Front Street), as well as two properties along the bay and adjacent to Firefighter’s Park. The Borough continues to pursue other opportunities to preserve property in flood hazard areas.
- **Zoning-** A review of the Borough Land Use and Development Regulations is currently underway by the Borough’s Unified Planning and Zoning Board. The Board is currently reviewing the sections of the

Ordinance relating to height setbacks to accommodate the recent changes in the Base Flood Elevation to permit residents to elevate and rebuild.

- **Flood-Proofing-** Union Beach encourages its residents to implement flood-proofing methods. Information is provided to all residents as part of the annual Spring Newsletter on the impacts of flooding. The information is also available on the Borough's website. The Borough's Construction Official has also been providing information on house raising and rebuilding to residents.
- **Infrastructure Improvements-** As part of the Union Beach's annual Capital Improvement Program, the Borough upgrades and extends additional drainage systems and continues to raise local roadways above the lunar moon tide elevation where feasible.
- **Emergency/Flood Warning Notifications-** Union Beach's Office of Emergency Management operates an Emergency Advanced Warning System (Code Red), and residents are notified of this system as well as the frequency of the Borough's OEM radio station in the Borough's quarterly newsletters.
- **Erosion and Sediment Control-** The Borough requires that all construction projects to implement soil erosion and control measures in accordance with the Freehold Soil Conservation District Requirements.

Union Beach Stormwater Management Plan, 2005, Amended 2007

The Stormwater Management Plan is intended to outline Union Beach's approach to address the impacts resulting from stormwater related issues associated with future development, redevelopment, and land use changes. The plan addresses groundwater recharge, stormwater quantity, and stormwater quality impacts through the incorporation of stormwater design and performance standards for new development and redevelopment projects that disturb one or more acres of land and/or result in more than one quarter acre of additional impervious coverage. The standards are intended to minimize the negative or adverse impacts of stormwater runoff such as decreased water quality, increased water quantity, and reduction of groundwater recharge.

More specifically, the Plan's goals that have relevance to this SRPR include:

- Reducing flood damage, including damage to life and property;
- Protecting public safety through the proper design and operation of stormwater basins and best management practices;
- Improving stormwater management along the bay front, roads, and intersections through effective infrastructure, maintenance, and replacement; and

- Encouraging regularly scheduled infrastructure maintenance consistent with long-range plans to avoid system failure.

Monmouth County Growth Management Guide, 1982

The Growth Management Guide (GMG) is the main planning tool used in Monmouth County. In 1982 it was adopted as the Monmouth County Master Plan. The GMG is intended to be a framework for other planning and decision making, and is a point of departure and a catalyst for an ongoing dialogue between the County and its municipalities.

The Guide categorizes the Borough of Union Beach as primarily a Suburban Settlement Growth Area, while the Borough’s coastal and wetland areas are located in both the Proposed Protection Area and the Environmentally Sensitive Area.

Suburban Settlement policies in this plan include:

- Encourage a variety of residential types in the suburban settlement.
- Encourage the use of the neighborhood unit in the suburban settlement.
- Encourage the use of cluster development in all parts of the county.

Proposed Protection Area policies in this plan include:

- Encourage public acquisition of unique freshwater wetlands for conservation and groundwater recharge.

- Continue the policy of supporting a county-wide system of linear greenbelts along primary and secondary streams.
- Encourage public acquisition of lands that are geologically unstable and unsuitable for development.

Environmentally Sensitive Area policies in this plan include:

- Restrict non-water related development in coastal flooding and high-risk erosion areas.
- Establish a coastal development district to set density, location, and use standards for areas adjacent to the Atlantic Ocean and the Sandy Hook and Raritan Bays.
- Prohibit high-rise structures from all areas east of the first public roadway from the Bay and discourage structures within 1,000 feet of the Bay shoreline.
- Allow for oceanfront development of beach-related commercial and recreational activities where such uses have been traditionally located.
- Encourage new coastal development compatible with the surrounding environment.
- Continue to protect tidal wetlands through state and federal wetlands management programs.
- Encourage municipalities to adopt ordinances providing for the protection and conservation of freshwater wetlands.
- Encourage municipalities to adopt and enforce floodplain ordinances to protect life and property against floodwaters, and to protect floodplains from development.

In 1995, the Monmouth County Planning Board adopted the Goals, Objectives, and Policies as an element of the GMG. Goals of the GMG relevant to this SRPR include the following:

- **Air Resources:** To promote land use planning that encourages the use of transit, walking and cycling, and the creation of centers in order to improve air quality by reducing automobile trips and congestion.
- **Centers:** To promote new and revitalize older urban areas into well designed mixed use centers with an easily accessible compact but varied core of residential, commercial, and community services which provide employment and create a specific identity.
- **Comprehensive Planning:** To promote comprehensive planning among all levels of government as well as the private sector by sharing information and developing a continuing dialogue on regulations, plans, policies, and issues.
- **Economic Development:** To promote managed growth by providing a suitable long-term economic climate and preserving and enhancing the quality of life in Monmouth County for the attraction of new businesses and the retention of existing businesses.
- **Historic, Cultural, Natural, and Scenic Resources:** To preserve the valuable historic, cultural, natural, and scenic resources of Monmouth County.
- **Housing:** To provide housing opportunities for all residents of Monmouth County.
- **Transportation:** To plan for a comprehensive and reliable intermodal transportation system that properly provides for public safety and meets the needs of the County's workers, residents, and visitors as well as respects the environment.
- **Water Resources:** To provide all of Monmouth County with a safe and pollution-free water environment, and conserve valuable water-oriented resources.

Monmouth County Master Plan Draft, 2013

The Monmouth County Planning Board is in the process of undergoing a comprehensive update to the County Master Plan, with drafts of its vision statement as well as goals, principles, and objectives available on the Monmouth County Division of Planning website.

The Plan's draft principles that are relevant to this SRPR include the following:

- **Comprehensive Planning:** Planning issues are to be addressed from interdisciplinary perspectives to identify and assess both interdependent and collective impacts and opportunities. This will minimize adverse impacts while maximizing benefits for all parties.
- **Coordination:** Effectual planning requires integration and coordination both internally (horizontally) and with other levels of government (vertically).

- Approach: Comprehensive planning relies on the use of new and emerging technologies as well as traditional methods of input from stakeholders and citizens.
 - Natural Resources: Natural resources are life supporting infrastructure that all human and built environments are dependent upon to function and prosper.
 - Investments in Preservation Areas: Aligning state, local, and county preservation strategies improves efficiency and reduces cost in protecting natural and unique resources.
 - Preservation of Community Character: Protect and strengthen the established character of municipalities and their unique, individual qualities.
 - Recovery and Community Resiliency: Promote planning, land use, and design strategies that increase the capacity to adapt physically and economically to long-term environmental changes and natural hazards.
 - Objectives:
 - Participate in long-term recovery, mitigation, and resiliency efforts to better protect people, businesses, and resources against environmental damage and natural disasters.
 - Assist in the coordination of the County’s long-term disaster recovery planning initiatives.
 - Provide assistance to other County agencies involved in disaster response and emergency management.
- Provide technical assistance to municipalities in disaster recovery efforts.
 - Investment in Growth Areas: Aligning state, local, and county investment strategies improves efficiency and reduces cost in repairing, and expanding systemic infrastructure.

The Plan will be a vital coordinating tool used by municipalities, school boards, businesses, and other government agencies to help guide efforts and actions that contribute to a strong, stable, and sustainable prosperity for those that call Monmouth County home.

Monmouth County Bayshore Region Strategic Plan, 2006

The Monmouth County Bayshore Region Strategic Plan was adopted in 2006. The plan is the result of the collective planning effort of nine municipalities in Monmouth County (including Union Beach), each of which faces a similar set of planning issues, and seeks to mitigate and solve these issues through collaborative, multi-jurisdictional planning efforts. The plan emphasizes the importance of pursuing common objectives and working together to facilitate regional solutions. There is a great deal at stake as downtown businesses continue to struggle, the region’s historic maritime character is challenged by physical and market forces, and waterfront and open space access are compromised by new development and a lack of resources.

The Bayshore Region Strategic Plan has the following goals and objectives relevant to the SRPR:

- Goal:
 - To create a vision and planning strategy to spur economic development in the region in a manner that recognizes the importance of preserving the region’s environmentally sensitive natural resources and beauty.
- Objectives:
 - To identify and assess current and future land use, economic development, urban design, and transportation issues along the Route 36 corridor.
 - To identify and assess needs for the preservation of the region’s sensitive natural resources.
 - To identify an economic development strategy consistent with the character of the region.
 - To protect the maritime character of the region.
 - To identify redevelopment and revitalization opportunities.

In addition, this Plan articulates a vision for the waterfront and open space of the Bayshore Region and envisions: “that the few remaining large tracts of upland natural areas are preserved and enhanced for open space and flood preservation where appropriate and feasible to preserve open space, protect the natural environment, or provide flood protection.”

For Union Beach Borough, the Plan envisions the preservation of natural areas and enhancement of recreational opportunities in

the Borough. The Plan also envisions upgrading the uses along Route 36 in the Borough. A Statewide Transportation Improvement Program allocation of \$7.65 million was recently granted to create a wetlands system adjacent to Route 36 to reduce flooding on the roadway.

Monmouth County Multi-Jurisdictional Natural Hazard Mitigation Plan, 2009

The Monmouth County Multi-Jurisdictional Natural Hazard Mitigation Plan was adopted in 2009 to meet the requirements of the Disaster Mitigation Act (DMA) of 2000. The plan’s development was led by the County and was funded through a FEMA planning grant. Monmouth County employed a multi-jurisdictional approach to develop the plan, and every municipality in the County was invited to participate as an equal partner with the County.

The Plan represents the collective efforts of citizens, elected and appointed government officials, business leaders, volunteers of non-profit organizations, and other stakeholders. The Plan identifies natural hazards that could affect the County’s jurisdictions, evaluates the risks associated with these hazards, identifies the mitigation actions to lessen the impacts of a disaster on Monmouth County communities, and prioritizes them based on the municipal master plans and other planning documents.

The successful implementation of the Plan will result in an increasingly resilient Monmouth County. In addition, the Plan ensures that Monmouth County and its jurisdictions are

compliant with the Disaster Mitigation Act of 2000, which makes the County and its jurisdictions eligible to apply for Federal aid for technical assistance and post-disaster hazard mitigation project funding.

The Plan states that Union Beach Borough has very little remaining vacant land available that is not impacted by environmental constraints suitable for development. The plan notes that development within the Borough typically takes place through redevelopment, rehabilitation of older housing, or infill development in established neighborhoods with the exception of a portion of the shorefront area.

To remain compliant with the DMA, the Plan must be updated every five years. The County is currently undertaking a comprehensive update of the Plan, with a draft expected to be completed in April 2014. The FEMA approval and jurisdictional adoptions of the updated plan are anticipated thereafter. Union Beach Borough is actively participating in the Plan's update and has provided progress reports to the County regarding mitigation and resiliency measures undertaken since the Plan's adoption in 2009. Table 1 outlines a list of 12 priority mitigation action strategies identified by Union Beach Borough in the 2009 Plan, and summarizes each project's status as of December 2013.

Table 1: Hazard Mitigation Action Strategies Identified by Union Beach Borough

Mitigation Action Strategy	Priority Ranking	Why a priority?	Target Date	Status as of 12/2013	Status Details
Raise the roadway elevation of the flood prone section of Florence Avenue.	1	This action is still Union Beach's top priority, as this road continues to flood and is a major access road for the Borough.	2010	Not Initiated	This action has not been initiated due to a lack of available funding. The Borough has to maintain egress and ingress in the municipality.
Raise the roadway elevation of the flood prone section of Jersey Avenue	2	Completed.	2012	Completed	This action was completed in 2011.
Raise the roadway elevation of the flood prone intersection of Spruce Street and Center Street	3	When these roadways flood, residents cannot access their homes.	2010	Not Initiated	The Borough's pre-disaster mitigation grant application to the NJ OEM was approved, but a lack of available funding stalls the project. Nonetheless, the work is scheduled to be completed in 2014.
Relocation of Harris Garden Fire Company Building to a site outside of the flood prone area	4	This is priority for the Borough in order for them to continue to provide firefighting services during flooding events.	2015	Not Initiated	This action has not been initiated due to a lack of available funding. The Borough submitted a HMGP grant application for this action.

Mitigation Action Strategy	Priority Ranking	Why a priority?	Target Date	Status as of 12/2013	Status Details
Raise the elevation of the flood prone Scholer Park parking lot	5	Completed.	2010	Completed	This action was completed in 2010.
Maintenance of the existing shore protection features (bulkhead, beach area)	6	This is the borough's first line of defense against wave actions and flooding during storm events.	Biannually	Ongoing	Union Beach continues this action through their existing capital budget and through grant applications. In April 2013, the Borough contracted out for the replacement of over 14,000 cubic yards of sand lost from Superstorm Sandy. Rehabilitation of bulkheads of damages from Sandy are ongoing and to be completed in May 2014.
Cleaning and maintenance of the existing storm drains and inlets	7	These are necessary for the Borough in order to ensure property drainage of flood waters and to reduce the chance of flooding.	Annually	Ongoing	The Borough continues to maintain these features through their existing capital budget. In 2013, the Union Beach DPW cleaned over 80 catch basins and 28 outfalls in the Borough. In addition, the entire drainage system has been cleaned of debris from Superstorm Sandy.
Cleaning and maintenance of receiving waterways and creeks	8	These are necessary for the Borough in order to ensure property drainage of flood waters and to reduce the chance of flooding.	Annually	Ongoing	The Borough continues to maintain these features through their existing capital budget. In 2013, the Monmouth County Mosquito Commission cleaned and desnagged the tributaries in the vicinity of Poole Avenue and Scholer Park.

UNION BEACH BOROUGH— STRATEGIC RECOVERY PLANNING REPORT

Mitigation Action Strategy	Priority Ranking	Why a priority?	Target Date	Status as of 12/2013	Status Details
Installation of flood warning signs in flood prone areas	9	Since many roads in the borough flood it is imperative for the borough to have proper signage in order to reduce risk and damage to personal property.	2010	Not Initiated	This action has not been initiated due to a lack of available funding.
Upgrade Borough's existing warning system	10	Upgrading the existing system will keep the system capable with surrounding communities and the county.	2012	Not Initiated	This action has not been initiated due to a lack of available funding.
Upgrade emergency generator at police headquarters	11	Completed.	2012	Completed	Completed.
Implementation of the Army Corps of Engineers Shore Protection and Flood Control Project	12	This project would protect the Borough against major flooding events.	2015	Not Initiated	In 2008 the ACOE conducted a Value Engineering Study to review the selected Shore Protection Plan and to evaluate the State and Borough's concerns. The ACOE is now conducting a limited reevaluation report to determine if the plan is economically justified, environmentally acceptable, and technically feasible (scheduled for April 2014). This project is now recognized as high priority by the Borough.

Evaluation of Superstorm Sandy's Impacts on Union Beach Borough

Superstorm Sandy brought high winds, heavy rains, and a record tidal surge and waves to Union Beach. Impacts on Union Beach include (but are not limited to) the following:

- Major inundation of approximately 90 percent of the Borough's land ranging from 2 to 10 feet in depth;
- Approximately 24,500 tons of storm damage debris littering the entire Borough;
- Loss of fuel across the Borough;
- Loss of power and cell phone service across the Borough for a little over two weeks;
- Destruction of the Borough's emergency warning system;
- Inoperability due to damages of most municipal buildings (excluding Borough Hall), fire houses, and emergency medical service buildings for months after the storm hit;
- Extensive damage to the bulkhead, walkway, open space areas, and businesses along the bayfront and throughout town;
- Extensive damages to the Scholer Park area;
- Damage to asphalt roads and their sub-grade on four (4) roads in the Borough;
- Prevention of the circulation of emergency vehicles;
- Destruction of Borough-owned vehicles (declared a total loss by the insurance company and not in use during Superstorm Sandy), including one EMS chief vehicle, one EMS first responder unit, one OEM vehicle, two new ambulances, 12 police vehicles and their equipment/contents, and 16 Public Works vehicles;
- Destruction of Borough vehicles-owned vehicles (declared a total loss by the insurance company and in use during Superstorm Sandy), including one OEM vehicle, one Public Works vehicle, and one police vehicle;
- Damage to one Fire Department Chief vehicle and three EMS vehicles (not declared a total loss by the insurance company and in use during Superstorm Sandy);
- Destruction of one commercial building at 525 Front Street; and
- Forced evacuation of hundreds of Borough residents from their homes.

Damage to Homes

Superstorm Sandy destroyed approximately 60 homes in Union Beach Borough. Approximately 143 homes were severely damaged and served as hazards to public health and safety until they were demolished. Sandy's record storm surge inundated about 2,043 housing units by flood waters ranging from 2 to 10 feet in depth.

629 properties (which account for approximately 22% of the Borough's housing stock) were "substantially damaged." This is defined as damage of any origin sustained by a structure whereby the total costs of restoring the structure to its before-damaged condition would equal or exceed 50% of the structure's pre-storm market value.

In the months following Superstorm Sandy, the New Jersey Department of Community Affairs compared 2011 American Community Survey 5-Year Survey Data and FEMA Individual Assistance Data (effective March 12, 2013) with observed storm-related damage in order to identify damages and to determine the most efficient use of Community Development Block Grant Disaster Recovery (CDBG-DR) funds. This effort resulted in the completion of a Statewide CDBG Disaster Recovery Action Plan.

The CDBG Disaster Recovery Action Plan identifies two census tracts in Union Beach Borough where homes sustained “severe” or “major” damage according to classifications made by HUD, as seen in Table 2. This table does not include dwelling units that sustained minor damage, which was far more common.

Table 2: Census Tracts with “Severe” or “Major” Damage

Census Tract	Percent of Households with Major or Severe Damage	Households	Median Household Income
34025801800	67%	2,102	\$65,654
34025801700	47%	1,772	\$52,804

Source: CDBG Disaster Recovery Action Plan (2013)

The physical damages sustained to the houses throughout the Borough were further worsened as roughly 35% of Union Beach

Borough households are classified as low-to-moderate income households according to the 2007-2011 American Community Survey 5 year estimate.

In addition, some homes faced damages bad enough to warrant their evacuation, but remain standing in 2014. These homes are hazards because they are creating a threat to public health and safety, with hazardous debris and other materials lingering in or around the house that may be dangerous to the public or nearby neighbors. Another hazard includes the lingering smell of debris and destruction. To exacerbate this problem, these vacant homes have been found unsafe and are vulnerable to looters. Union Beach has recorded that there remain 98 homes standing in this condition.

Furthermore, as of February 28, 2014, 116 homes in Union Beach have faced bank foreclosure since Superstorm Sandy made landfall. 25 additional bank foreclosures are in progress.

As a result of the destruction and damages mentioned above, Union Beach faces a significant financial burden. The Borough as a whole has sustained a 9.5% loss in home values and tax revenue. The Borough surveyed 252 homeowners for all financial information post-Sandy, and found: an average of \$140,000 in mortgage payout; \$60,000 in average flood payout; \$6,000 in average homeowners insurance; an average policy amount of \$250,000; and an average of \$2,000 in increased rent.

Figure 3: Damage to a Union Beach Home



Figure 5: A Destroyed Union Beach Home



Figure 4: The foundation of a destroyed home is flooded.



Figure 6: Superstorm Sandy relocated a home into the street on Shore Road.



Figure 7: Superstorm Sandy relocated a home into the street on Union Avenue.



Figure 9: Debris and Damage to Homes on Lorillard Ave



Figure 8: Superstorm Sandy relocated a home into the marsh area off of Jersey Avenue.



Figure 10: Debris and Damage to Homes on Bayview Ave



Damage to Public Buildings

Union Beach's Municipal Complex, which was used as a shelter during the height of Superstorm Sandy, sustained wind damage, including damage to 300 square feet of roof shingles, 300 square feet of roof felt, and 64 square feet of sheathing on the east side of the mansard.

The Borough's Public Works site at 1400 Florence Avenue also sustained floodwater and wind damages from Hurricane Sandy. The Public Works main building sustained storm water sweeping through the doors on the front of the building and flooding the interior space. The list of interior contents that were damaged by floodwater is extensive, and includes (but is not limited to) the following: remnants of damp surfaces, muck and debris on flooring, walls, and doors; saturation of paneling, insulation, flooring, walls, and doors; and warping/buckling of plywood flooring. In addition, Sandy winds blew off a partial section of the roof surface and collapsed a partial section of the roof brick masonry firewall parapet.

Damages to the Public Works site also affected the municipal garage. The interior of the building was flooded to a depth of approximately 36 inches above the finished floor, resulting in muck throughout the building's flooring as well as damages to the following: wooden baseboards, drywall, paint, interior doors, a 10 gallon electric water heater, a light switch, and two garage doors.

Public Work's mechanics garage also sustained floodwater and wind damages totaling approximately \$757,680. The building's

interior was flooded to a depth of approximately 48 inches above the finished floor. Barrels of used engine oil and vehicle fluids stored inside the building were spilled by the floodwaters covering the building interior and contents with up to 48 inches of engine oil and vehicle fluids. This caused interior surface damage to the building's floors, walls, and doors. It also damaged the building's electrical system, including (but not limited to) damages to the main panel box, the sub panel box, the main switch in the compressor room, and the electric hot water heater in the vehicle bay. Damages to the building's exterior were caused by high velocity surge water and winds, which included damage to exterior metal siding, foam insulation, metal gutters, and roofing.

Damage to Roads

Four roads in Union Beach were severely damaged, including Beach Street, the intersection of Spruce Street with Center Street and Fifth Street, the intersection of Pine Street and Third Street, and Rose Lane. Damage was the result of a combination of storm surge, wave action, and heavy emergency vehicular traffic. The several feet of standing salt water on these roads saturated the subgrade and, along with the use of heavy emergency vehicles, compromised the structural integrity of the roads causing the subgrade, asphalt surface, curb, and gutter to fail. The damages to these roads were extensive, and affected asphalt, road base and sub-base, curbs, gutters, guard railing, as well as subgrade and embankment material. Detailed measurements of damages are depicted in Table 3.

Figure 11: Storm Debris Deposits on Rose Lane



Figure 12: Superstorm Sandy relocated a foot bridge from the Henry Hudson Trail onto Jersey Avenue.



Table 3: Severely Damaged Roads in Union Beach

Damage to:	Beach Street	Spruce & Center, Spruce & Fifth	Third & Pine Streets	Rose Lane
Asphalt	2,100 sq. ft. (a)	10,400 sq. ft.	7,800 sq. ft.	4,500 sq. ft.
Base	2,100 sq. ft. (a)	10,400 sq. ft.	7,800 sq. ft.	4,500 sq. ft.
Sub-base	-	10,400 sq. ft.	7,800 sq. ft.	4,500 sq. ft.
Curb	150 linear feet (a)	800 linear feet	600 linear feet	300 linear feet (b)
Gutter	150 linear feet (a)	800 linear feet	600 linear feet	-
Metal Guardrail	-	-	-	300 linear feet
Subgrade & Embankment Material	-	-	-	3,600 cubic feet

(a) Damage was to the northern half of the road.

(b) Curbing was lost, moved, undermined, or compromised.

In addition, the storm also moved the shoreline of Natco Lake along Rose Lane. The Lake eroded into the roadway's steep embankment.

Damage to Scholer Park

Scholer Park is the Borough's main recreational facility and comprises approximately 5 acres of land. It is located fewer than 800 feet from Raritan Bay, and is surrounded on the northeast and southeast by wetlands. It includes such recreational facilities as a hardball field, a softball field, two basketball courts, an inline hockey rink, a skateboard park, a tot lot, a building with concessions, restrooms, and utility services, and a parking lot.

Superstorm Sandy's storm surge sent massive amounts of debris into Scholer Park and left flood waters in excess of 8 feet. Superstorm Sandy also:

- Moved the hardball field bleacher approximately 40' and unsecured several sections of chain link fence surrounding the bleacher;
- Destroyed a 5-row, 15' wide bleacher with chain link sides and back at the softball field;
- Damaged the hardball backstop;
- Damaged two sections of the softball backstop fencing and attachment components and damaged the hardball bleacher backstop;
- Bent 25-8' chain link fence posts at the softball field, as well as 3-8' chain link fence posts and 9-6' chain link posts at the hardball field;
- Damaged a 4-foot tall, 6-foot long fence and 6-feet of a horizontal bracing bar at the hardball field first base dugout;
- Destroyed 320 feet each of corrugated plastic fence crown both at the softball and hardball fields;
- Destroyed the double swing gate on the third base side of the hardball field;
- Removed warning and infield track mix at both the hardball and softball fields;
- Removed pitcher's mound clay from the hardball field;
- Subsided concrete sidewalk from the concession building;
- Destroyed a 30 gallon hot water tank in the concession building;
- Damaged concrete curbing in the parking lot and asphalt sidewalk adjacent to the parking lot;
- Damaged several hockey rink dasher boards and destroyed safety netting;
- Destroyed several pieces of playground equipment and wood edging at the playground;
- Destroyed sections of the skateboard surface and damaged chain link fencing;
- Destroyed three (3) picnic tables, two (2) trash receptacles, and three (3) park benches;
- Damaged the irrigation system, including electrical components; and
- Damaged the park overhead lighting electric system.

Figure 13: Damages and Debris at Scholer Park



Damage to Shorefront Promenade Area and Park Amenities

The existing bulkhead system that traverses the entire Shorefront Promenade Area remained intact after Superstorm Sandy with only minimal damage to the sheet piles. However, approximately 2,800 linear feet of timber cap and galvanized rail and timber post was damaged, destroyed, and missing. In addition, many of the galvanized supports and caps were either missing or damaged.

The two ADA-compliant beach access ramps at the Shorefront Promenade Area sustained significant damage to the decking and rail system. The westernmost ramp was lifted by the storm, and the entire rail system was damaged and even missing in some areas. Approximately 50% of this ramp's decking was lifted or damaged. The easternmost access ramp also faced damage to the

decking and rail system, as the entire rail system was damaged and/or destroyed, and approximately 35% of its decking was damaged.

Union Beach's shorefront park amenities sustained further damages in three passive park areas along its waterfront: The first area extending approximately 750 feet along the western section of the promenade between the existing parking area and the bituminous walkway; at Veterans Park; and Firefighter's Park.

The first park area extending along the western section of the promenade between the existing parking area and the bituminous walkway sustained the following significant damages:

- Damaged paved seating area;
- Nine (9) concrete benches and three (3) picnic tables were damaged or destroyed;
- The park's concrete play structure and falling surface were completely destroyed;
- The entire galvanized rail fencing and post system surrounding the play structure was damaged and/or destroyed;
- Minor damage to the gazebo;
- Removal of the Ellison Park sign;
- The electrical component box was completely submerged;
- All of the electrical components including wiring had salt water intrusion; and

- Concrete curb along the parking area and bituminous walkway was damaged as part of the debris removal and cleanup operations.

At Veterans Park, the following damages were sustained:

- Two (2) of the memorial monuments were completely destroyed;
- The center World War I concrete statue was damaged;
- The 9/11 monument sustained minor damage;
- The irrigation control box associated with the open space area was destroyed and the entire irrigation electrical system had salt water intrusion;
- The Park's three (3) flag poles sustained damage at the base and had to be replaced;
- The rock monument and concrete slab was displaced;
- Concrete curbing and sidewalk along Front Street was damaged as part of the debris removal operation;
- The entire length of post and rail fence was damaged and/or destroyed; and
- All of the landscaping and grassed area was destroyed.

At Firefighter's Park, the following damages were sustained:

- Damaged and/or destroyed tot lot equipment;
- The falling surface in the tot lot and swing set areas was washed away;
- The gazebo sustained substantial damage to the metal roof area, as four of the six roof panels were damaged;

- The electrical control box was completely submerged and all of the electrical components including wiring faced salt water intrusion;
- The post and rail wooden fence was destroyed;
- The park entrance sign was washed away;
- Concrete curbing and sidewalk along Front Street was damaged as part of the debris removal operation; and
- The park landscaping was completely destroyed.

Figure 14: Damage to the Walkway along Firefighter's Park



Figure 15: Damage to the Shorefront Area (1)



Figure 16: Damage to the Shorefront Area (2)



Damage to Beaches

The Borough's beaches sustained acute erosion and damage to dunes. The beach and dune erosion resulted in an immediate threat of additional damage or destruction to improved property and the general public. The improved property, roads, and buildings were at or below the five year still water elevation. A dune approximately 1,500 linear feet long sustained damage to the protective dune system.

Figure 17: Damage to Beachfront Properties



Community Vulnerabilities Exacerbated by Superstorm Sandy

Superstorm Sandy exacerbated the vulnerability of homeowners and business owners in the following ways:

- The loss of fuel exposed residents to the dangers of cold fall nights;
- The loss of power and cell phone service impacted the communication between emergency personnel;
- Damage to the Bayshore Regional Sewerage Authority and Monmouth County Bayshore Outfall Authority pump stations threatened the health of residents by failing to prevent backflow of raw sewage into flooded Borough streets;
- Those located in low-lying areas close to the waterways that border and run through Union Beach Borough were especially vulnerable to flooding;
- Regular moon tide inundation has increased as a result of stream siltation from Superstorm Sandy;
- Damages to roads and flooding throughout the Borough hindered the capacity of emergency response vehicles;
- Destruction of and damage to homes threatened the Borough's residents, 35% of whom are classified as low-to-moderate income households and who may not have access to the same emergency protection and recovery resources as the remainder of the population;
- There was a significant lack of emergency housing for those displaced by the storm; and

- The Borough's Department of Public Works site is located in an area prone to flooding and severe damages in another Sandy-type storm.

Community Opportunities Created by Superstorm Sandy

The impacts of Superstorm Sandy have shed light on the ways in which Union Beach may improve its resiliency in future storm events. As such, the Borough may improve its resiliency by implementing the following opportunities that have been created:

- Promoting public awareness of hazard mitigation and resiliency issues;
- Focusing public agencies on community vulnerabilities to hazards such as flooding;
- Encouraging regional solutions to flood- and storm-related impacts;
- Ensuring that future capital projects are designed and constructed to incorporate features that are resilient to storm- and flood-related impacts;
- Encouraging/supporting the use of sustainable development techniques and green building design in future development and redevelopment; and
- Implementing the Army Corps of Engineers Comprehensive Flood Control Project.

Current Status of Post-Sandy Recovery Efforts

In the days and weeks immediately following Superstorm Sandy, Union Beach took the following emergency protective measures:

- Evacuated stranded residents;
- Barricaded flooded roads and hazards;
- Utilized police officers and dispatchers to patrol the community, secure evacuated areas, and perform rescues, among other duties;
- Borrowed emergency generators from Hazlet Township for temporary power;
- Staged the court room as a FEMA center for six months after the storm;
- Staged the Senior Room in the Municipal Complex as a recovery center. This included such services as SHRAP, RREM, CPC counselors, pro-bono attorneys, financial counseling, renovation, tax preparation, lot clearing, food stamps, free meals for 500 people three times a day, donated clothing and toiletries, among other services. This center supports all of the New Jersey shore towns, especially Monmouth County. Over 300,000 hours of volunteerism has been gifted to Union Beach alone since the storm. This is ongoing through 2015;
- Contacted six contractors to remove storm-related debris, and temporarily moved it to three temporary debris management areas, costing over \$6 million;

- Constructed emergency protective berms/dunes along the beach totaling 1,500 linear feet long;
- Repaired damages to the Public Works complex; and
- Performed 2,250 residential property inspections over a period of five days, under contract with three teams of structural engineers and building inspectors, in order to tag the residence and determine which properties were either safe, potentially dangerous (with limited entry allowed), or unsafe.

Demolition of Homes

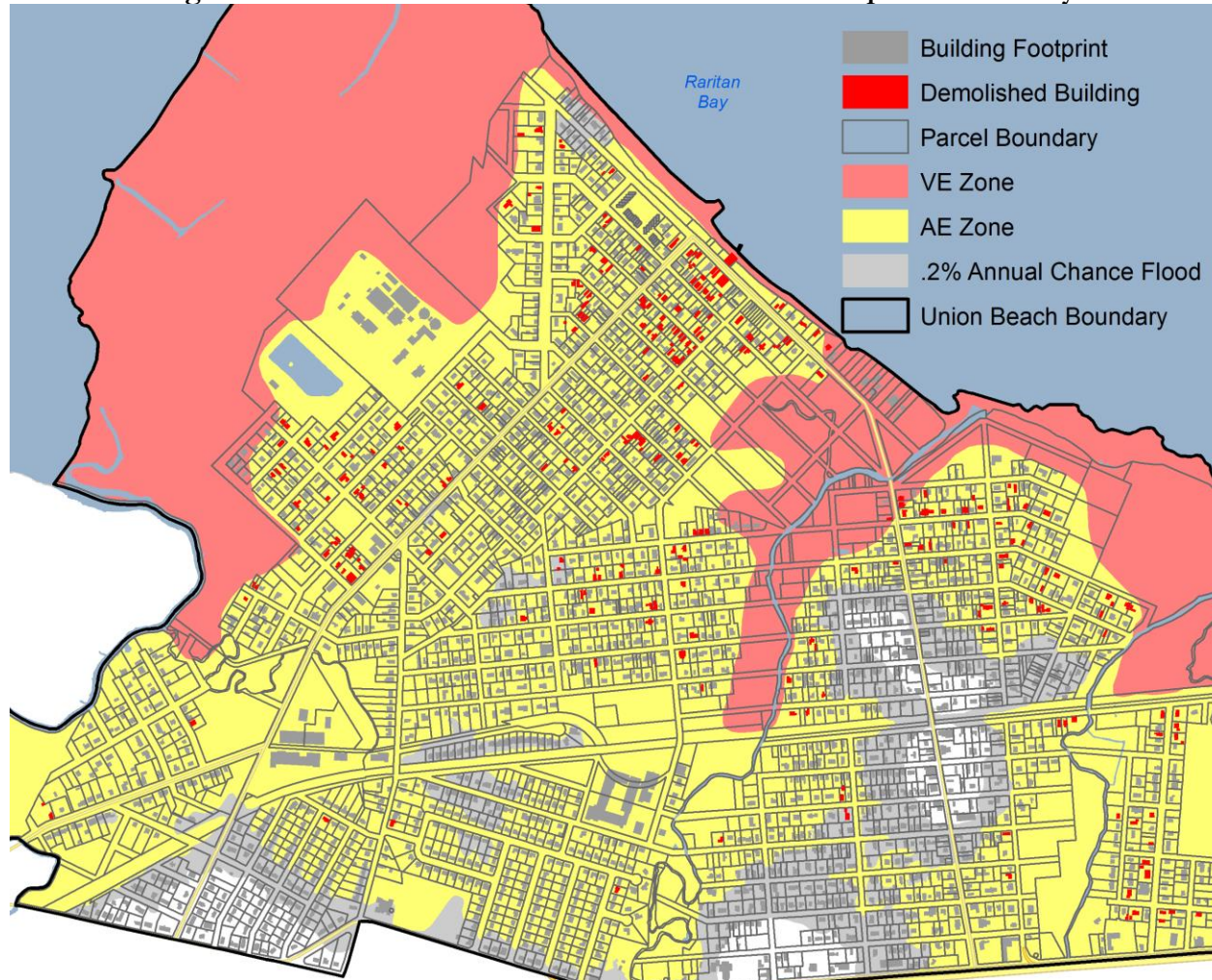
During the weeks and months following Superstorm Sandy, 252 homes were taken down by volunteer groups (see Figure 18). The Borough provided the following statistics on these homes:

- 143 of these homes were substantially damaged and were hazards to public health and safety.
- 158 were tested for asbestos. Union Beach filed a FEMA grant in October of 2013 to request reimbursement of the full amount of this work, totaling \$111,902.25.

The Borough applied for another FEMA grant in June of 2013 to fund the demolition of 102 additional homes, eight of which were subsequently funded for demolition (totaling \$68,328). FEMA awarded the funding for these homes because they were considered to be in a state of imminent destruction.

Union Beach also has submitted to Monmouth County a list of 90 properties in the Borough to be demolished. The status of these 90 homes is pending.

Figure 18: Union Beach Homes Demolished Since Superstorm Sandy



Elevation of Homes

To date, 103 homes in Union Beach have been elevated since Superstorm Sandy.

In March 2013 the Borough adopted Resolution # 2013-H043 requesting that the federal government reimburse residents of Union Beach for the entire cost of raising homes to comply with the new Advisory Base Flood Elevations (ABFEs). Many of the flood-impacted areas within the Borough have been changed to a higher base flood elevation and the residents are required to raise their homes to comply with these standards.

Figure 19: A home is raised at Dock and Second Streets.



Figure 20: A home is raised on Fourth Street.



Figure 21: A home is raised on Edmunds Avenue.



Figure 22: A home is raised on Harris Avenue.



Figure 23: A home is raised on Third Street.



Sheltering and Temporary Essential Power (STEP) Pilot Program

Some homes that faced damages from Superstorm Sandy did not need to be demolished. In some cases, and as was the case in Union Beach, homeowners desired to make permanent repairs to their homes while they remained occupying them. This program allows homeowners to do so in order to reduce the cost of the Transitional Sheltering Assistance Program. Union Beach applied for the STEP program and was accepted.

Home repairs that are eligible for funding under the STEP program include: residential electric meter repairs such as weather heads, service cable, and meter and socket boxes; shelter-essential measures like electricity, heat, and hot water; and rapid temporary exterior repairs, as necessary to protect storm damaged residences from further damage and facilitate sheltering in place.

In March of 2013 Union Beach Borough applied for funding through a FEMA grant. The maximum allowed cost per residential unit is \$10,000, which includes all costs including inspection fees, and all costs for contracts, labor, equipment, and materials. Union Beach identified 18 eligible residential properties, for a total requested estimated project cost of \$180,000. Only \$13,000 of this was needed and allocated towards hot water heaters for these properties.

Improvements to Roads

In November of 2013, Union Beach was awarded a FEMA grant to fund improvements to four roads that faced damages from Superstorm Sandy, including Beach Street, Spruce Street at Center Street and at Fifth Street, Pine Street at Third Street, and Rose Lane. Improvements at all of these roads include replacing damaged asphalt, replacing either base or sub base, and replacing curbing and/or gutters. Additional improvements specific to Pine and Third Street include replacing a stop sign and rebuilding three adjacent driveway entries. Additional improvements specific to Rose Lane include replacing a metal guard rail and post system.

Improvements to Scholer Park

In June of 2013, Union Beach applied for a FEMA grant to fund improvements to Scholer Park in order to return the park to its pre-Sandy condition, and the project was subsequently approved. Union Beach is undergoing the following improvements to Scholer Park:

- Clearing the site for repairs;
- Repairing damaged asphalt sidewalk and concrete curbing in the parking area;
- Replacing one cast iron inlet head at the parking lot;
- Replacing picnic tables, trash receptacles, and benches;
- Repairing the park's irrigation and overhead lighting systems;
- Replacing fencing along a neighboring property's back yard;

- Removing and replacing concrete sidewalk and replacing the hot water tank at the Park's concessions building;
- Replacing several pieces of playground equipment;
- Repairing several hockey rink dasher boards; and
- Replacing several sections of skateboard surface.

At the hardball and softball fields, improvements include the following:

- Replacing bleachers, chain link fence posts, horizontal bracing bars at the first base line, corrugated plastic fencing crown, warning and infield track mix, and pitcher's mound clay at both fields;
- Securing several sections of chain link fencing surrounding the hardball field bleacher and the softball field;
- Repairing damaged sections of the hardball backstop, backstop fencing, and bleacher backstop;
- Repairing fencing at the hardball first base dugout and horizontal bracing bar; and
- Replacing a double swing gate on the third base side of the hardball field.

Improvements to Shorefront Promenade Area and Park Amenities

Union Beach applied for a FEMA grant in March of 2013 for this project. It involves funding the repair of the area's bituminous walkway, the bulkhead railing with timber post and galvanized

steel railing, and the beach access ramps. In addition, the Borough also applied for funding of the installation of various shorefront park amenities at Veteran's Park and Firefighters Park, including sidewalks, curbing, picnic tables, benches, monuments, flag poles, play structures, a gazebo, and signage. The electrical system at the shorefront parks will also be repaired.

Army Corps of Engineers Flood Protection Project

One way that Union Beach Borough has been involved in hardening the Borough's coast against flooding is through the preparation of the Army Corps of Engineers' flood protection project. This project has been underway and in preparatory stages since 1993, when a reconnaissance study of the entire Raritan Bay and Sandy Hook Bay area was done. This study recommended a pre-feasibility study in order to evaluate possible solutions to storm damages. This pre-feasibility study was underway until 1996, and recommended that the project include the following components: levees, floodwalls, beach fill with dunes, drainage structures with tide gates, sector gates, pump stations, and road-raising along the bayfront. Subsequently, from 1997 to 2003 a final feasibility study was completed, which analyzed approximately 100 alternative plans. The selected plan of this study included (but is not limited to) the following components: 10,870 linear feet of earthen levees, 6,885 linear feet of concrete seawall, 3,388 linear feet of interior levees, primary and secondary drainage outlet structures, tide gate structures, a road closure gate, road raising along the bay, three pump stations, beach fill and dunes, and beach dune re-nourishment every nine years. In

December 2008 a Value Engineering Study was conducted by the Army Corps of Engineers to review the selected Shore Protection Plan and to evaluate the State and Borough's concerns and priorities as it relates to the Shore Protection and Flood Control Elements of the overall project. The Army Corps completed their value engineering study and presented their findings at the December 2010 Borough Council Meeting. As part of the Superstorm Sandy Emergency Supplemental Bill (Public Law 113-2), the Army Corps is now conducting a limited reevaluation report of the shore protection plan to determine if the plan is economically justified, environmentally acceptable, and technically feasible. The reevaluation report is scheduled to be completed by mid to late April 2014.

This project was also included as one of the Borough's priorities in the 2009 Monmouth County Multi-Jurisdictional Natural Hazard Mitigation Plan. At that time it was ranked number 12 in a list of priorities, but it is now recognized as high priority by the Borough.

The planning objectives of this project include the following:

General:

- Meet the needs and concerns of Borough residents.
- Respond to expressed public desires and preferences.
- Be flexible to accommodate changing economic, social, and environmental patterns and changing technologies.

- Integrate with and be complementary to other related programs in Union Beach.
- Establish and document financial and institutional capabilities and public consensus.

Specific:

- Reduce the threat of potential future damages due to the effects of flooding, erosion, and related processes.
- Prevent or mitigate the effect of long-term erosion.
- Enhance the recreational potential of the area.
- Enhance the function of significant environmental resources.

Community Development Block Grant (CDBG) Disaster Recovery Programs

Union Beach Borough has received recovery aid from various federal funding programs. The NJ Department of Community Affairs has put together an online database of CDBG programs that have aided in Superstorm Sandy recovery across New Jersey, updated as of April 7, 2014. Union Beach's residents have been awarded \$43,640,000 from the following housing programs:

Homeowner Resettlement Program (HRP): \$180 million in federal funds have been allocated to support a Homeowner Resettlement Program designed to encourage homeowners to remain in the nine most impacted counties (Atlantic, Bergen, Cape May, Essex, Hudson, Middlesex, Monmouth, Ocean, and Union) that were severely impacted by Superstorm Sandy. The

funds may be used for any non-construction purpose that assists the Homeowner to remain in, or return to, the county in which they lived prior to Superstorm Sandy.

In Union Beach, 309 low-to-moderate income housing units and 480 urgent need units were awarded grant monies through the HRP, totaling 789 housing units for the Borough. With a grant amount of \$10,000 per household, \$7,890,000 has been awarded to Union Beach, all of which has been disbursed as of April 7, 2014.

Homeowner Reconstruction, Rehabilitation, Elevation, and Mitigation (RREM): \$600 million in federal funds have been allocated to help eligible primary homeowners repair or rebuild their Superstorm Sandy impacted homes. The RREM program will assist homeowners in rehabilitation, reconstruction, elevation, and mitigation so that they can do the necessary work on their homes to make them livable and to comply with requirements for structures located in flood plains. RREM provides grants to eligible Homeowners up to \$150,000, though the state has estimated an average award of \$100,000 per application. The RREM program is intended to “fill the gap” between the cost of repairs and other funds the owner has received to repair the structure.

In Union Beach, 239 low-to-moderate income housing units and 102 urgent need units were awarded funding through the RREM program, totaling 341 housing units for the Borough. With an average award of \$100,000 per application, \$34,100,000 has been

awarded to Union Beach. As of April 7, 2014, none of this money has been disbursed yet.

Small Rental Properties/Landlord Rental Repair Program (LRRP): This program provides up to \$50,000 per unit in grant funding assistance to eligible owners of rental property from 1 to 25 units. The LRRP program will provide funds to help rental property owners restore their properties through rehabilitation, reconstruction, elevation, and mitigation to rental property damaged by Superstorm Sandy. The LRRP program is intended to help existing owners restore their properties and receive reimbursement for eligible building expenses incurred by owners prior to the LRRP implementation but not paid for by other programs.

In Union Beach, 42 units have been awarded funding through the LRRP, totaling \$1,260,000 for the Borough. As of April 7, 2014, none of this money has been disbursed yet.

Small Business Grants (SBG): In addition to the CDBG housing programs, Union Beach has also been awarded one small business grant (SBG) totaling \$37,555. As of November 27, 2013, this has not yet been disbursed. SBGs through the CDBG's economic development programs are forgivable loans that help small business pay for Sandy-related expenses including building repairs, equipment and inventory purchases, rent or mortgage payments, salary expenses, and utility costs for which they may need assistance.

Small Business Administration Disaster Loans

In the months following Superstorm Sandy, the Small Business Administration (SBA) has been issuing loans to homeowners and businesses in New Jersey to aid in their recovery and reconstruction efforts. NJ.com has compiled data from the SBA and made it available on their website. As of February 2013, Union Beach had received 225 home loans totaling \$18,908,100 and 7 economic injury disaster loans in the amount of \$666,000.

Participation in FEMA's Community Rating System

The Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum National Flood Insurance Program (NFIP) requirements. The NFIP administers the CRS which scores towns on their effectiveness in dealing with the mitigation of flood hazard events, including reducing flood damage to insurable property, strengthening and supporting the insurance aspects of the NFIP, and encouraging a comprehensive approach to floodplain management. As a result of earning CRS points, flood insurance premium rates are discounted to reflect the reduced flood risk. Discounted premiums are just one of the benefits of participating in the CRS. It is more important that these communities carry out activities to save lives and reduce property damage. Other benefits include enhanced public safety, reduced property damage and public infrastructure, avoidance of economic disruption and losses, reduction of human suffering, and protection of the environment.

Union Beach Borough has been participating in the NFIP since 1989, and the CRS since 2003. Union Beach participates in the CRS program at a Class 8 level. At the Class 8 level, Union Beach Borough's residents living inside the Special Flood Hazard Area (SFHA) receive a 10% discount on flood insurance premiums, and those living outside the SFHA receive a 5% discount. As of January 2014, there were 1,168 NFIP in place in Union Beach Borough, with a total premium of \$1,434,096 and a CRS discount of \$147,870 (source: FEMA NFIP).

Below is a list of the activities that Union Beach received points for under the CRS as of January 2014:

- Activity #310 Elevation Certificates: 54 points
- #320 Map Information Service: 140 points
- #330 Outreach Projects: 137 points
- #350 Flood Protection Information: 21 points
- #360 Flood Protection Assistance: 10 points
- #410 Additional Flood Data : 10 points
- #420 Open Space Preservation: 80 points
- #430 Higher Regulatory Standards: 207 points
- #440 Flood Data Maintenance: 15 points
- #450 Stormwater Management: 80 points
- #520 Acquisition and Relocation: 5 points
- #540 Drainage System Maintenance: 255 points
- #610 Flood Warning: 100 points
- #630 Dam Safety: 67 points
- Total: 1,181 Points

The Borough Council also adopted a Floodplain Mitigation Plan on July 18, 2003 as part of its CRS Participation.

Community Outreach and Involvement

In addition to the community outreach activities that Union Beach Borough already undertakes as part of its participation in the CRS program, the Borough has taken part in other community involvement actions as part of its response to and recovery from Superstorm Sandy.

On June 12, 2013, Union Beach Borough held a public meeting for residents of the Borough. Items on the agenda included discussion of: results of a questionnaire that was sent to the public, grants available to Union Beach residents, and the status and Borough's involvement in the Army Corps project.

Furthermore, on March 10, 2014, Union Beach building officials held a public meeting for residents of the Borough to discuss National Flood Insurance Program regulations and requirements.

Union Beach also held a public meeting on April 17, 2014 to include discussion with residents of the Borough on inputs for this SRPR.

Monmouth County Long Term Recovery Group

The Monmouth County Long Term Recovery Group (MCLTRG) seeks to assist all Monmouth County residents and

homeowners in recovery from disasters by addressing and prioritizing unmet needs. MCLTRG's priorities include:

- Individuals and families who:
 - Need assistance to maintain or obtain safe, sanitary, and secure housing, including:
 - Are not served, or who are underserved, by other existing aid programs, including those who are ineligible for FEMA.
 - Are experiencing economic hardship in pursuing a plan for recovery.
 - Are isolated or have difficulty accessing services.
 - Have begun the recovery process but have encountered a setback and need assistance with their continued recovery.
 - Need assistance in order to prevent deterioration in their continued recovery.
- Landlords of owner-occupied residential rental property of four units or less when such assistance will provide safe, sanitary, and secure housing that will be affordable and permanent for the owner-occupant and his or her residential tenants.
- Landlords of non-owner occupied residential property of three units or less when such assistance will provide safe, sanitary, and secure housing that will be affordable and permanent for residential tenants.

In October of 2013, the American Red Cross awarded a grant to the MCLTRG in the amount of \$1.1 million. With this grant, the

MCLTRG plans to prioritize 150 Monmouth County residents who have exhausted other available resources, but still face unmet needs in terms of home repair and rebuilding assistance. As of August 2013, the Red Cross had received \$308 million in donations for its Hurricane Sandy emergency relief and recovery efforts, with \$272 million spent or committed.

There is no publicly available data regarding MCLTRG's recovery aid in Union Beach Borough, but aid from this group remains available for Union Beach's residents.

Rebuilding Approaches That Will be More Resistant to Damage from Future Storms

The recovery efforts previously mentioned all serve as rebuilding approaches that Union Beach is taking to be more resilient in the future. They serve to protect residents from the dangers of potential storm events by providing a solution to damaged services. The Borough may also consider the following rebuilding approaches in their recovery efforts:

- Rebuilding and renovating homes and structures in accordance with flood hazard and construction codes.
- Elevating key community facilities above the base flood elevation.
- Educating residents and builders about flood hazards and flood-resistant provisions in codes.
- Protecting natural areas that currently buffer developed areas from storm damage and storm surge.

Recommended Municipal Actions to Promote Recovery from Superstorm Sandy and to Reduce Vulnerabilities to Future Storms

This Strategic Recovery Planning Report recommends that Union Beach Borough promote recovery from Hurricane Sandy and resiliency to future hurricanes and storms by taking the actions that are detailed in Table 4. These actions have been developed in consultation with the officials from a variety of Borough offices, and are intended to promote recovery from Hurricane Sandy and resiliency to future hurricanes and storms. They are classified in order of priority, with: short-term priority meaning that the particular action should be implemented within 12 months; mid-term priority within 24 months, and long-term priority within 36 months. The prioritization could shift depending on available funding. Actual costs of each project will be prepared at the time that the specific scope of work is determined.

Table 4: Recommended Actions to Recover from Superstorm Sandy and to Improve Response and Increase Resiliency to Future Storms

Action	Relation to Superstorm Sandy’s Impacts	Importance to Promoting Recovery, Response, and Resiliency	Length of Project/Priority
<p>Reexamine the Borough’s Master Plan Elements and prepare a sustainability element to address post-Sandy strategies and policies related to hazard mitigation, community resiliency, and forecasted sea level rise and its impacts. This should involve amending the goals and objectives, incorporating areas of redevelopment, as well as up-to-date mapping of current land uses, new FEMA mapping, community facilities, and important natural resources areas.</p>	<p>The last time the Master Plan was reexamined was in 2005. Planning documents should be moved closely to align with natural resources and recovery, response, and resiliency, especially issues dealt with in the aftermath of Superstorm Sandy.</p>	<p>Planning can mitigate risks and vulnerabilities, and protect property and safety.</p>	<p>Short-term (Within 12 months)</p>
<p>Develop a GIS database and user interface to catalog and inventory all infrastructure owned by the Borough, including roadways and its stormwater and sanitary sewer collection systems. This will include up-to-date GPS mapping of the utility infrastructure, as well as inventory and classification of the road network to build a Borough-wide capital improvement plan.</p>	<p>Union Beach faced devastating damages to many of its services and municipal facilities.</p>	<p>An up-to-date catalog and inventory of Borough-owned infrastructure will better prepare Union Beach to provide recovery and response services in future Sandy-type storms</p>	<p>Long-term (Within 36 months)</p>

Action	Relation to Superstorm Sandy’s Impacts	Importance to Promoting Recovery, Response, and Resiliency	Length of Project/Priority
Prepare a Capital Improvement Plan identifying needed capital improvements to improve local resiliency.	Union Beach faced devastating damages to many of its services and municipal facilities.	An up-to-date catalog and inventory of Borough-owned infrastructure will better prepare Union Beach to provide recovery and response services in future Sandy-type storms	Mid-term (Within 24 months)
Automate, update, and expedite the Borough’s system for processing zoning and construction permits, including allowing inspectors to receive and manage permits with state of the art technology such as laptops and electronic tablets	The Borough is processing high quantities of zoning and construction permits in the aftermath of Superstorm Sandy.	This action will significantly increase the Borough’s efficiency in processing permits and in recovering from future storm events.	Short-term (Within 12 months)
Renew efforts to make the Route 36 Corridor redevelopment area a priority. This should involve promoting new business and economic development as well as non-residential design standards.	Parts of the Route 36 corridor were flooded during Superstorm Sandy, and several buildings along the corridor had to be demolished as a result. Better design standards are needed.	This action serves as a renewed Borough effort to help build a sense of community and economic growth and well-being for the Borough’s main commercial district.	Short-term (Within 12 months)
Relocate Union Beach’s Department of Public Works site out of a major flood prone area, to include redevelopment of the current site.	This site is in a flood hazard area and faced severe structural damages to the buildings and equipment.	Much of the equipment and material located at this site are essential for emergency response and for providing recovery services to residents.	Long-term (Within 36 months)

Action	Relation to Superstorm Sandy's Impacts	Importance to Promoting Recovery, Response, and Resiliency	Length of Project/Priority
Prepare a redevelopment plan and design standards for the area to the north of the Brook Avenue Neighborhood.	This area was severely damaged during Superstorm Sandy.	A redeveloped neighborhood with updated design standards will be planned to be more resilient to future Sandy-type storms.	Long-term (Within 36 months)
Finish demolishing the approximate 98 “hazard” homes that remain standing and vacant.	These homes are in this condition because of damage from Superstorm Sandy. They are dangerous to the health and safety of neighbors.	This action will increase the health and safety to the neighboring areas. It will also allow surrounding property values to rise, which will help reverse the loss the Borough faced to its tax ratables.	Short-term (Within 12 months)
Amend flood zone lines in flood maps to more accurately depict which properties are truly at risk to flooding.	Flood zone map discrepancies caused problems for homeowners.	This action will determine true hazard areas, will help homeowners with insurance, and is a more accurate plan for promoting recovery, response, and resiliency.	Short-term (Within 12 months)
Increase and update signage on streets and on empty lots.	Signage across the entire Borough was destroyed and damaged.	This action is essential for the upkeep of road maintenance and service provision.	Long-term (Within 36 months)
Continue to increase Borough participation in FEMA’s Community Rating System (CRS).	FEMA’s CRS promotes recovery from Sandy-type storms.	CRS participation results enhanced public safety, reduced property damage, and discounted flood insurance premium rates, among other benefits.	Long-term (Within 36 months)

Action	Relation to Superstorm Sandy’s Impacts	Importance to Promoting Recovery, Response, and Resiliency	Length of Project/Priority
Install a town-wide Supervisory Control and Data Acquisition (SCADA) system in conjunction with the Borough’s owned and operated facilities (including Borough Hall and Police Department, fire houses, etc.) to communicate critical alarms to a centralized location or operational personnel.	Union Beach faced devastating damages to many of its services and municipal facilities.	This can do the following: provide the Borough with accurate information on water and wastewater collection, pump control, pump station performance; provide alarm notifications of system failure and emergency levels; protect the environmental quality of the Borough by preventing sewer spills into local waterways; and monitor fire, security, power failures, and generator operations.	Short-term (Within 12-months)
Provide a generator that can supply energy to the entire Municipal Building (including the administration side of the building), the entire DPW complex, and the Construction Department (which is temporarily housed at the school administration building).	Union Beach faced power outages for a little over two weeks after Superstorm Sandy, and the school was used for evacuation	This will enhance Borough services during and after emergency situations.	Short-term (Within 12 months)
Contract a construction company for sand and debris removal after natural disasters.	Superstorm Sandy littered Union Beach with about 24,500 tons of storm damage.	Being prepared to quickly remove debris from future storms will improve recovery, response, and resiliency.	Short-term (Within 12 months)
Update the Borough’s tax map and codify the Borough’s ordinance.	Post-Sandy planning work has brought necessary changes to the tax map and Borough ordinances.	These are necessary updates for the Borough to be able to provide planning services after future storms.	Short-term (Within 12 months)

Summary of Actions and Priorities

The recommended actions for Union Beach Borough serve as a comprehensive approach to both recovering from Superstorm Sandy and reducing vulnerabilities to future storms.

Immediate/Short-term needs include:

- Reexamining the Borough’s Master Plan Elements;
- Automating and updating the zoning and construction permit process;
- Renewing efforts to make the Route 36 Corridor redevelopment area a priority;
- Relocating Union Beach’s Department of Public Works (DPW) site out of a major flood prone area, to include redevelopment of the current site;
- Preparing a redevelopment plan and design standards for the area to the north of the Brook Avenue Neighborhood;
- Finishing demolishing the approximate 98 “hazard” homes that remain standing and vacant;
- Amending flood zone lines in flood maps to more accurately depict which properties are truly at risk;
- Installing a town-wide Supervisory Control and Data Acquisition (SCADA) system;
- Providing a generator that can supply energy to the entire Borough Hall and at Memorial School;
- Contracting a construction company for sand and debris removal after natural disasters; and

- Updating the Borough’s tax map and codifying the Borough’s ordinance.

Mid-term needs include:

- Preparing a Capital Improvement Plan identifying needed capital improvements to improve local resiliency.

Long-term needs include:

- Developing a GIS database and user interface to catalog all Borough-owned infrastructure;
- Increasing and updating street signage and signage on empty lots; and
- Continuing to increase Borough participation in FEMA’s Community Rating System (CRS).

In addition to the above recommended actions, this SRPR also recommends that any new development within Union Beach Borough employ storm-resistant infrastructure and building strategies. Some of these strategies have been discussed in preparation of the Army Corps of Engineers Shore Protection and Flood Control Project. In addition, green infrastructure and resilient design are encouraged for future developments. Union Beach should prioritize and assess the use of sustainable building design and techniques as they relates to housing and infrastructure in the Borough.

Union Beach Borough will be seeking additional funding from the NJ Department of Community Affairs as part of the Post

Sandy Planning Assistance Grant Program (PSPAGP) for the following activities eligible for funding under the program:

- Reexamining the Borough's Master Plan Elements;
- Automating and updating the zoning and construction permit process;
- Renewing efforts to make the Route 36 Corridor redevelopment area a priority;
- Relocating the Borough's DPW buildings and redeveloping the current site; and
- Preparing a redevelopment plan and design standards for the area to the north of the Brook Avenue Neighborhood;
- Preparing a Capital Improvement Plan identifying needed capital improvements to improve local resiliency as described above; and
- Developing a GIS database to support future planning efforts.

All of the foregoing will help the Borough improve resiliency by improving the Borough's knowledge base, establishing clear procedures and protocols for addressing future emergencies and facilitating restoration, and creating a comprehensive planning framework that will enhance the resiliency and sustainability of the Borough and minimize the impacts of future storm events.

Filler