

August 28, 2014



TOWNSHIP OF TOMS RIVER



STRATEGIC RECOVERY PLANNING REPORT



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CONTENTS

Purpose	1
Impacts & Needs Assessment	1
Community Profile.....	1
Overview.....	1
Strengths and Opportunities	2
Impact Assessment	3
Vulnerability Assessment.....	16
Hazard Mitigation Plans.....	16
Critical Facilities Vulnerability Assessment.....	16
Multi-Hazard Vulnerability Assessment	17
Rutgers University Impact Assessment	21
Community Hardship Index	21
Household Hardship Index	21
Opportunities And Threats In Recovery	21
Township Background Documents.....	22
Planning Documents.....	22
2006 Master Plan.....	22
2006 Downtown Toms River Master Plan	25
Redevelopment Areas	25
Land Use Regulatory Documents.....	26
Chapter 348: Land Use & Development Regulations	26
Ordinance #4402-13	26
Ordinance #4413-13	26
Ordinance #4414-13	26
Ordinance #4427-14	27
Chapter 313: Flood Damage Prevention Regulations.....	27
Public Outreach	33
Downtown, Riverfront & Inland	34
Mainland Bay Front & Lagoon	34
Pelican Island & Barrier Island	36
Strategic Recovery Action Plan	37
Identification of Projects	37
Projects Identified in the Ocean County HMP.....	37
Projects Identified by the Public.....	45
Projects Recommended In Toms River SRPR.....	45
Mitigation Project Summary.....	48
Preparedness Project Summary	49
APPENDIX	51

PURPOSE

The New Jersey Department of Community Affairs (NJDCA) has established a Post Sandy Planning Assistance Grant Program. The purpose of this program is to support long range planning for community redevelopment in the municipalities and counties sustaining damage from Superstorm Sandy. The Program provides grants to municipalities and counties to hire American Institute of Certified Planners/New Jersey Board of Professional Planners (AICP/PP) licensed planners to address conditions created or exacerbated by the storm, identify approaches to rebuilding that will be more resistant to damage from future storm events, and encourage sustainable economic growth.

The first step in the grant process is the preparation of a Strategic Recovery Planning Report (SRPR). A SRPR must be completed for municipalities and counties to be eligible for additional Post Sandy planning assistance. The purpose of the SRPR is to evaluate the impacts of the disaster on relevant community features. The evaluation can be broad or narrow but should focus on planning goals, strategies, and priorities leading to actions that are most urgently needed for public safety and economic recovery. The SRPR should serve as a guide for actions to be taken going forward not only to recover from the effects of Superstorm Sandy but also to reduce vulnerabilities to future disasters. The following document serves as the SRPR for the Township of Toms River, Ocean County, NJ.

IMPACTS & NEEDS ASSESSMENT

COMMUNITY PROFILE

OVERVIEW

Toms River Township (formerly known as Dover Township until 2006) is a 41.62 square mile coastal municipality located in Ocean County, New Jersey. The Township is comprised of eight neighborhood sections that include Toms River, East Dover, West Dover, North Dover, Pleasant Plains, Silverton, Ortley Beach, and Dover Beaches North (which includes Chadwick Beach, Ocean Beach and Normandy Beach). Approximately 3 miles of land in Toms River Township has ocean frontage and an additional 31 miles of land has bay frontage. The Township is suburban in character with more densely populated areas along the northern border and in the beach areas on the eastern barrier island. Commercial development is concentrated along Route 37, Route 70, Route 9, Fischer Boulevard, Hooper Avenue, and in Downtown Toms River.

The Township of Toms River contained 91,239 residents in 2010. This was an increase of 1,533 persons from the 2000 Census, when the Township comprised 89,706 residents. Since the 1930's the Township's population has been growing. As shown in Figure 1, Toms River experienced significant growth in the 1950's, 1960's and 1970's. The Township's population skyrocketed from 7,707 residents in 1950 to 64,445 residents in 1980.

Figure 1: Toms River Historic Population Trends

Year	Population	Percent Change
1900	2,618	-
1910	2,452	-6.3%
1920	2,198	-10.4%
1930	3,970	80.6%
1940	5,165	30.1%
1950	7,707	49.2%
1960	17,414	126.0%
1970	43,751	151.2%
1980	64,455	47.3%
1990	76,371	18.5%
2000	89,706	17.5%
2010	91,239	1.7%

Between 2000 and 2010, the Township added 2,218 housing units. During that time span the vacancy rate also increased from 18.5% in 2000 to 19.8% in 2010. Seasonal, recreational or occasional use homes were the main contributor to such a high vacancy rate. In 2000, vacant seasonal/recreational/occasional homes comprised 10.6% of the housing stock, this increased to 16.1% in 2010.

Despite the gain of homes between the two Census reporting periods, the damage from Superstorm Sandy has resulted in 1,292 demolitions between October 2012 and April 28, 2014. Of those, 1,232 were for single family dwellings, 54 for multi-family dwellings, and 6 for commercial buildings. There were also 653 rebuild permits issued and 265 permits for building elevation. To date, 762 of the demolitions have been completed, meaning the building has been leveled, the debris has been removed, and the site has been cleared. Additionally, 686 new home permits have been issued, of which 72 have been completed.¹

STRENGTHS AND OPPORTUNITIES

The waterfront location of Toms River lends itself to strengths and offers opportunities for an enhanced future. According to the Township Master Plan, the waterways surrounding the Township provide a unique setting and offer various recreational and environmental advantages. Its rich heritage is apparent in its historic architecture, water views, and position as the County Seat. Toms River is well positioned to become a regional destination based on expanded waterfront amenities, a larger retail base emphasizing restaurants, niche and boutique retail, and historic and cultural attractions. Toms River once flourished as a seaport and currently flourishes as the County Seat. It now flourishes as a riverfront meeting place that is accessible by boat, on foot or by bicycle, as well as by automobile.

According to the Downtown Toms River Vision Plan and Master Plan, Toms River is already comparatively rich in cultural resources. The County Library, with its adjunct in the performing and visual arts; the existing cluster of galleries; the Waterhouse Museum, the Historical Society, and the Seaport Museum: all combine to make downtown Toms River the natural locus for culture and the arts in Ocean County—all the more so because of its accessibility. Toms River also has a long and rich history that stretches back in time to before the Revolutionary War. With heritage tourism on the rise and with the downtown already located in a tourist area, additional attractions and exhibits celebrating and interpreting Toms River's history can help broaden the attraction of the downtown to visitors and residents alike.

Toms River has unique assets that can be built upon. Although Superstorm Sandy damaged much of the waterfront and beach areas, the Township now has the opportunity to rebuild a more attractive and resilient waterfront.

¹ Larsen, E. (2014, April 26). *On the road to recovery, Ortley Beach celebrates a milestone 544 days after Sandy*. Retrieved from Asbury Park Press: <http://www.app.com/article/20140425/NJNEWS33/304250104/On-road-recovery-Ortley-Beach-celebrates-milestone-544-days-after-Sandy>

IMPACT ASSESSMENT

Superstorm Sandy damaged more than 6,500 homes on the barrier island and nearly 4,000 homes on the mainland in Toms River.² To date, 1,232 homes have been demolished within Toms River. This is 2.25% of the Township's 54,759 homes. Flooding caused much of the damage in the Township. Based on reports, Ortley Beach had structures with up to 6 feet of water inside. In Ortley Beach, homes were pushed off their foundations into the street or onto adjacent properties. Other homes were completely obliterated by the storm.



Figure 2: Images show Joey Harrison's Surf Club and Oceanside Condominiums obliterated from powerful storm surge and wave action at 6th Ave and Ocean Ave.

² O'Neill, E. (2013, May 19). *Demolition work begins on Ortley Beach homes nearly seven months after Sandy*. Retrieved from the Star Ledger: http://www.nj.com/ocean/index.ssf/2013/05/ortley_beach_toms_river_sandy.html

Maps 1 - 5 show the extent of the storm surge from Superstorm Sandy (shown in purple). The maps show topography at ten foot contours over the FEMA storm surge. In addition, “substantially damaged properties” are outlined in yellow. “Substantially damaged properties” are parcels that meet the requirements set forth by FEMA for the Increased Cost of Compliance Grant. Under this program, a property is eligible if the home had more than 50% damage, which then allowed the homeowner to receive a grant for \$30,000 to bring the home into compliance with the new flood elevations.

As shown in Figure 3 below, 3,970 properties were considered “substantially damaged properties” within Toms River. Of that total, 16 were exempt or public properties, 30 were commercial parcels and only one was industrial in nature. The overwhelming majority of the parcels falling into this category were residential at 98.4%.

Looking at the spatial distribution of “substantially damaged properties” it is evident that the majority of damage was on the barrier island. The North Beach area comprised 39 percent, while Ortley Beach encompassed 30 percent of “substantially damaged properties”. Over 1,100 homes in the bay front and lagoon areas fell into this classification, along with 42 properties along the mainland of the Toms River (riverfront and downtown). Last, but not least, roughly one-third of the homes on Pelican Island were deemed “substantially damaged properties”.

Figure 3: Substantially Damaged Properties

	Exempt/Public	Commercial	Industrial	Apartments	Residential	Total	Percent
Dover Beaches North	3	0	0	14	1,525	1,542	38.8%
Ortley Beach	4	15	0	2	1,165	1,186	29.9%
Pelican Island	0	0	0	0	21	21	0.5%
Mainland	9	13	1	0	1,156	1,179	29.7%
Riverfront	0	2	0	0	40	42	1.1%
Total	16	30	1	16	3,907	3,970	100.0%

Toms River residents with structurally damaged homes that need to be torn down were able to participate in the Township’s Private Property Debris Removal (PPDR) Program. The Township bonded nearly \$7 million to fund the demolition project, which is to be reimbursed by FEMA. Phase 1 included approximately 250 structures, of which 157 were initially approved by FEMA. Phase 2 will address additional damaged properties that have been abandoned.



Figure 4: Ocean front properties damaged from Sandy storm surge and wave action in Ortley Beach

VULNERABILITY OF ORTLEY BEACH

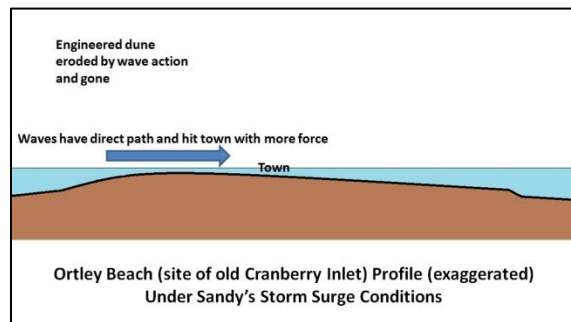
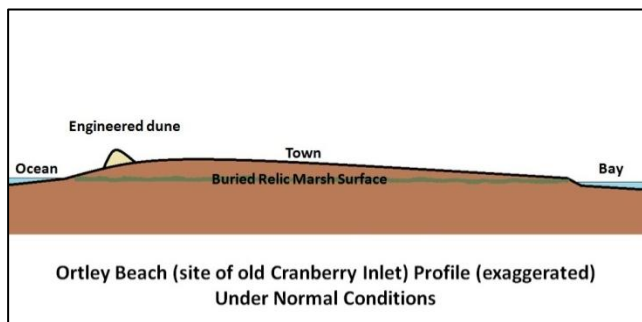
Ortley Beach is a neighborhood of Toms River Township. Ortley Beach is situated between Lavallette and Seaside Heights on the Barnegat Peninsula, a long, narrow barrier island that separates Barnegat Bay from the Atlantic Ocean between the Manasquan and Barnegat inlets.

As shown on Map 1, the overwhelming majority of Ortley Beach is less than ten feet above sea level. Only a narrow band of land along Ocean Avenue is ten feet above sea level. According to the FEMA storm surge mapping, almost the entirety of Ortley Beach experienced storm surge. The ocean side of the community was hardest hit, as shown by the map. The storm surge pushed homes off their foundations and displaced them inland. Some buildings, like Joey Harrison's Surf Club, were annihilated by Sandy.

Research found in a blog at www.professorsak.com described the difference in damage between Ortley Beach and neighboring Lavallette to the north as being attributed to the existence of the "Cranberry Inlet" up until the late 1800s that filled in and was ultimately developed, albeit at a lower elevation than Lavallette, which originally had natural dunes like those that are found on Island Beach State Park. The blog article uses the graphics below to illustrate the profile that shows the slightly higher elevation on the ocean side of Ortley Beach, but without the relief that the original ("relic") dunes had in Lavallette and Dover Beaches North.³



Figure 5: Aerial views of ocean side of Ortley Beach between 8th Ave and Harding Ave show many homes knocked off their foundations



³ Blog article "The Contrasting Cases of Ortley and Lavallette during Sandy", <http://professorsak.com>, posted on August 3, 2013.

However, the Ortley Beach Voters and Taxpayers Association (OBVTA) described the location of the Cranberry Inlet as having been in southern Ortley Beach along the northern board of Seaside Heights, which we confirmed through historic research. Cranberry Inlet was created by a violent storm in 1758 and closed by another violent storm in 1812. The OBVTA asserted that while the lowest elevations in Ortley are in the southern portion where the inlet occurred, the greatest damage from Sandy occurred in the northern sections of Ortley closer to Lavallette. They cited a direct correlation between the extent of damage and the degree to which the dunes were maintained and credited the private communities with private beaches in the area of the former inlet for investing in dune maintenance that reduced surge damage in that part of Ortley.⁴

Due to the flat terrain, storm surge hit the ocean beach and swept across into the Barnegat Bay. The powerful surge destroyed the boardwalk and Ocean Avenue and deposited sand inland as far as State Route 35.

The mostly seasonal neighborhood of Ortley Beach had 1,186 properties substantially damaged according to FEMA, which is 35 percent of all properties in Ortley Beach. There are about 1,200 permanent residents of Ortley Beach. Township officials have said only about 60 of the 2,600 homes there escaped damage, and about 200 were completely destroyed.⁵ Under phase 1 of the PPDR program, 45 homes in Ortley Beach were demolished and



Figure 6: View of Ortley Beach boardwalk, Ocean Avenue and surrounding homes destroyed by Sandy

⁴ Email from obvta@ortleybeach.org to Jay Lynch, Erika Stahl and David Roberts, August 20, 2014.

⁵ Mikle, J. (2013, May 20). *At long last, demolition begins in Ortley*. Retrieved from Asbury Park Press: <http://www.app.com/article/20130518/NJNEWS/305180038/Ortley-Beach-demolition-begins>

Map 1: Sandy Impacts to Ortleby Beach



VULNERABILITY OF DOVER BEACHES NORTH

Dover Beaches North is a portion of Toms River Township located on the barrier island north of Ortley Beach, between Lavallette and Mantoloking. Dover Beaches North includes the neighborhoods of Chadwick Beach, Ocean Beach, and Normandy Beach.

As shown on Map 2, the majority of the Dover Beaches North neighborhood is at or slightly above sea level. Only a narrow area of land is ten feet above sea level, which includes Ocean Avenue, Seacrest Drive and Seaview Road. While it appears from a review of FEMA storm surge boundaries on Map 2 that only the west or bay side of the North Beach neighborhood experienced storm surge, photos such as shown in Figure 7 indicate that the surge hit the ocean side. Our conversations with property owners at the three public workshops, including those who stayed and were eyewitnesses during the storm, indicate that the only surge on the barrier island was from the Atlantic Ocean and that there was not a second surge from the Barnegat Bay. However, research found on a blog by “Professor Sak”, a researcher with Rutgers University in partnership with the National Estuarine Research Reserve System (a sub-group of NOAA), provides some insight to the perceived phenomenon of the “reverse surge” from the bay. In a blog post on June 6, 2013, data from a weather station in Brick Township that survived and provided data through Sandy was analyzed and described a shift in wind direction that had water rising in the Barnegat Bay through the inlet and driven north by SSE winds from wider areas of the bay to narrower areas during the same period that the ocean surge hit the barrier islands. While the ocean surge did the damage as it swept across to the bay, the funneled wind driven water in the bay swelled up and exacerbated the flooding of bayfront properties on both the barrier island and the mainland.⁶

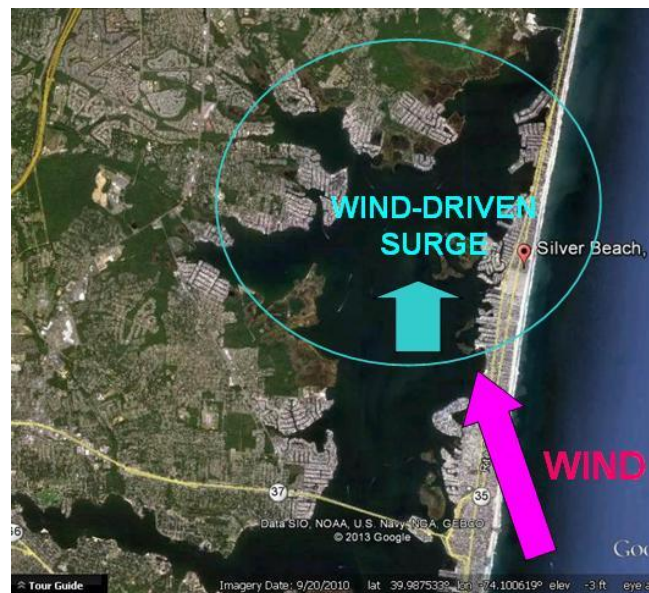


Figure 7: Diagram from blog at "professorsak.com" dated June 6, 2013, entitled "Barrier Islands in Cross-Section and How it Plays Out During Storm Surge Events".

⁶ Blog entitled "Barrier Islands in Cross Section and How it Plays Out During Storm Surge Events", posted on June 6, 2013 at <http://professorsak.com>.

The powerful storm surge left sand as far inland as Route 35 South. According to FEMA, the North Beach neighborhood had 1,542 buildings substantially damaged. Under the phase 1 of the PPDR program, 7 homes were demolished and another 3 homes had debris removed in Dover Beaches North.



Figure 8: Ocean front properties damaged from Sandy storm surge and wave action in Dover Beaches North

Legend

- Substantially Damaged Properties
- Sandy Storm Surge (FEMA MOF Final 2-14-13)
- Water Bodies
- Elevation (10' Contours)
- Parcels
- Municipal Boundaries

**Impacts from Super Storm Sandy
Chadwick & North Beach
Township of Toms River**

NOTE: THIS DATA COORDINATES DATA FROM THE FEMA, ALICE FLOOD, ALICE AND DEMANDS COUNTY GIS CHARGES. IT IS NOT A GUARANTEE OF ACCURACY OR COMPLETENESS. ANY USER OF THIS DATA SHALL BE RESPONSIBLE FOR VERIFYING THE DATA BEFORE USING IT FOR ANY PURPOSE.

Aerial Imagery © 2012 PANALOG

VULNERABILITY OF SILVER BAY

The lagoon neighborhoods of Silver Bay are at or slightly above sea level. As shown on Map 3, storm surge was widespread in these low-lying areas. According to the FEMA storm surge mapping, the South Branch of Kettle Creek overflowed its banks and impacted all the water front homes. Storm surge followed other water bodies, like Tide Creek and Applegate Creek inland. Green Island was inundated with storm surge as were the lagoon neighborhoods east of Longman Street. The surge flooded Silver Bay Road up to its intersection with Vincent Street. The South Shore Drive lagoon community was entirely covered by storm surge. Finally, the lagoon neighborhood off of Merrimac Drive was also impacted by storm surge as shown on the map.

Due to the fact that the lagoon neighborhoods are at or slightly above sea level, a large number of homes were damaged by the storm. A total of 727 properties were deemed substantially damaged by FEMA in the Silver Bay area.

VULNERABILITY OF FISCHER BOULEVARD

No different than the lagoon communities to the north, those of the Fischer Boulevard neighborhood sit at or just above sea level. Storm surge utilized Dillon Creek and Route 37 as corridors. Properties along Dillon's Creek received storm surge, as did all of the lagoon communities in the Fischer Boulevard neighborhood. In fact, storm surge flooded the majority of Garfield Avenue from Delaware Avenue to Forest Grove Avenue. Route 37 was impacted by surge from the bay to Lloyd Road. Map 4 shows the areas impacted by storm surge.

A total of 492 properties were deemed substantially damaged by FEMA in the Fischer Boulevard neighborhood. The overwhelming majority of these are in the lagoon neighborhoods, which are located at or just above sea level.

VULNERABILITY OF RIVERFRONT

As shown on Map 5, the storm surge essentially followed the ten foot elevation contour along the riverfront. Beginning at the Island Heights Borough border, roughly 16 homes along River Drive and Gladney Avenue were impacted by storm surge. On Money Island, storm surge passed the 10 foot contour elevation. The Toms River Yacht Club was totally inundated by storm surge, as shown on the map. Moving west, Riviera Avenue north to Bryant Avenue was flooded with storm surge. The surge went up Long Swamp Creek to its intersection with Washington Street. The Haines Cove Drive and Point O Woods Drive neighborhood are delineated in purple on the map, indicating storm surge. Due to its low elevation, all nine holes of the Toms River Country Club were impacted by storm surge.

Moving to the downtown, storm surge crossed East Water Street at Caldwell Lane and covered the intersection of East Water Street and Horner Street. Kilpatrick Point and Huddy Park were covered by storm surge. West Water Street was inundated with storm surge from North Main Street to Lien Street. All the properties south of West Water Street were impacted by storm surge as shown in the map.

A total of 40 riverfront homes and 2 commercial properties were substantially damaged, according to FEMA. Due to the terrain of the downtown and how it slopes upward from Water Street, the businesses and shops in the area around the County complex and Town Hall escaped damage from storm surge. However, the Toms River Post Office at Water Street and Irons Street was flooded, as were buildings at the end of Irons Street near the Toms River.

Legend

- Substantially Damaged Properties
- Sandy Storm Surge (FEMA MOF Final 2-14-13)
- Waterbodies
- Elevation (10' Contours)
- Parcels
- Municipal Boundaries

**Impacts from Super Storm Sandy
Bayfront North (Silver Bay)
Township of Toms River**

MAPSER

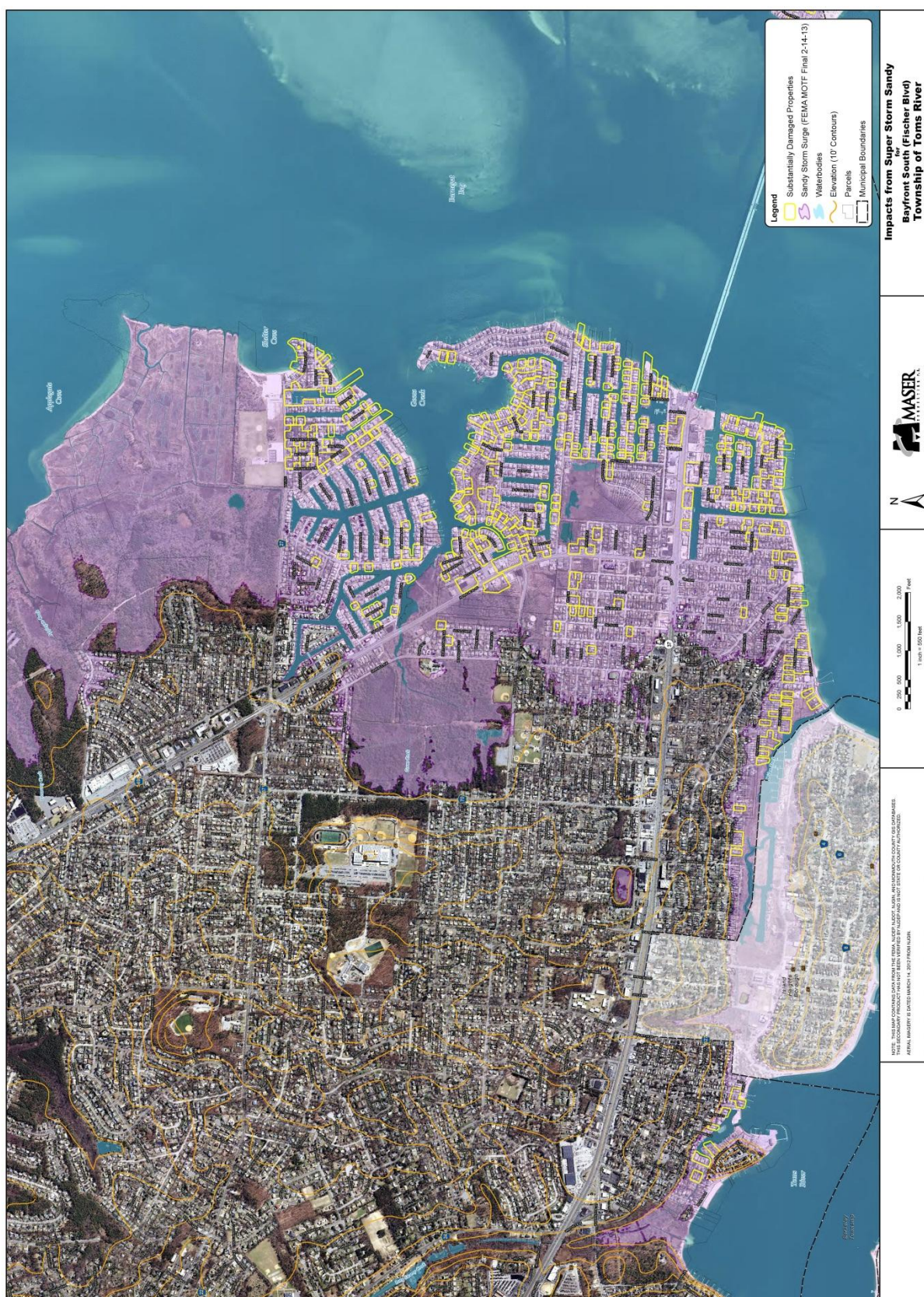
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THIS MAP IS A GENERAL REPRESENTATION OF THE DATA AND SHOULD NOT BE USED FOR OFFICIAL PURPOSES.

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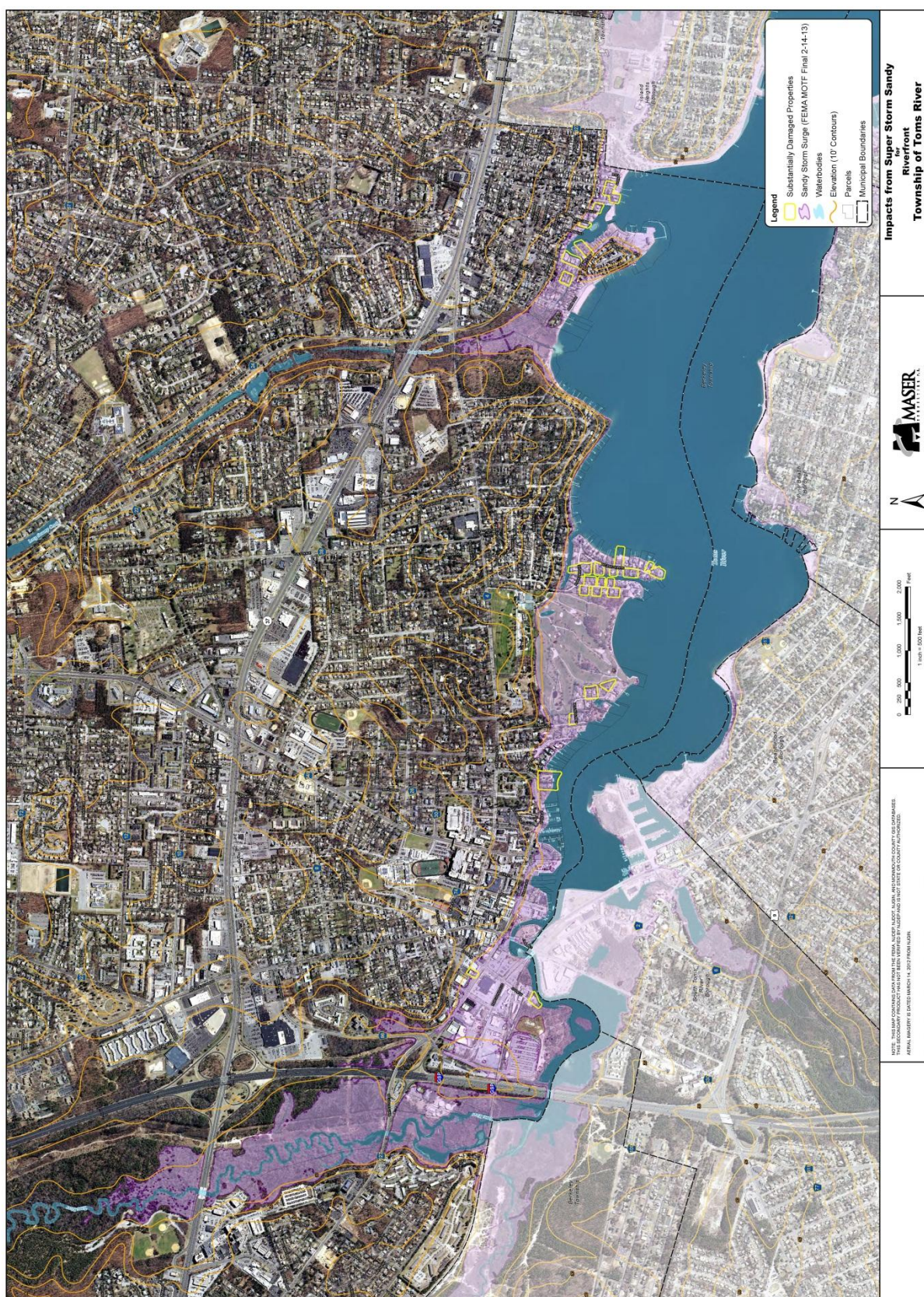
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1 inch = 650 feet

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Map 4: Sandy Impacts to Bayfront South (Fischer Boulevard)



Map 5: Sandy Impacts to Riverfront



VULNERABILITY OF THE TOWNSHIP

Looking specifically at Superstorm Sandy, the damage to the Township was immense. According to the New Jersey Department of Treasury, Division of Taxation, the Township lost 12.5% of its ratable base's assessed value. Over \$2 billion in assessed values were lost due to Sandy, which impacted 9,972 properties. This translates to 24.1% of all the municipality's parcels (based on the 2013 total of 41,377⁷). Therefore, roughly 25% of the Township's properties are vulnerable to hurricane-related storm surge.

Figure 9: Superstorm Sandy Value Losses: Toms River

2012 Pre-Sandy Assessed Value	% Sandy Reduction	Reduction in Assessed Values Due to Sandy	Sandy Properties Reduced	Total Loss of Municipal Levy	Impact on Average Home for Municipal
\$16,353,737,465	-12.5%	-\$2,051,404,200	9,972	-\$8,463,806	\$183.77

Source: NJ Department of Community Affairs

Looking at historic trends, the National Flood Insurance Program (NFIP) maintains a database of loss claims. NFIP considers "repetitive loss properties" parcels with structures insured under the program that had at least two paid flood losses of more than \$1,000 over any ten-year period since 1978. A property is considered a "severe repetitive loss property" when there are at least four losses (each exceeding \$5,000) or when there are two or more losses where the building payments exceed the property value.⁸

As shown in Figure 10 below, there are over 9,000 NFIP policies within Toms River. As of July 31, 2013, more than 7,400 claims were paid and closed, totaling over \$400 million. Toms River comprises almost a quarter of all closed paid losses (23.9%) within Ocean County. Furthermore, there have been 953 repetitive loss events within the Township that have resulted in payments of over \$42 million.

Figure 10: Summary of Repetitive Loss & Severe Repetitive Loss Properties as of September 2013

	Repetitive Loss Properties by Type					Severe Repetitive Loss Properties	Total
	Non-Residential	2-4 Family	Single-Family	Condo	Other Residential		
Toms River	8	12	426	1	3	56	506
% of County Total	7.9%	10.3%	27.2%	3.7%	20.0%	24.5%	24.6%

Source: 2014 Multi-Jurisdictional All-Hazard Mitigation Plan, Ocean County, New Jersey, prepared by Baker, dated April 10, 2014

Toms River has the most NFIP policies in force in the County and the highest number of closed paid losses. The Township also has the highest number of both repetitive loss properties and severe repetitive loss properties, with 450 and 56 parcels respectively.⁹ Figure 11 below shows the breakdown of the losses by property type.

⁷ http://www.nj.gov/dca/divisions/dlgs/resources/property_tax.html

⁸ 2013 Multi-Jurisdictional All-Hazard Mitigation Plan, Ocean County, New Jersey, prepared by Baker, dated December 5, 2013, page 107.

⁹ Ibid, page 109.

Figure 11: NFIP Policies, Losses and Repetitive Loss Properties Through July 31, 2013

	Policies in Force	# of Closed Paid Losses	Amount of Closed Paid Losses	Total # of Repetitive Loss Events	Total Repetitive Loss Payments
Toms River	9,332	7,470	\$418,966,033	953	\$42,697,318
% of County Total	16.8%	17.6%	23.9%	20.8%	25.9%

Source: 2014 Multi-Jurisdictional All-Hazard Mitigation Plan, Ocean County, New Jersey, prepared by Baker, dated April 10, 2014

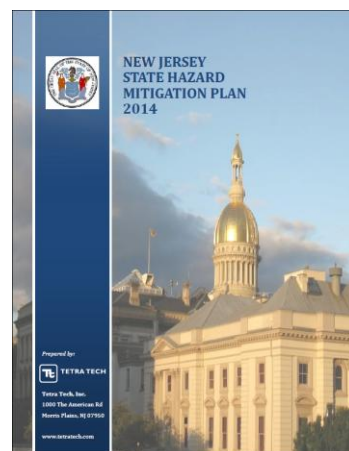
VULNERABILITY ASSESSMENT

HAZARD MITIGATION PLANS

Toms River Township participated with Ocean County in the preparation of the 2013 Multi-Jurisdictional All-Hazard Mitigation Plan (OCHMP). The 2013 OCHMP was submitted on November 15, 2013 to the New Jersey State Hazard Mitigation Officer. It was then forwarded to FEMA for final review and approval on November 25, 2013.

The 2013 OCHMP contains a thorough analysis of vulnerability for the participating municipalities in Ocean County and analyzes natural hazards, human-made hazards and climate change hazards.

The State of New Jersey 2014 Hazard Mitigation Plan (NJHMP) was prepared by Tetra Tech, Inc. for the New Jersey Office of Emergency Management – Recovery Bureau (NJOEM). The 2014 NJHMP is an update to the 2011 NJHMP to provide additional information regarding recent hazard events, such as Superstorm Sandy. The NJHMP outlines a strategy to reduce risks from hazards and serves as the basis for prioritizing future project funding.



CRITICAL FACILITIES VULNERABILITY ASSESSMENT

The OCHMP summarizes “critical facilities” (hospitals, shelters, fire departments, schools, ambulance buildings, etc.) that would be vulnerable to various hazards, including wildfire, flooding, sea level rise, etc. Toms River has 164 critical facilities that were analyzed. Seven of the critical facilities are vulnerable to wildfires. Nine critical facilities are in the Special Flood Hazard Area, where there is a 1% annual chance of flooding. A total of 46 Toms River critical facilities are within ten miles of a nuclear power plant. Lastly, three critical facilities may be permanently inundated due to three feet of sea level rise, while two facilities would be isolated due to three feet of sea level rise. Some facilities may be at risk for more than one incident.

Figure 12: Critical Facilities

	Critical Facilities	% of Total Facilities
High Wildfire Hazard Areas	7	4.3%
Nuclear Incident Area (Facilities within 10 miles of nuclear plant)	46	28.0%
Special Flood Hazard Area	9	5.5%
Sea Level Rise Impacts - 1 Foot of Sea Level Rise	0	0.0%
Sea Level Rise Impacts - 3 Feet of Sea Level Rise	3	1.8%
Sea Level Rise Impacts - Isolated due to 3 Feet of Sea Level Rise	2	1.2%
Total Number of Critical Facilities	164	

Map 6 shows areas of potential permanent inundation due to a one-foot and three-foot increase in sea level rise relative to mean higher high water in Toms River Township.

MULTI-HAZARD VULNERABILITY ASSESSMENT

Another measure of vulnerability used in the 2014 OCHMP is the assessed value of properties at-risk to various hazards. Figure 13 below shows the hazards, number of properties and value calculated by the OCHMP.

Figure 13: Hazard Exposure

	Parcels	% of Total Parcels	Value
Erosion ¹	75	0.1%	\$11,182,500
Repetitive Flood Loss Properties ²	506	0.9%	\$42,697,318
Special Flood Hazard Area ³	18,744	34.2%	\$2,383,138,638
Tornadoes/Wind Storms ⁴	1,072	2.0%	-
Hazardous Materials Facilities ⁵	32,965	60.0%	\$6,142,628,900
Nuclear Hazards ⁶	4,304	8.0%	\$979,141,900
Total	57,666		\$9,516,091,938

¹ Parcels within 200 feet of erodible shoreline and beaches

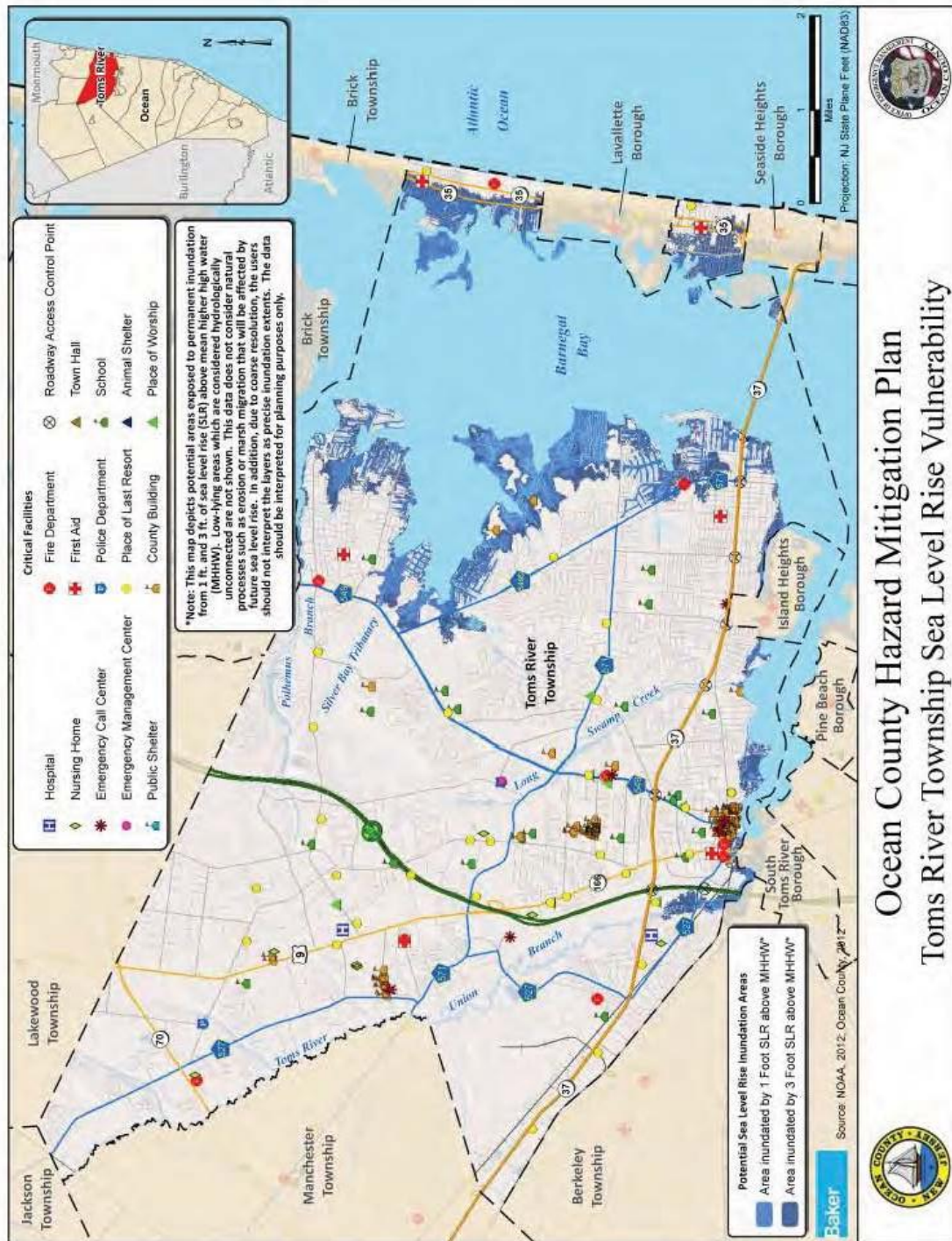
² Number of Repetitive Loss Events from Flooding

³ Area where there is a 1% annual chance of a flood event

⁴ Number of mobile homes in municipality

⁵ Parcels within 1.5 miles of hazmat facility

⁶ Parcels within 10 miles of nuclear facility

Map 6: OCHMP Sea Level Rise Vulnerability¹⁰¹⁰ Ibid, page 205.

Coastal Erosion

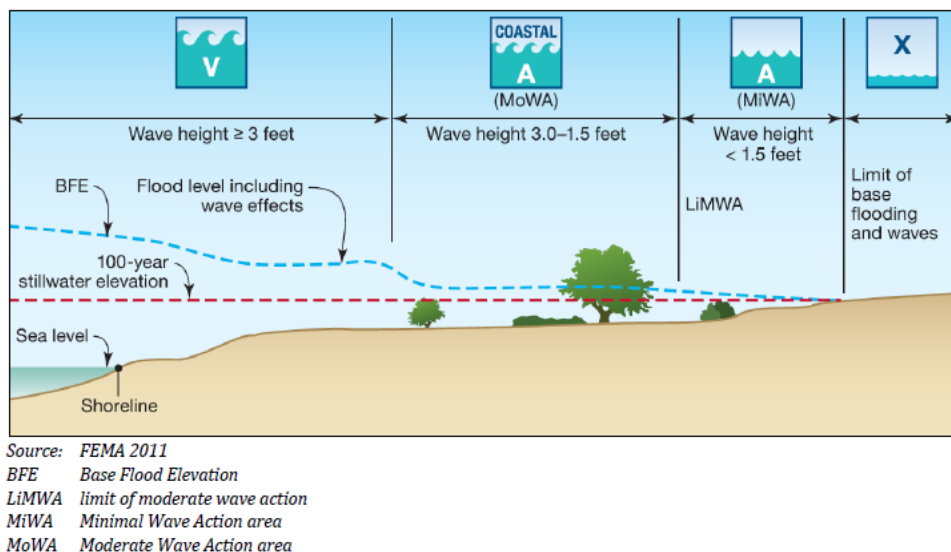
According to the NJHMP, Ocean County has 45.2 miles of oceanfront shoreline, the longest the four coastal counties. The northern section of Ocean County coastline is unique along the New Jersey coastline in that it lies within a zone where sand transport parallel to the shoreline is essentially zero over long periods of time. Ortley Beach, however, is reported by the Township Engineer's Office to have lost about 18 cubic yards of sand per foot of shoreline. Dover Beaches North and Dover Beaches South are identified as the areas with the greatest susceptibility to coastal erosion in Ocean County as a result of a 100-year storm event. According to the OCHMP, there are 75 parcels within 200 feet of erodible shoreline and beaches, as defined by NJDEP, representing 0.1% of the total parcels in Toms River, and having a cumulative value of \$11.2 million.

The NJHMP states that no beach nourishment projects have been federally, state, or locally funded in northern Ocean County since sand was pumped onto the county shoreline following the March 1962 northeast storm. Toms River is included in the Manasquan Inlet to Barnegat Inlet project area of the USACE Beach Replenishment project being funded by Congress through the Hurricane Sandy Disaster Relief Appropriations Act of 2013.

Flooding

Coastal flooding is a result of the storm surge where local sea levels rise often resulting in weakened or destroyed coastal structures. Hurricanes and tropical storms, severe storms, and Nor'easters cause most of the coastal flooding in New Jersey. Much of the damage in Toms River is attributed to storm surge and wave action. Figure 14 illustrates the effects of water energy dissipation and regeneration of a wave as it moves inland through the V-zone, Coastal A-zone, and A-zone.

Figure 14: Transect Schematic of Zone V, Coastal A-Zone, and Zone A



The NFIP identifies properties that frequently experience flooding. Repetitive loss properties are structures insured under the NFIP that have had at least two paid flood losses of more than \$1,000 over any 10-year period since 1978. A property is considered a severe repetitive loss property either when there are at least four losses (each exceeding \$5,000) or when there are two or more losses where the building payments exceed the property value.

With 953 repetitive loss events, Toms River Township has almost twice as many repetitive loss events than any other Ocean County municipality through July 31, 2013. The total payment for these repetitive loss events was \$42.7 million. These events occurred on 506 properties, including 426 single family properties. There were 56 severe repetitive loss properties in Toms River.

The OCHMP also identified 18,744 parcels within the Special Flood Hazard Area where there is a 1% chance of flooding. This represents more than one-third of the Township with over \$2 billion in property values at risk.

High Wind

Due to their light-weight and often unanchored design, mobile homes and commercial trailers are extremely vulnerable to high winds and will generally sustain the most damage. Toms River Township is identified as one of the most vulnerable municipalities in Ocean County to tornadoes and wind storms because of its large inventory of manufactured structures. There are 1,180 mobile homes located in Toms River, representing 2 percent of the housing stock.

Wildfire

The OCHMP states that, based on the wildfire vulnerability assessment from the New Jersey Forest Fire Service, the majority Ocean County is at an extreme level of risk for wildfires. Much of the remaining land area has a high or very high risk, while a small portion is shown as low or moderate risk. The urban areas are less susceptible to wildfire. The NJHMP reports that 275 acres of Toms River forestland were burned in 1940, 400 acres burned in 1942, and another 500 acres in 1944.

Earthquake

According to the NJHMP, while earthquakes are unpredictable, the probability of damaging earthquakes affecting New Jersey is low. However, there is a definite threat of major earthquakes that could cause widespread damage and casualties in New Jersey. Major earthquakes are infrequent in the State and may occur only once every few hundred years or longer, but the consequences of major earthquakes would be very high. The NJHMP reports that a 3.9 magnitude earthquake occurred in 1927 near Asbury Park. Three shocks were felt along the coast from Sandy Hook to Toms River. The NJHMP ran a FEMA Hazus model to estimate potential losses by County for the 100-, 500-, 1,000- and 2,500-year earthquake events. Figure 15 shows potential impacts for Ocean County. Ocean County ranked 12th highest of the 21 Counties in terms of estimated impacts.

Figure 15: Estimated Earthquake Impacts for Ocean County			
Earthquake Scenario	Displaced Households	Short-Term Sheltering Needs	Potential Losses
100-Year MRP	0	0	\$0
500-Year MRP	17	11	\$43.1 million
1,000-Year MRP	65	43	\$178.6 million
2,500-Year MRP	357	233	\$826.4 million

Hazardous Materials

There are 32,965 parcels in Toms River Township that are within 1.5 miles of a hazardous materials facility. Additionally, 4,304 parcels are within 10 miles of the Oyster Creek nuclear facility in Forked River Township.

RUTGERS UNIVERSITY IMPACT ASSESSMENT

In October 2013, Rutgers University published a study entitled “The Impact of Superstorm Sandy on New Jersey Towns and Households”. The report presents a detailed geographic analysis to determine where New Jersey remains vulnerable. It also provides the first accurate measure of power outages by town across the state and the results of the Rutgers-Newark Sandy Survey of New Jersey municipalities. The report includes a *Sandy Community Hardship Index*, which quantifies the wide range of types and degrees of damage incurred by New Jersey municipalities.

COMMUNITY HARDSHIP INDEX

The Community Hardship Index is a standardized way to measure economic and physical damage, controlling for population differences so that the impact can be compared across all of New Jersey's 21 counties and 553 municipalities that lost power or reported damage. The index covers economic and physical impact in the residential, commercial, and municipal sectors.

Toms River Township scored 97 on the Community Hardship Index, which ranked it as the fifth hardest hit municipality. At a total \$16.8 million, Toms River ranked as the second highest municipality in terms of FEMA public assistance dollars.

HOUSEHOLD HARDSHIP INDEX

Toms River Township scored 75 and ranked ninth on the Household Hardship Index, with over 12.5 million in lost wages due to Superstorm Sandy. The average FEMA assistance in Toms River was \$3,238, where 44% had no homeowner's insurance claims.

OPPORTUNITIES AND THREATS IN RECOVERY

With the extent of the damage and the overwhelming task of rebuilding that the Township has been dealing with for the past two years, there are opportunities to rebuild “smarter” and “greener”. The Township's boards, planning and engineering staff have been bearing the burden of the sheer volume of permits for rebuilding and elevating homes throughout the impacted areas described above. With all of the rebuilding, the Township finds itself reacting to requests for height and setback variances and has already seen some undesirable results of well-intended efforts to expedite approvals and understandable empathy for displaced property owners trying to get back into their homes.

However, there are opportunities to rebuild in a way that is both resilient and visually appropriate for the compact neighborhoods in the lagoon neighborhoods and on the barrier island. For example, as part of the public engagement process discussed later in this SRPR, Maser's team provided 3D illustrations of the visual impact of replacing damaged or destroyed homes with oversized replacements (Figure 17). The Township has already used

them to advance an ordinance amendment that employs FAR as a way to control the flood of side yard setback variances on tiny lots that overcrowd neighborhoods. The related concern is that the larger replacement homes have more bedrooms, which increases the pressure for parking on narrow, mostly one-way streets in Ortley Beach during the peak summer season. The need for design standards that incorporate not only appropriate architectural standards for addressing transitions to elevated lowest habitable floors, but techniques for capturing roof runoff before it reaches storm drains, minimizing nitrate runoff into lagoons and the Barnegat Bay and other techniques for mitigating pollution of the Bay can be included. The environmental health of the Barnegat Bay is a priority concern of the NJDEP, Ocean County and local municipalities who depend on it for their quality of life and economic wellbeing.

Another opportunity that has emerged from the Township's experience in recovering from Sandy is the urgency of advancing past the opposition to easements on private property to enable the construction of a uniform, effective dune system along the entire oceanfront. The Township was prepared to exercise the use of Eminent Domain to secure access and use of the private property needed for the dunes and has negotiated agreements to that end. While the Township has already reconstructed destroyed boardwalk and bathroom facilities, the Army Corps beach replenishment project and dune construction will present a tremendous opportunity to naturalize the beachfront and protect not only Ortley and North Beaches, but the Barnegat Bay and mainland lagoon neighborhoods from future Sandy-like surges.

TOWNSHIP BACKGROUND DOCUMENTS

PLANNING DOCUMENTS

2006 MASTER PLAN

The 2006 Master Plan has been updated over time with revisions through May of 2009. The report was compiled by Birdsall Engineering, Inc. with final editing by Township Planner, John J. Lynch. The document contains demographics, goals and objectives, and Land Use Plan, Economic Plan, Community Facilities, Recycling, Utility Service, Energy Conservation, Historic Preservation, and Circulation Elements.

The Master Plan has an overarching goal statement:

The Township of Dover seeks to achieve an overall balance between the preservation of its natural resources and its residential and economic development. The Township's natural resources are abundant. The waterways surrounding the township provide a unique setting and offer various recreational and environmental advantages. Preserving much of the remaining open space within the Township is crucial to sustaining its natural resources. Dover Township residents also have deep roots in the historic village of Toms River and strive to maintain and revitalize this area. The municipality envisions an overall design theme for the Township, consistent with the theme of the downtown, to provide a more inter-related residential and economic foundation. The preservation and expansion of these resources are imperative in order to maintain and improve upon the existing quality of life.¹¹

¹¹ Township of Dover Master Plan, May 2009, page 15.

Land Use Goals include:

- To guide future residential and non-residential growth in a coordinated and managed approach as set forth in this Master Plan and to provide for logical transitional uses between residential and non-residential areas of the Township.
- Develop Historic Downtown Toms River as the regional center for Ocean County and create additional nodes and centers throughout the Township to encourage walkability and reduce vehicular trips.
- Continue to use practical and flexible development controls in order to gain open space, conserve the natural landscape and protect the environmentally sensitive areas of the Township.
- Relate future residential growth to the municipal infrastructure.
- Encourage controlled and properly designed commercial and industrial development in areas so designated on the Master Plan.
- Provide for the Township's fair share of low- and moderate-income housing as set forth in the Housing Element and Fair Share Compliance Plan adopted in November 2005.
- Promote redevelopment of the Ciba-Geigy property, portions of Downtown Toms River between Huddy Park and the Parkway and Route 37 between Fischer Boulevard and the bridge.
- Promote the drafting of a new development regulations ordinance to be entirely compatible with this Master Plan.
- Within developed areas of the Township, the new ordinance should provide zoning districts that reflect existing land use patterns in order to minimize non-conforming lots and to diminish the need for bulk variances.
- Create zoning ordinance provisions that set forth building coverage, lot coverage, height and floor area ratios for each zone district, as appropriate. Any provision adopted should anticipate the need for subsequent development of accessory structures or additions.
- Encourage cluster development in order to preserve large tracts of land.
- Establish a transfer of development rights or similar zoning technique to direct growth to centers and preserve open space in environmentally sensitive areas.
- Achieve regional coastal center designation for Toms River Center.
- Achieve center designations for other locations in the Township that meet the criteria for centers in the State Development and Redevelopment Plan as coordinated through the New Jersey Office of Smart Growth.
- Investigate new areas for redevelopment and revitalization.
- Maintain the rural character of North Dover and Pleasant Plains.
- Encourage appropriate development of vacant or underutilized parcels.
- Incorporate the Downtown Master Plan and Proposed Zoning Amendments as part of this Master Plan.
- Opportunities should be created for the provision of affordable housing for those who are active in the workforce. To the extent feasible, these should be small scale and designed to provide 100% of the units within the affordable range.¹²

The Master Plan does not include any objectives or policies that would support municipal planning needs related to future storm mitigation or post-storm recovery.

¹² Township of Dover Master Plan, May 2009, page 15 – 16.

LAND USE ELEMENT

According to the Land Use Element, Toms River has 2.94 miles of ocean frontage and 31 miles of bay frontage. The Township has more bay frontage than another other municipality in the County. Almost the entire Township falls under the Coastal Area Facility Review Act (CAFRA). Roughly 14 acres fall under the jurisdiction of the Pinelands, which is found in the northwestern corner of Toms River.

The Land Use Element does not include any goals, objectives or policies that would support municipal planning needs related to future storm mitigation or post-storm recovery.

UTILITY SERVICE ELEMENT

This element of the Master Plan indicates that several sections of the Township experience flooding problems from “average” storm events. These areas include:

- Multiple areas on the barrier island
- The lower part of Money Island along the river
- The Gilford Park area (south of Route 37)
- The Gilford Park area (north of Route 37) from Fischer Boulevard west to Vaughn Avenue
- Windsor Park east of Fischer Boulevard to Bay Avenue
- The Shelter Cove area
- Snug Harbor area
- Various streets within the downtown area
- Sections of both Silverton and Green Island
- Many areas in the north end of town¹³

Two recommendations of the Utility Service Element are of note. The first is to alleviate the flooding problems through the implementation of both structural and non-structural Best Management Practices on new developments and incorporating these principles when retrofitting existing stormwater basins. The second is to look into a program to dredge lagoons to remove excess silting.

CONSERVATION, OPEN SPACE & RECREATION PLAN ELEMENT

This section of the Master Plan discusses the various floodplains and Base Flood Elevations (BFEs) within the Township. According to the document, “The floodplains classified by FEMA should be respected and it is important to manage development within areas determined to be floodplains. Good management of floodplain areas can prevent damage to property and protect the environment. Flood plains areas are usually ideal places to preserve open space, provide recreation and develop greenways”.¹⁴

¹³ Township of Dover Master Plan, May 2009, page 76

¹⁴ Township of Dover Master Plan, May 2009, page 87

Besides the aforementioned policy, the Conservation, Open Space and Recreation Plan Element does not include any goals or objectives that would support municipal planning needs related to future storm mitigation or post-storm recovery.

2006 DOWNTOWN TOMS RIVER MASTER PLAN

In 2004, the Toms River Business Improvement District (BID) retained Phillips Preiss Shapiro Associates, Inc. to prepare a comprehensive plan and revitalization strategy for the BID area. The BID contains a variety of land uses, including the County government and court complex, the downtown core, multi-family housing, low-scale offices and auto-oriented businesses on Route 37.

The document recommended a new Special Waterfront Redevelopment District to spur assemblage and redevelopment of properties between West Water Street, the Garden State Parkway and the Toms River. (This area is prone to flooding.)

However, the 2006 Downtown Toms River Master Plan does not include any goals, objectives or policies that would support municipal planning needs related to future storm mitigation or post-storm recovery.

REDEVELOPMENT AREAS

There are four areas in need of redevelopment in Toms River Township. No redevelopment plans have been adopted.

1. In 2003, a redevelopment area investigation was conducted along the Route 37 corridor from Fischer Boulevard to Barnegat Bay; the Planning Board and Township Council determined that the Area was an Area in Need of Redevelopment
2. In 2006, the Ciba-Geigy tract, located in the westerly part of the Township was studied. The Planning Board and Township Council determined that the Area was an Area in Need of Redevelopment.¹⁵
3. In 2006, the Downtown Toms River Business Improvement District (BID) adopted a Master Plan for the Downtown Toms River area that included a recommendation for the redevelopment of the West Water Street District.
4. The 30-acre Dover Mall site located at the northeast quadrant of the intersection of Route 166 and Route 37 is designated as an area in need of redevelopment.

As no redevelopment plans have been adopted, there are no goals, objectives or policies that would support municipal planning needs related to future storm mitigation or post-storm recovery.

¹⁵ Township of Dover Master Plan, May 2009, page 1

LAND USE REGULATORY DOCUMENTS

The Township's code book was reviewed, as well as recently adopted ordinances that have yet to be incorporated into the code book. The following sections review Toms River's regulatory documents.

CHAPTER 348: LAND USE & DEVELOPMENT REGULATIONS

Chapter 348-1.3 states that the purpose of the chapter is to "secure safety from fire, flood, panic and other natural and man-made disasters". However, the Land Use and Development Regulations do not include any goals, objectives or policies that would support planning needs related to future storm mitigation or post-storm recovery.

ORDINANCE #4402-13

In May of 2013 the Township Council adopted Ordinance #4402-13, which amended the definition of height. The ordinance now reads:

BUILDING HEIGHT

In non-flood zones, the vertical distance measured from the average elevation of the finished grade at all corners of the building to the highest point of the roof for flat roofs; to the mean height level (between the eaves and the ridge) for gable and hipped roofs; and to the deckline for mansard roofs. In flood zones, as established by the appropriate federal or state agency, the vertical distance from the one-hundred-year base flood elevation to the same roof points.

ORDINANCE #4413-13

In October of 2013 the Township Council adopted Ordinance #4413-13, which authorized the taking of perpetual easements in a portion of each identified privately owned property by condemnation/eminent domain so that the Township and other entities or agents acting on behalf of Toms River shall have access to complete the flood hazard risk reduction measures (dune construction). A total of 19 properties were listed, mostly located on Ocean Terrace and Seaview Road. The construction of the dunes is essential in protecting both the barrier island as well as the river and lagoon properties within Toms River.

ORDINANCE #4414-13

In November of 2013 the Township Council adopted Ordinance #4414-13 to establish a minimum setback distance of structures to the water's edge of any stream, lake, lagoon or other body of water. Additionally, the ordinance established a minimum setback distance of unroofed decks, porches, stoops, balconies, landings and stairs from the water's edge of any body of water. This ordinance was enacted due to the large amount of reconstruction occurring within the municipality.

ORDINANCE #4427-14

In February of 2014 the Township Council adopted Ordinance #4427-14 to revise the off-street parking standards for the R-40A and R-40B Zones. These two zones can be found on the barrier island, where parking is a concern. The code now requires residences to follow the Residential Site Improvement Standards and provide a minimum ten foot wide access driveway.

CHAPTER 313: FLOOD DAMAGE PREVENTION REGULATIONS

Before Superstorm Sandy, FEMA had begun a coastal flood study to update Flood Insurance Rate Maps (FIRMs) and Flood Insurance Study (FIS) reports for portions of New Jersey using improved methods and data to better reflect coastal flood risk. After Sandy, FEMA released Advisory Base Flood Elevation (ABFE) maps for certain communities based on the partially completed FIS's, which were designed to help in rebuilding and recovery efforts. Subsequently, FEMA released preliminary work maps, which included the full results of the coastal flood study. Preliminary FIRMs and FIS reports for Ocean County were released March 28, 2014.

While the NFIP floodplain management regulations do not require communities to use flood hazard data from the advisory or preliminary flood data, in cases where BFEs have increased and/or a more restrictive flood zone has been established, communities have the responsibility to ensure that new or improved construction as well as the health and safety of citizens are protected.

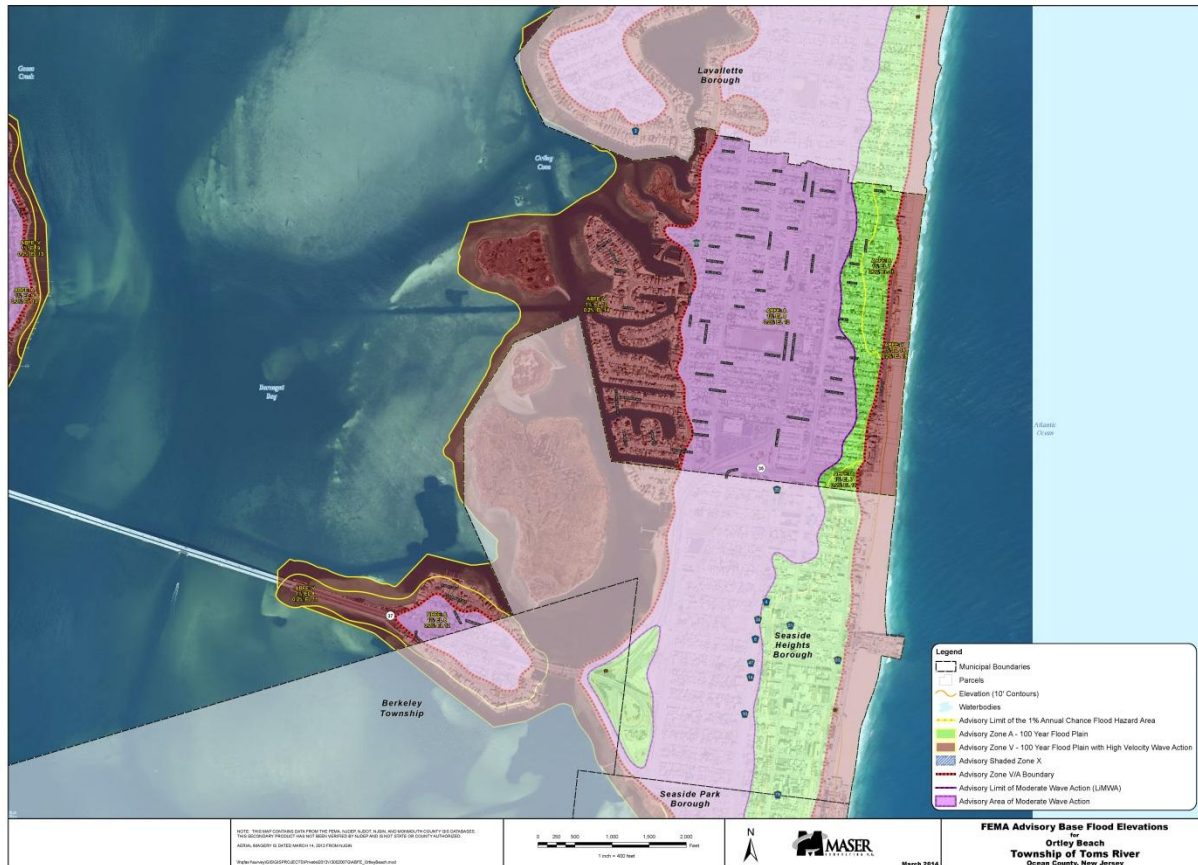
Chapter 231 of the Township Code, entitled "Flood Damage Prevention", addresses the flood hazard regulations of FEMA and NJDEP. The ordinance was adopted by the Township Council on March 12, 2013 by Ordinance #4396-13 in response to the ABFE maps dated December 12, 2012. The Ordinance states that they shall take precedence over previous FIRM panels and FIS in construction development regulations.

As shown in Figure 16, over 33,000 acres lie within a Preliminary Flood Hazard Area, representing 26 percent of Toms River Township.

Figure 16: Toms River Preliminary Flood Zones		
Flood Zone	Acres	Percent of Twp
Preliminary Zone AE - 100 Year Flood Plain	5,461.5	16%
Preliminary Zone AO - 100 Year Flood Plain	14.2	0%
Preliminary Zone VE - 100 Year Flood Plain with High Velocity Wave Action	2,334.2	7%
Preliminary Shaded Zone X - 500 Year Flood Plain	967.7	3%
Total	33,726.4	26%

Maps 7 through 11 compare the FEMA ABFE and Preliminary Flood Hazard mapping for Ortley Beach, North Beach, Silver Bay, Fischer Boulevard and Riverfront.

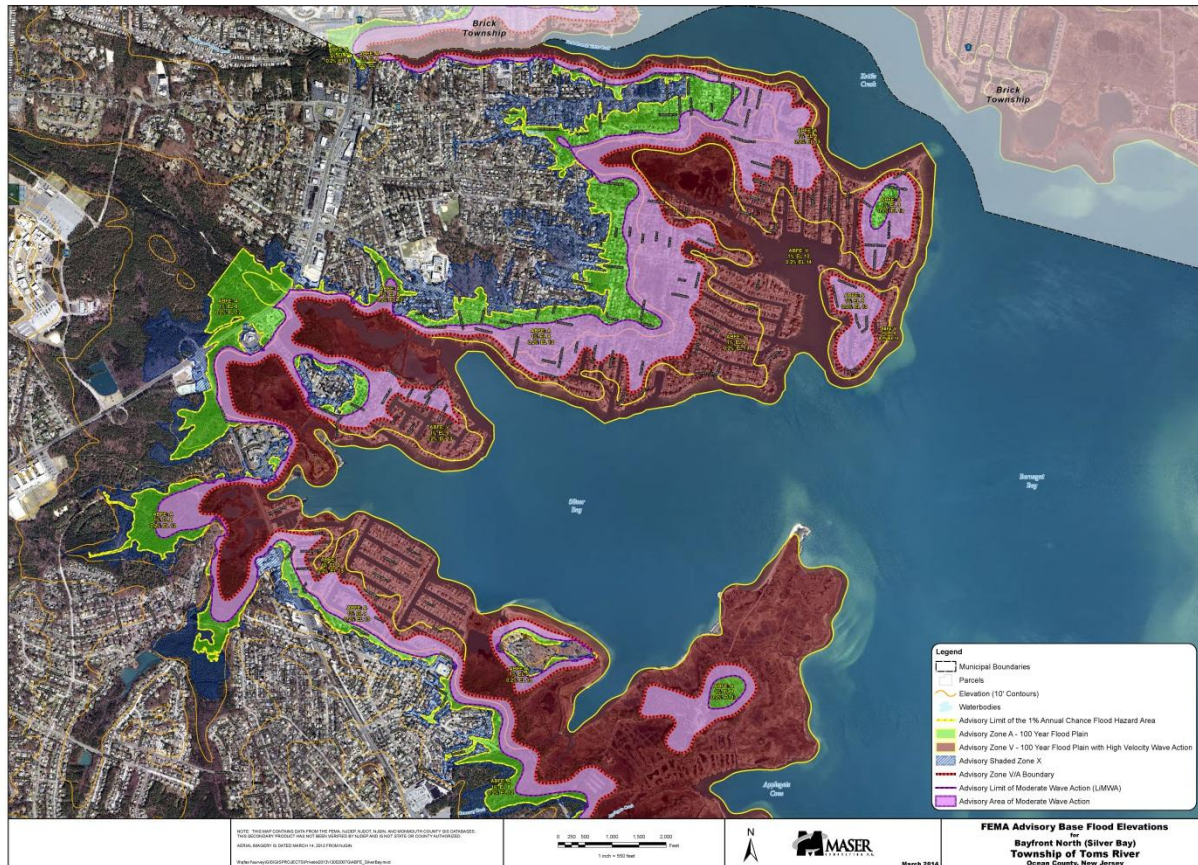
Map 7: FEMA Advisory & Preliminary Flood Hazard Areas for Ortley Beach



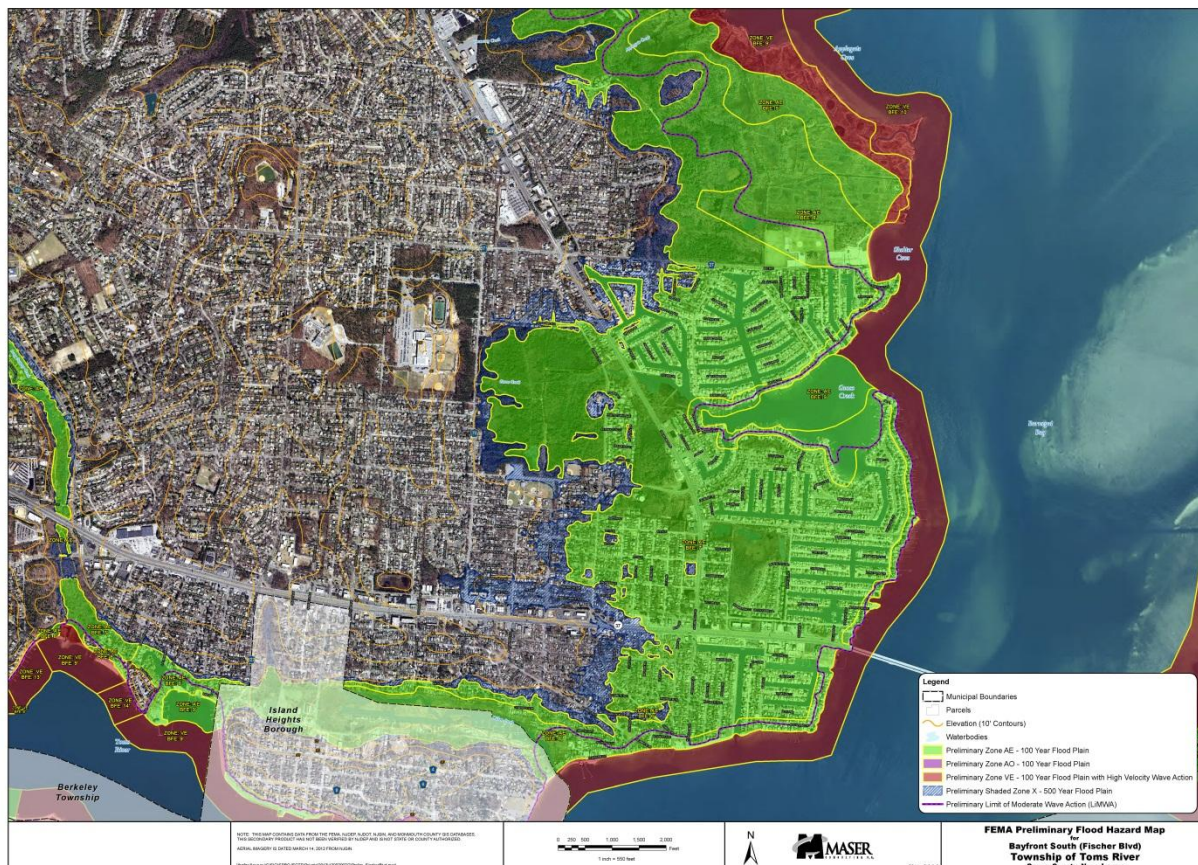
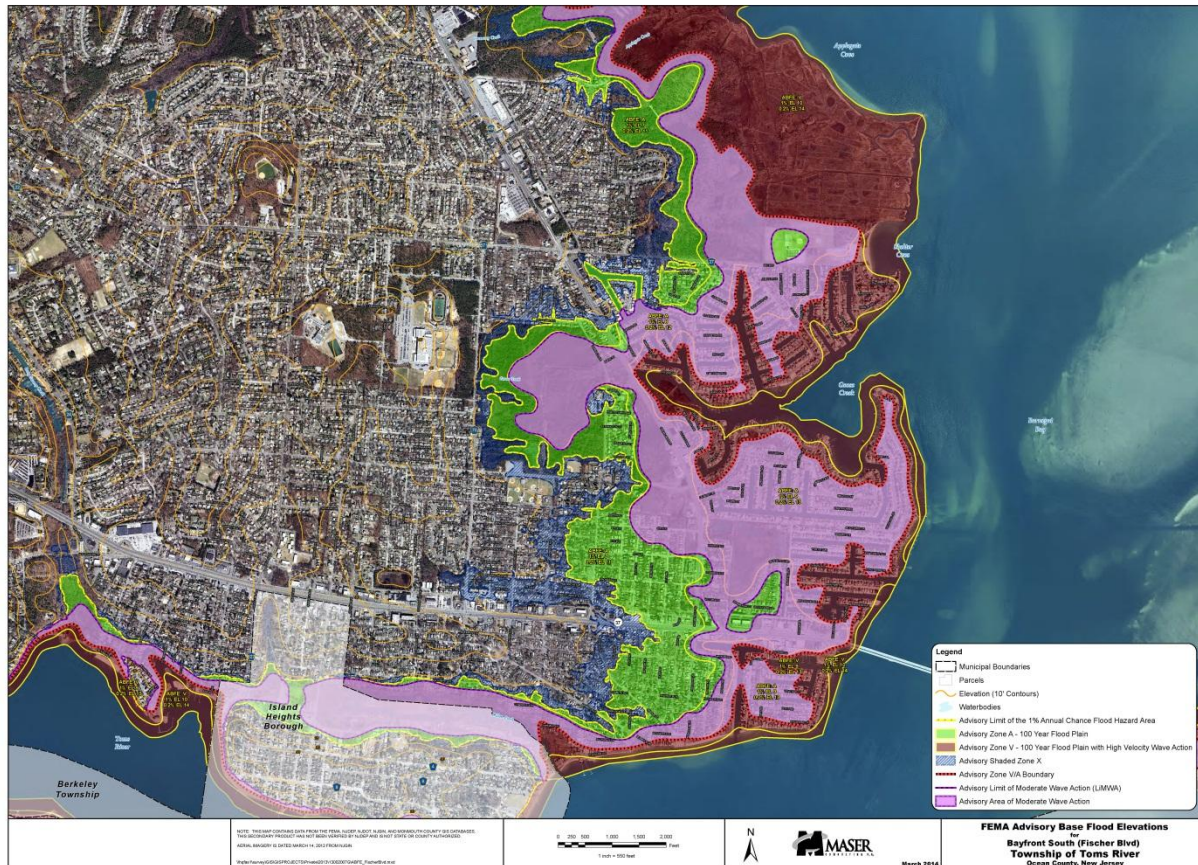
Map 8: FEMA Advisory & Preliminary Flood Hazard Areas for Dover Beaches North



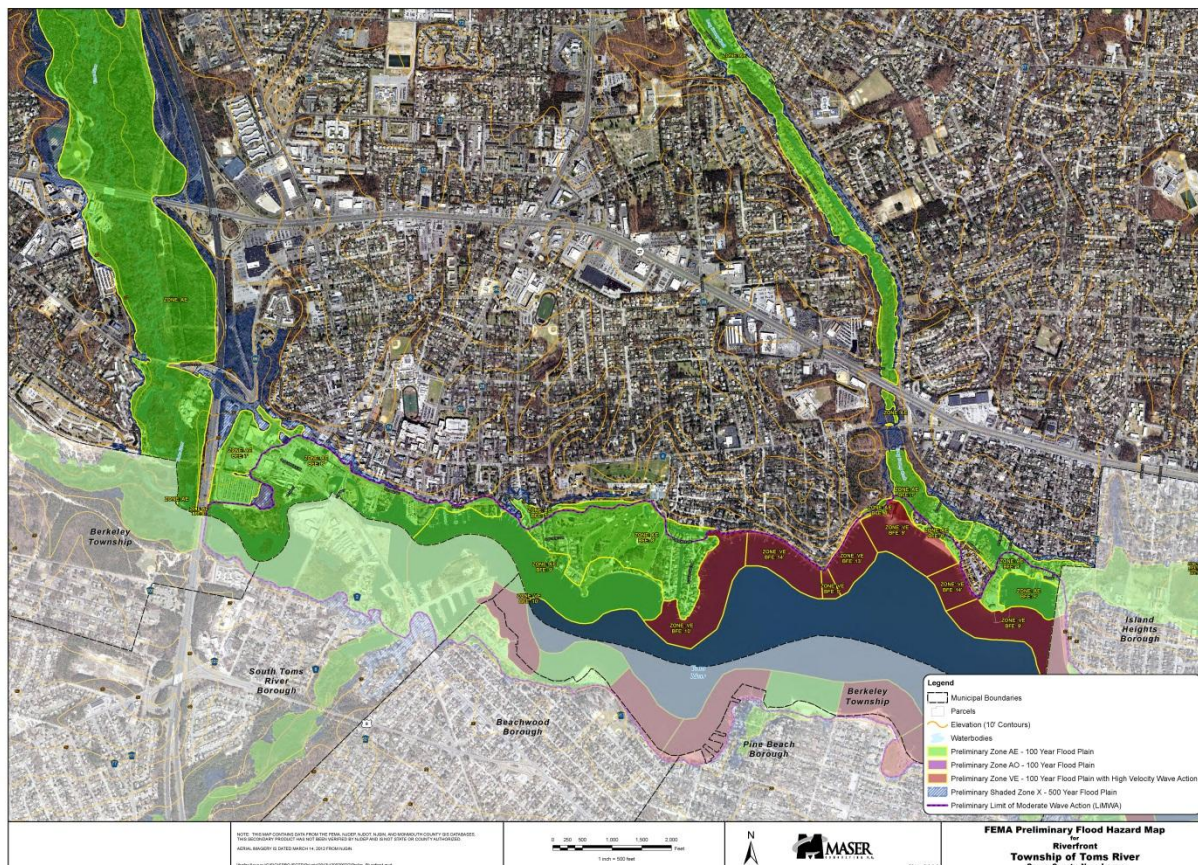
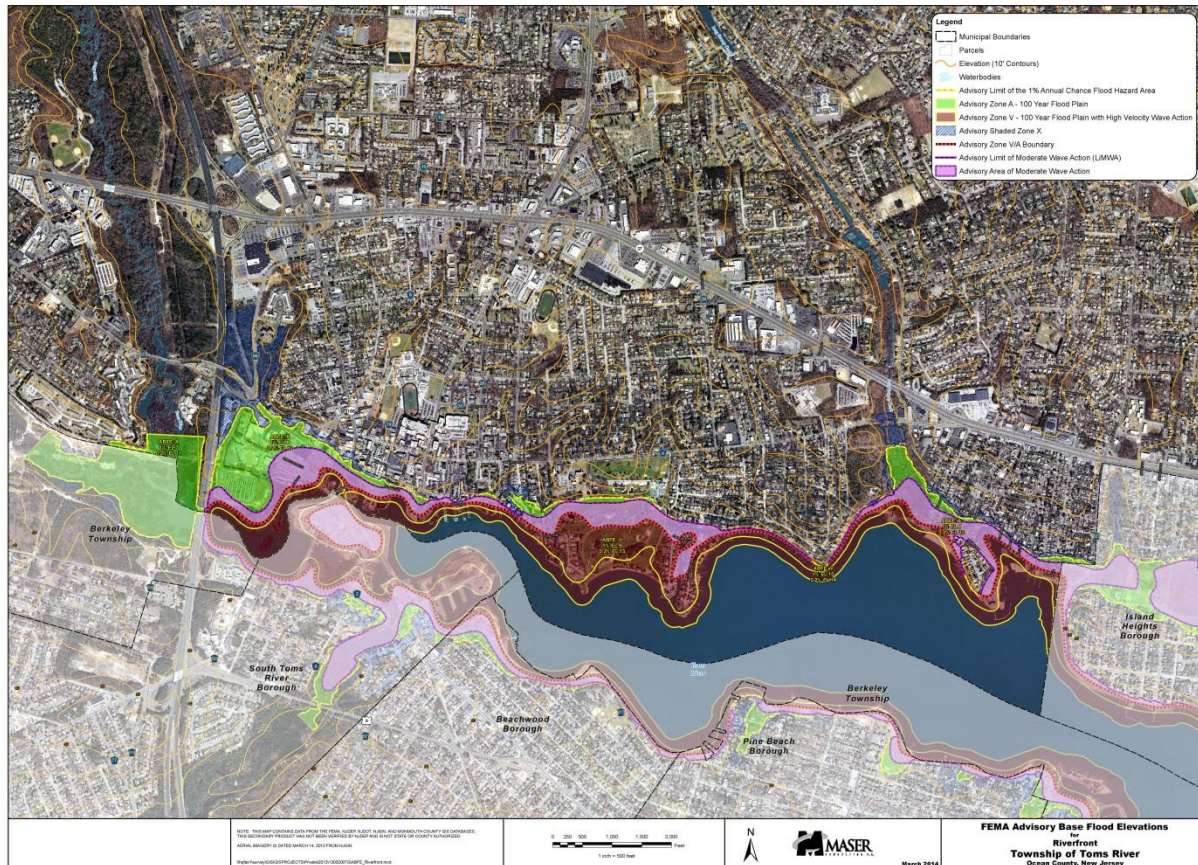
Map 9: FEMA Advisory & Preliminary Flood Hazard Areas for Bayfront North (Silver Bay)



Map 10: FEMA Advisory & Preliminary Flood Hazard Areas for Bayfront South (Fischer Blvd)



Map 11: FEMA Advisory & Preliminary Flood Hazard Areas for Riverfront









PUBLIC OUTREACH

In an effort to gain first-hand knowledge and experience from the various neighborhoods within the 41.62 square mile Township, three public workshops were held. The purpose of the workshops was to document and understand the impacts from Superstorm Sandy and identify projects targeted to recovery, mitigation and preparedness for future natural and/or man-made events. The first workshop covered the downtown, riverfront and

inland areas. The second workshop focused on the bay front and lagoon areas. The third and final workshop examined Pelican Island and the barrier island areas.

All three workshops followed a similar format. First, a powerpoint presentation of the project, the subject study area, Sandy impacts to the study area and a description of what is strategic recovery planning was presented. Then the meeting would be opened to general discussion and questions. Next, a series of mapping exercises would be conducted. Finally, participants were asked to fill out a "Preparedness Questionnaire".

1. **Mapping exercise.** Help us identify Areas of Vulnerability:

-  Key flooded intersections
-  Key blocked intersections (because of power lines, debris, etc.)
-  Emergency Facilities impacted by the storm (fire, police, ambulance)
-  Public Facilities impacted by the storm (municipal building, library, schools, etc.)
-  Bulkheads washed away
-  Power/pump stations flooded

MITIGATION | PREPAREDNESS | PROTECTION | RECOVERY


Sandy Recovery Plan Public Workshops

The Township has been awarded a grant from the NJ Department of Community Affairs to create a Strategic Recovery Planning Report. Community stakeholders are a key resource for our consultants, Maser Consulting, PA, to fully document the impacts on residents, businesses and public infrastructure and identify projects targeted to recovery, mitigation and preparedness. Come out and be a part of the recovery!

When: **Thursday, March 13 - 6PM (Downtown, Riverfront and Inland Areas)**
Ocean County Library Bishop Building

Tuesday, March 18 - 6PM (Mainland Bayfront & Lagoon Areas)
L. Manuel Hirshblond Meeting Room, 2nd floor, Town Hall

Saturday, March 22 - 10AM (Pelican Island and Barrier Island Areas)
Ortley Beach Moose Lodge



Preparedness questionnaire.

- In the future, how can the Township be better prepared to handle a storm similar to Superstorm Sandy?

- Shelter. During Superstorm Sandy did you:

☐ Shelter in place.

☐ Go to a shelter.

☐ Stay with friends/family inland.

☐ Other: _____
 - If you stayed in a shelter, was there enough capacity? _____
 - If you stayed in a shelter, did they accept pets? _____
 - If a storm similar to Superstorm Sandy were forecasted to impact Toms River would you stay where noted above or go somewhere else?

- Elevating homes.
 - Are you concerned that the character of your neighborhood is changing due to elevated homes? If so, please list what concerns you.

 - Are you worried that your neighbor may rebuild their house larger and taller than it was prior to Superstorm Sandy?

- Warning/alert system.
 - Did the Township's warning/alert system work – were you notified of Superstorm Sandy and post-storm issues?

 - How could it be improved?

DOWNTOWN, RIVERFRONT & INLAND

The Downtown, Riverfront and Inland Areas workshop was held on March 13, 2014 at the Ocean County Library Bishop Building. Roughly a dozen people participated in the workshop.

Key issues and facts during the general discussion included:

- The major problem in the downtown wasn't flooding, but was the loss of power for so long that caused product loss and employee wage loss
- The dentist and post office were completely flooded
- Irons Street south of Water Street has flooding issues in general
- Fire Department on Water Street had some water inside the building
- Many voiced concerns about the economic impact to the downtown during this type of storm event

Mapping exercises:

- Due to the power outage, buses were used to block the intersections along Route 37
- The Post Office was flooded and lost its mail
- The Bus Terminal and its associated parking lot were flooded (dead end of Highland Parkway South)
- Flooded intersections included:
 - East Water Street and Horner Street
 - East Water Street and N. Main Street
 - Irons Street and Herflicker Boulevard
 - Irons Street and West Water Street

Preparedness Questionnaire:

- Two shelters were open during Superstorm Sandy at Toms River North and Toms River East High Schools; however, the shelters were for only Toms River residents
- Other municipalities needed shelter for their residents, but they couldn't use Toms River's facilities

Projects:

- Raise major roadways
- Address storm sewer infrastructure
- Concern with changing residential neighborhood character with homes being raised – need to preserve/enhance the character
- Concern with grading of property to change elevation
- Fix storm drains

MAINLAND BAY FRONT & LAGOON

The Mainland Bay Front and Lagoon Areas workshop was held on March 18, 2014 at the Municipal Building. Approximately two dozen people participated in the workshop.

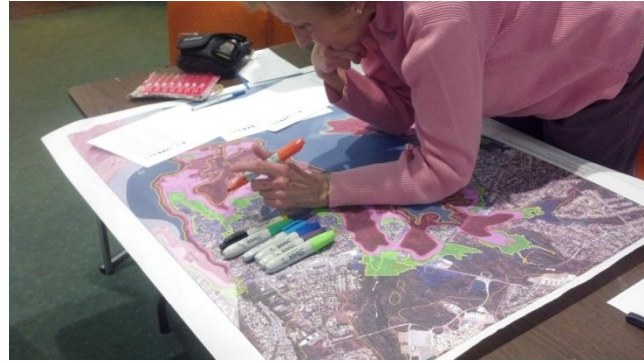
Key issues and facts during the general discussion included:

- General consensus of many members of the audience that they want dunes on the barrier



island to reduce impacts on bayfront and lagoon areas

- Tons of beach erosion over time has reduced the width of the beach and therefore has increased storm impacts
- First floor height is not consistent within a neighborhood and therefore looks terrible
- Many participants noted concern with residents regarding or adding height to their property prior to rebuilding, which increases the overall height of the house and causing drainage issues



Mapping exercises:

- Windsor Avenue floods when it drizzles
- Bayview Drive flooded on Green Island
- Wave Way and Green Island Road flooded
- Abandoned homes should be torn down
- Property grading needs to be uniform from lot to lot
- Docks on Green Island need to be repaired or removed
- Abandoned swimming pools in Green Island need to be drained
- Check values needed for storm drains
- Storm drains have been problem
- Silver Bay Road flooded
- South Shore Drive flooded
- Homes being built too big, blocking many peoples' view
- Bay Avenue flooded
- Hooper Avenue from Fischer Boulevard to Silver Bay Road flooded

Preparedness Questionnaire:

- Need better means to distribute information when there is no power
- Need places to stay, get gas and better communications system
- Need alternative communications system to cell phones and internet (bull horns, sirens, etc.)
- Need shelters with handicap equipment
- Use Ocean County College for emergency housing

Projects:

- No new development on marsh
- Residents concerned that their neighbor may rebuild their house larger/taller than prior
- Change parking standards, should require more off-street parking for larger homes
- Concerned about look of neighborhood, future real estate taxes
- Fix storm drains
- Build up dunes
- Bigger dunes, more trees in Ortley Beach, less concrete/pavers
- Restore beaches after each storm (no restoration was implemented after Hurricane Irene)

PELICAN ISLAND & BARRIER ISLAND

The Barrier Island Areas workshop was held on March 22, 2014 at the Ortley Beach Moose Lodge. Approximately 120 people participated in the workshop.

Mapping exercises:

- Build dunes
- Plant dune grass or maritime forest
- Blue acres buyout for beach front properties
- Fix Bay Boulevard
- Pave 6th Street
- Fix telephone poles
- Provide more access to bay
- Clean storm drains

Preparedness Questionnaire:

- Dunes should be built by Army Corps Engineers
- Vacant homes being ignored
- Township shouldn't allow homes so tall, obscures the view and prevents sea breezes
- Build dune and sea wall system
- Neighborhoods going from "quaint" to "industrial", looks horrible
- Reinforce concrete wall inside of dunes, just sand will not work
- Houses on pilings too high
- Widen the beaches and build buffer with large rocks like Bay Head
- Tiny bungalows next to "mcmansions" – looks terrible
- Parking and water drainage and overcrowding problems

Projects:

- Raise bulkheads and elevate abutting land
- Elevate or rebuild vulnerable buildings
- Hardening of infrastructure
- Command and control during extreme emergencies
- Shore protection

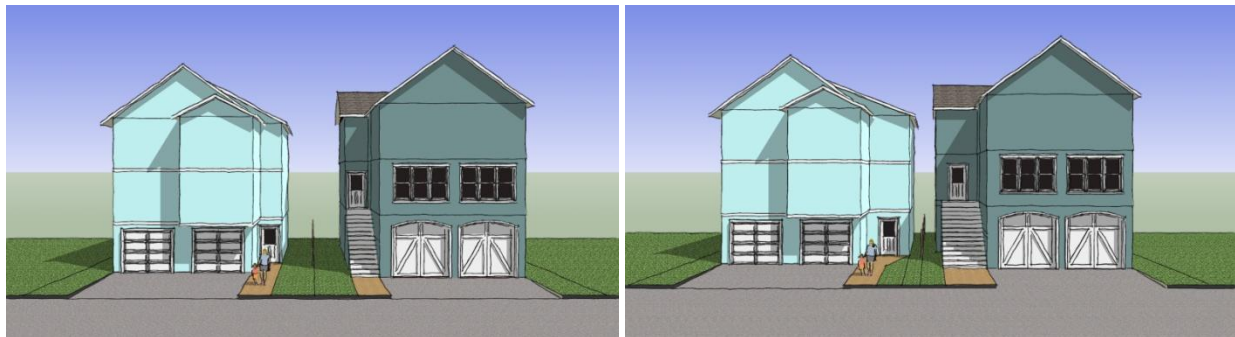


Figure 17: Graphic developed for Barrier Island public workshop illustrates permitted reconstruction (left) versus the impact of yard variances in overbuilding on small lots (right) during recovery (graphics prepared in SketchUp by Darlene A Green).

STRATEGIC RECOVERY ACTION PLAN

IDENTIFICATION OF PROJECTS

The following sections discuss the projects that have been identified in the 2014 Ocean County HMP, projects recommended by stakeholders during the public workshops and projects recommended based on the needs assessment and vulnerability analysis.

PROJECTS IDENTIFIED IN THE OCEAN COUNTY HMP

Chapter 6 of the Ocean County HMP lists the recommended municipal action plan summary¹⁶. For Toms River, there are eight actions recommended:

1. Elevate 2,819 homes to mitigate impact of flood related hazards
2. Flood proofing of 4 facilities for Toms River Municipal Utilities Authority
3. Purchase and maintain generators for Toms River Regional Schools to continue critical community services during utility interruptions and storm events
4. Continue to participate in the NFIP to support pro-active floodplain management that will protect property from flood related hazards, clearly inform property owners about the risks of being in and near the SFHA, and promote flood insurance
5. Continue to enforce building codes to require building, renovations, and re-building meets or exceeds the Uniform Construction Code thus protecting homes from risk related to hazards including flooding, fire, wind, earthquake, and winter storm
6. Adopt current BFE ordinance and complete zoning change to complete pro-active floodplain management to protect community from flood related hazards
7. Complete USACE dune and beach replenishment project to allow for construction of a large dune from Manasquan to Barnegat Light to protect community from flood related hazards
8. Continue participation in CRS program and consider upgrading to the next class level to complete pro-active floodplain management and assist residents with flood insurance costs

The summary Action Item tables from the Ocean County HMP are included and incorporated by reference to ensure consistency in the recommendations. The Ocean County HMP is especially relevant to this SRPR in that it was prepared after Sandy and incorporates the impacts from Sandy in its mitigation project recommendations.

¹⁶ 2014 Multi-Jurisdictional All-Hazard Mitigation Plan, pages G-560 to G-567.

6.4.39. Toms River Township**Action 6.4.39-1: Elevate 2819 homes**

Assessing the Risk	
Hazard(s) addressed	Coastal Erosion; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter, Climate Change
Risk finding	
Describing the Action	
Action category	Structure and Infrastructure Projects
Action type	Structural Project
Action description	Elevation project for 2819 homes to build to higher standards and elevation that will mitigate impact of flood related hazards while maintaining residents in community
Existing, future &/or NA	Elevates the existing structures to remove them from the floodplain
Evaluating the Action	
Losses avoided (i.e., benefits)	
Cost estimate	\$235,357,407
Cost effectiveness (i.e., benefit/cost)	
Technical	Technically feasible.
Political	
Legal	Homes must be elevated in compliance with the new FEMA flood maps once they are finalized.
Environmental	Positively impacts the environment by increasing the permeable surface for each homeowner property.
Social	Does not adversely affect any particular social group. Perceived by the public to be a good thing because it reduces risk for individual homeowners.
Administrative capability	Township has sufficient capacity and experience to administer this action
Local champion	Local champion is the emergency management office that has taken the lead on coordinating past letters of interest for the community.
Other community objectives	
Implementing the Action	
Priority	High
Local planning mechanism	
Responsible party	Toms River Township (Emergency Services)
Potential funding sources	HMGP, RFC, and FMA. For 25% local match, in-kind services, Community Development Block Grant (CDBG) and NFIP Increased Cost of Compliance (ICC).
Time line	5 years

Action 6.4.39-2: Flood proofing of 4 facilities for Toms River Municipal Utilities Authority	
Assessing the Risk	
Hazard(s) addressed	Coastal Erosion; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter; Climate Change
Risk finding	Bay flooding resulted in water encroaching in on a few streets.
Describing the Action	
Action category	Structure/Infrastructure Project (Property Protection)
Action type	Structural Project
Action description	Implement 4 flood proofing projects to protect valuable community resources from flooding
Existing, future &/or NA	Add flood proofing to existing facilities
Evaluating the Action	
Losses avoided (i.e., benefits)	
Cost estimate	\$55,000
Cost effectiveness (i.e., benefit/cost)	
Technical	Technically feasible.
Political	Politically acceptable.
Legal	No major legal ramifications.
Environmental	Does not adversely impact the environment.
Social	Does not adversely affect any particular social group. Perceived by the public to be a good thing because it will better protect the municipal utilities buildings.
Administrative capability	Township has sufficient capacity and experience to administer this action
Local champion	Local champion is the emergency management office that has taken the lead on coordinating the letters of interest for the community.
Other community objectives	
Implementing the Action	
Priority	High
Local planning mechanism	
Responsible party	Toms River Municipal Utilities Authority
Potential funding sources	HMGP, RFC, and FMA. For 25% local match, in-kind services, and Community Development Block Grant (CDBG).
Time line	1 year

Action 6.4.39-3: Provide generators for Toms River Regional schools	
Assessing the Risk	
Hazard(s) addressed	Hurricane, Tropical Storm, Nor'easter; Tomado, Wind Storm ; Winter Storm; Utility Interruption
Risk finding	Toms River schools can lose power during storm events; schools are designated as potential shelters during disasters.
Describing the Action	
Action category	Structure/Infrastructure Project
Action type	Prevention
Action description	Purchase and maintain generators to continue critical community services during utility interruptions and storm events
Existing, future &/or NA	Prepares the schools for future events
Evaluating the Action	
Losses avoided (i.e., benefits)	
Cost estimate	\$865,000
Cost effectiveness (i.e., benefit/cost)	
Technical	Technically feasible.
Political	Politically acceptable and encouraged in order to better equip the schools.
Legal	No legal issues anticipated.
Environmental	No major environmental impacts expected.
Social	Does not adversely affect any particular social group. Perceived by the public to be a good thing because it supports local services during emergencies.
Administrative capability	Township has sufficient capacity and experience to administer this action
Local champion	Local champion is the emergency management office that has taken the lead on coordinating past letters of interest for the community.
Other community objectives	
Implementing the Action	
Priority	High
Local planning mechanism	
Responsible party	Toms River Regional Schools
Potential funding sources	HMGP, RFC, and FMA. For 25% local match, in-kind services, and Community Development Block Grant (CDBG).
Time line	1 year

Action 6.4.39-4: Continue to participate in the NFIP	
Assessing the Risk	
Hazard(s) addressed	Coastal Erosion; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter; Climate Change
Risk finding	Community is susceptible to flooding from coastal storms on beachfront and/or bay front sides
Describing the Action	
Action category	Local Plans and Regulations
Action type	Planning Mechanism/Prevention
Action description	Continue to participate in the NFIP to support pro-active floodplain management that will protect property from flood related hazards, clearly inform property owners about the risks of being in and near the SFHA, and promote flood insurance
Existing, future &/or NA	Existing participation in the NFIP
Evaluating the Action	
Losses avoided (i.e., benefits)	
Cost estimate	N/A
Cost effectiveness (i.e., benefit/cost)	
Technical	N/A
Political	Purchase of flood insurance is encouraged in order to support the funding base for claims and reduce overall impact to communities post-flood.
Legal	Flood insurance is mandatory for homes located within zone A, AE, AR, A99, AH, or AO.
Environmental	Does not adversely affect the environment.
Social	Does not adversely affect any particular social group. Perceived by the public to be a good thing because it reduces risk for individual homeowners.
Administrative capability	Township has sufficient capacity and experience to administer this action
Local champion	Local champion is the Township departments that help share information about NFIP
Other community objectives	
Implementing the Action	
Priority	High
Local planning mechanism	Municipal codes
Responsible party	Toms River Township (Emergency Services) and residents
Potential funding sources	Homeowners
Time line	5 years

Action 6.4.39-5: Continue to enforce building codes	
Assessing the Risk	
Hazard(s) addressed	Coastal Erosion; Earthquake; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter, Tomado, Wind Storm; Wildfire; Winter Storm; Urban Fire and Explosion
Risk finding	Ocean County residents are at risk for both natural and man-made hazards to impact their homes.
Describing the Action	
Action category	Local Plans and Regulations
Action type	Planning Mechanism/Prevention
Action description	Continue to enforce building codes to require building, renovations, and re-building meets or exceeds the Uniform Construction Code thus protecting homes from risk related to hazards including flooding, fire, wind, earthquake, and winter storm
Existing, future &/or NA	Existing compliance with National and local building code standards
Evaluating the Action	
Losses avoided (i.e., benefits)	
Cost estimate	N/A
Cost effectiveness (i.e., benefit/cost)	
Technical	N/A
Political	Compliance with building codes is encouraged politically in order to reduce overall impact of natural and man-made disasters on homes and residents.
Legal	Compliance with building codes is mandated legally.
Environmental	Does not adversely affect the environment.
Social	Does not adversely affect any particular social group. Perceived by the public to be a good thing because it reduces risk for individual homeowners.
Administrative capability	Township has sufficient capacity and experience to administer this action
Local champion	Local champion is the Township that enforces the building codes
Other community objectives	
Implementing the Action	
Priority	High
Local planning mechanism	Municipal Codes
Responsible party	Toms River Township and residents
Potential funding sources	N/A
Time line	5 years

Action 6.4.39-6: BFE ordinance/zoning change	
Assessing the Risk	
Hazard(s) addressed	Coastal Erosion; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter; Climate Change
Risk finding	
Describing the Action	
Action category	Local Plans and Regulations
Action type	Planning Mechanism/Prevention
Action description	Adopt current BFE ordinance and complete zoning change to complete pro-active floodplain management to protect community from flood related hazards
Existing, future &/or NA	Homeowners are able to rebuild on existing footprint of principal structure without obtaining a zoning variance for previous nonconformity, except for homeowners desiring to raise their homes above the 35 foot limit. Rebuilt structure must match square footage and number of stories of the previous structure and the construction standards are mandated by FEMA.
Evaluating the Action	
Losses avoided (i.e., benefits)	
Cost estimate	N/A
Cost effectiveness (i.e., benefit/cost)	
Technical	
Political	
Legal	Some of the rebuilt structures may violate the zoning code, but may facilitate homeowners in rebuilding their homes more quickly.
Environmental	Possibly minimal environmental impact by allowing homeowners to rebuild on same footprint, but impact should not increase.
Social	Should serve to positively impact residents. Perceived by the public to be a good thing because it gives homeowners more freedom in rebuilding.
Administrative capability	Township has sufficient capacity and experience to administer this action
Local champion	Local champion is the Township Zoning Department that drafted the policy.
Other community objectives	
Implementing the Action	
Priority	High
Local planning mechanism	Reconstruction Policy (Township mandate)
Responsible party	Toms River Township and residents
Potential funding sources	N/A
Time line	5 years

Action 6.4.39-7: Easement for USACE dune and beach replenishment project	
Assessing the Risk	
Hazard(s) addressed	Coastal Erosion; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter; Climate Change
Risk finding	Flood risk in community
Describing the Action	
Action category	Natural Systems Protection
Action type	Natural Resource Protection
Action description	Complete USACE dune and beach replenishment project to protect community from flood related hazards
Existing, future &/or NA	Allow for construction of large dune from Manasquan to Barnegat Light
Evaluating the Action	
Losses avoided (i.e., benefits)	
Cost estimate	\$
Cost effectiveness (i.e., benefit/cost)	
Technical	Technically feasible.
Political	There is pressure from top government officials such as Governor Chris Christie for homeowners to cooperate and sign the easement in order to better protect all the homeowners on the barrier islands.
Legal	Pending lawsuits are expected due to controversy over the easement.
Environmental	No adverse environmental effects from dunes.
Social	Adversely impacts view of many beachfront property owners; private beachfront owners fear that their beaches will become public beaches
Administrative capability	Township has sufficient capacity and experience to administer this action
Local champion	Local champion is the emergency management office that has taken the lead on coordinating past letters of interest for the community.
Other community objectives	
Implementing the Action	
Priority	High
Local planning mechanism	
Responsible party	Toms River Township; USACE
Potential funding sources	USACE
Time line	5 years

PROJECTS IDENTIFIED BY THE PUBLIC

- Raise major roadways
- Address storm sewer infrastructure
- Concern with changing residential neighborhood character with homes being raised – need to preserve/enhance the character
- Concern with grading of property to change elevation
- No new development on marsh
- Residents concerned that their neighbor may rebuild their house larger/taller than prior
- Change parking standards, should require more off-street parking for larger homes
- Concerned about look of neighborhood, future real estate taxes
- Downtown Toms River BID – Need circulation plan for Waterfront Redevelopment Area along Water Street , most of which was flooded during Sandy – evacuation routes, anticipation of new redevelopment, etc.
- Fix storm drains
- Build up dunes on barrier island
- Bigger dunes, more trees in Ortley Beach, less concrete/pavers
- Restore beaches after each storm
- Update zoning regulations (design guidelines and bulk standards)
- Neighborhood plan specific to Ortley and North Beaches

PROJECTS RECOMMENDED IN TOMS RIVER SRPR

Projects identified by the Township and the public during the strategic recovery planning process in Toms River can be divided into two categories: (1) Mitigation, and (2) Preparedness. Mitigation projects relate to physical alterations to natural or manmade features such as the construction of dunes, elevation of roads, bridges, utilities and buildings, or improvements to stormwater management facilities. Preparedness projects relate to planning activities that look ahead to plan for increased resiliency against future storm events or measures intended to prevent damage to vulnerable properties and facilities, such as the hardening of vulnerable facilities where elevation above the flood elevation is not feasible.

The matrices and project summaries that follow provide the recommended projects for Mitigation and Preparedness for the Township of Toms River. Mitigation projects incorporate those recommended in the Ocean County HMP and add projects as appropriate from the list of projects identified by the public above. Preparedness projects relate specifically to the Post Sandy Recovery Planning Assistance Grants of the NJDCA for which this SRPR is a prerequisite.

Noteworthy among the projects recommended for the second phase of the NJDCA Planning Assistance Grants are two neighborhood plans. One of the neighborhood plans would be a detailed circulation plan for Downtown Toms River that would address the vulnerable portions of the Waterfront Redevelopment Area – specifically the Water Street corridor from the Garden State Parkway ramps of Exit 82 and Main Street. The area between and including Water Street and the Toms River was flooded during Sandy, including the intersections in the redevelopment area along Water Street. The proposed Neighborhood Plan would address the projected evacuation routes and recommended traffic improvements in the vulnerable portion of the redevelopment area in the Downtown, including improvements to roads and intersections to enable them to be more resilient in future storm events and

to support the projected buildout in the draft redevelopment plan. Given the potential that redevelopment in the vulnerable area near the river may provide an opportunity to reconstruct and elevate one or more of the roads between Water Street and the Toms River, this Neighborhood Plan would also anticipate employment of Green Infrastructure techniques in the new roadway design, such as flood storage under the elevated roadbed and bioretention and raingardens within the streetscape design, and LED street lighting and traffic signals.



Figure 18: Anticipated road reconstruction within the vulnerable portions of the Toms River Downtown Waterfront Redevelopment Area provides an opportunity to incorporate Green Infrastructure design practices such as bioretention tree lawns and raingardens within the streetscape.

The other neighborhood plan would address the reconstruction of Route 35 through Ortley Beach (Northbound and Southbound), Bay Boulevard and Ocean Avenue (along the boardwalk) as “Complete Streets” and include a streetscape design to enhance mobility, stimulate economic and tourism recovery. This project is fully supported and detailed in the 2014 Strategic Plan of the Ortley Beach Voters and Taxpayers Association (OBVTA) that was adopted during the development of this SRPR (see Appendix). Specifically the OBVTA recommends the following components:

- A)** Identification of areas that can provide new pocket parks and/or access to the bay. Many people driving through Ortley Beach are not even aware of the extensive bay front that exists. Even a small portion of public land along the bay to allow for crabbing and views of the bay are desirable. These exist in all of the towns to the north and south, but almost none in Ortley Beach.
- B)** Additional areas of "green" open space (*throughout the community – clarification added*).
- C)** Additional improvements to Bayside Park.
- D)** Tree planting program to replace the many trees that were lost in Sandy. Trees planted along Rte 35 south, most likely between the highway and the service roads. There may also be a need for additional landscaping elements on Rte 35 north in the blocks south of 6th Ave. (Trees on Rte 35 north are already provided for in the NJ DOT reconstruction plan, but only north of 6th Ave.). See also item H0 below.
- E)** Possible benches along Rte 35 north, or near the businesses where placement is logical (landscape architect input is needed here).

- F)** An improved "gateway" for approaches to Ortley Beach. There is a welcome to Ortley Beach sign on Rte 3 north now (provided by the Sea Bay Club many years ago), but the area is in need of improvement. Perhaps even a business directory.
- G)** A new Welcome to Ortley Beach sign on Rte 35 south. The previous one was destroyed in superstorm Sandy. The original sign here was also installed by Sea Bay Club.
- H)** Improved decorative lighting along Ocean Ave, Rte 35 north and Bay Blvd. Decorative lights were installed on Ocean Ave, but they were simply attached to utility poles. We strive for the style of poles and lighting that are typically seen in business areas and are in use in much of Seaside Heights.
- I)** Additional trees/landscaping planted on the Bay Blvd. medians. Prior to Sandy 4 trees had been planted on each section of the median, but these were all lost in Sandy. (It is possible that some planting may be included in the County plans to complete the rebuilding of Bay Blvd.).
- J)** Planter Barrels to be placed in various locations in Ortley Beach - possibly along Rte 35 north, Bay Blvd, etc. Sea Bay Club had provided these in the past but no longer has the budget to do so. We would recommend finding a business willing to take "ownership" of a barrel and be responsible for maintenance and watering.

This neighborhood plan for Ortley Beach would coordinate with the road re-construction plans of the NJDOT and Ocean County Engineering Department to advocate for the incorporation of a multi-modal "Complete Streets" approach, as well as the incorporation of Green Infrastructure as discussed above for the proposed neighborhood plan for the flood-prone portion of the Downtown Toms River Waterfront Redevelopment Area.

The Mitigation Projects and other Preparedness Projects are summarized under the matrices in Figure 19 and 20 below respectively:

Figure 19: Toms River Post Disaster Recovery Planning Implementation Matrix – MITIGATION

Recovery Project		Responsible Entity	Duration	Recovery Value		
				Need	Feasible	Sustainable
1.	Elevate 2,819 homes	Toms River	Moderate	High	High	High
2.	Flood proofing of 4 facilities	Toms River MUA	Short	High	High	High
3.	Provide generators for Toms River schools	Toms River BOE	Short	High	High	High
4.	Continue to participate in the NFIP	Toms River	Moderate	High	High	High
5.	Continue to enforce building codes	Toms River	Moderate	High	High	High
6.	Update BFE ordinance / zoning change	Toms River	Moderate	High	High	High
7.	USACE dune easement and beach replenishment project	Toms River; USACE	Moderate	High	High	High
8.	Continue participation in CRS program	Toms River	Moderate	High	High	High
9.	Raise major roadways	Toms River Ocean County NJDOT	Long	High	Mod	Mod
10.	Address storm sewer infrastructure	Toms River Ocean County NJDOT	Moderate	High	Mod	High

MITIGATION PROJECT SUMMARY

1. Elevate 2,819 homes to mitigate impact of flood related hazards – This project was identified in the Ocean County HMP for Toms River Township as a mitigation project. It relates to the design standards in Preparedness Project 8. This project was identified in the Ocean County HMP as project 6.4.39-1 and is detailed in the table earlier in this report.
2. Flood proofing of 4 facilities for Toms River Municipal Utilities Authority – This project was identified in the Ocean County HMP as project 6.4.39-2 and is detailed in the table earlier in this report.
3. Purchase and maintain generators for Toms River Regional Schools to continue critical community services during utility interruptions and storm events. This project was identified in the Ocean County HMP as project 6.4.39-3 and is detailed in the table earlier in this report.
4. Continue to participate in the NFIP to support pro-active floodplain management that will protect property from flood related hazards, clearly inform property owners about the risks of being in and near the SFHA, and promote flood insurance. This project was identified in the Ocean County HMP as project 6.4.39-4 and is detailed in the table earlier in this report.
5. Continue to enforce building codes to require building, renovations, and re-building meets or exceeds the Uniform Construction Code thus protecting homes from risk related to hazards including flooding, fire, wind, earthquake, and winter storm. This project was identified in the Ocean County HMP as project 6.4.39-5 and is detailed in the table earlier in this report.
6. Adopt current BFE ordinance and complete zoning change to complete pro-active floodplain management to protect community from flood related hazards. This project was identified in the Ocean County HMP as project 6.4.39-6 and is detailed in the table earlier in this report.
7. Complete USACE dune and beach replenishment project to allow for construction of a large dune from Manasquan to Barnegat Light to protect community from flood related hazards. This project was identified in the Ocean County HMP as project 6.4.39-7 and is detailed in the table earlier in this report.
8. Continue participation in CRS program and consider upgrading to the next class level to complete pro-active floodplain management and assist residents with flood insurance costs. This project was identified in the Ocean County HMP as project 6.4.39-8 and is detailed in the table earlier in this report.
9. Raise major roadways. This was a desired project expressed at all three public open house meetings based on experiences during Sandy of roads being blocked, as well as long term experiences with flooding of low-lying roads in lagoon neighborhoods on both east and west shores of Barnegat Bay during “moon high tides” due to obsolete drainage facilities.
10. Address storm sewer infrastructure. This was a an consensus project objective expressed at all three public open house meetings based on chronic flooding in low lying areas due to poor stormwater drainage. Upgrading of storm sewer infrastructure is an opportunity to incorporate bioretention design techniques, such as retro-fitting detention basins into bioretention basins, which would also address the serious and worsening nitrate pollution of the Barnegat Bay due to stormwater runoff.

Figure 20: Toms River Post Disaster Recovery Planning Implementation Matrix - PREPAREDNESS

	Recovery Project	Responsible Entity	Duration	Recovery Value		
				Need	Feasible	Sustainable
1.	Update Master Plan	Township, NJDCA Grant	Short	High	High	High
2.	Update Zoning Regulations (FAR provisions to discourage overbuilding).	Township, NJDCA Grant	Short	High	High	High
			SUPPORTS MITIGATION PROJECTS: 1,6,8			
3.	Township Hazard Mitigation Plan	Township, NJDCA Grant	Short	High	High	High
			SUPPORTS MITIGATION PROJECTS: 1-10			
4.	Neighborhood Circulation Plan for Downtown Toms River Waterfront Redevelopment	Township, NJDCA Grant	Short	High	High	High
5.	Neighborhood Plan for Ortley Beach & Route 35 Corridor	Township, NJDCA Grant	Short	High	High	High
6.	Post Disaster Recovery Capital Improvement Plan	Township, NJDCA Grant	Short	High	High	Mod
7.	Permit Process –Streamlining for FAR Compliant Projects	Township, NJDCA Grant	Short	Mod	High	Mod
			SUPPORTS MITIGATION PROJECTS: 1,4,5,6			
8.	Design Standards – Mainland & Barrier Isle	Township, NJDCA Grant	Short	Mod	High	High
			SUPPORTS MITIGATION PROJECTS: 1,2,4,5,6			

Preparedness Project Summary

1. Update Master Plan: The Toms River Master Plan is a comprehensive plan with the priority elements covered by the Municipal Land Use Law included (Goals & Objectives, Land Use Element, Economic Plan Element, Community Facilities Element, Recycling Element, Utility Service Element, Energy Conservation Element, Conservation-Open Space-Recreation Element, Circulation Element). However, it was adopted on October 25, 2006 (almost 6 years to the day before Sandy hit on October 29, 2012) and so did not anticipate the wide-ranging impacts of a Superstorm Sandy on planning for all of the elements recited above. This Master Plan update would fold in the findings of this SRPR in revisiting the zoning of vulnerable areas, the siting of community facilities and schools, the routing of future roads and planning

for evacuation routes, the protection of critical infrastructure and power redundancy for critical facilities, etc.

2. **Update Zoning Regulations (FAR provisions to discourage overbuilding):** The logical project to implement the updated Master Plan from Preparedness Project #1 would be an overhaul of the Township's Land Use and Development Regulations (Chapter 348), which includes Zoning. It is anticipated that the graphics prepared for the public open houses (see Figure 17 for example) would be incorporated into new development standards for elevating or building homes in flood-prone areas such as the Downtown & Riverfront, Bayfront and Barrier Island. Additional standards specific to reducing stormwater runoff and intercepting runoff (using rain barrels or dry wells to capture roof runoff in waterfront neighborhood) would be evaluated to reduce flash flooding and improve water quality in the Barnegat Bay.
3. **Township Hazard Mitigation Plan:** Many of the desired Mitigation Projects identified in the Ocean County HMP and repeated in this SRPR require more detailed analysis than is possible in a general overview. A Township as large and diverse as Toms River would be well served to develop its own more detailed Hazard Mitigation Plan that would generate an action plan of prioritized projects with general cost estimates so that a specialized Post Disaster Recovery Capital Improvement Plan (Preparedness Project #6) can be advanced within the Township's budget process. The Township HMP would identify specific Township roads and/or bridges for elevated reconstruction or stormwater management improvements; deal in more detail with dune construction on the barrier island, etc.
4. **Neighborhood Circulation Plan for Downtown Toms River Waterfront Redevelopment:** (discussed earlier in this SRPR)
5. **Neighborhood Plan for Ortley Beach & Route 35 Corridor:** (discussed earlier in this SRPR)
6. **Post Disaster Recovery Capital Improvement Plan:** (discussed in Preparedness Project #3).
7. **Permit Process –Streamlining for FAR Compliant Projects:** This project would involve an analysis of all of the Township's permitting and approval procedures and generate a set of recommendations for streamlining approvals for projects that meet or exceed all of the new requirements that are set forth in the Zoning Update (Preparedness Project #2) and the Design Standards (Preparedness Project #8).
8. **Design Standards – Mainland & Barrier Island:** It became very evident during the open house meetings that there are distinct characteristics that differ between the riverfront neighborhoods (including the Downtown), the Bayfront neighborhoods (including lagoon neighborhoods on the mainland and the bayside of the barrier island), and the neighborhoods on the barrier island (with narrow one-way streets and severely undersized lots). While some design standards, such as the treatment of transitioning from grade to elevated front entrances (skirting of pilings, use of decks, parking under elevated houses, etc.), could be applied generally, some design standards will need to vary based on the range of lot sizes involved (Figure 21).

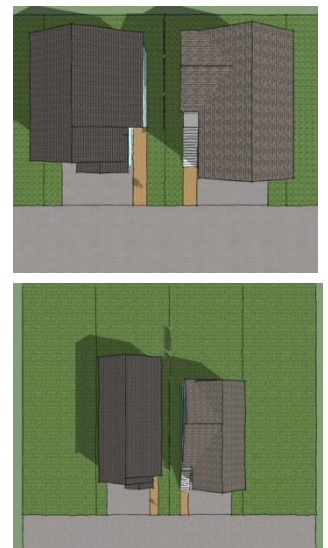


Figure 21: Examples of graphics from Barrier Island Open House illustrating differing lot sizes in R40A and R40B Zones in Ortley Beach with lots as small as 40'x50' (top) and 30'x100' (bottom).

APPENDIX



Ortley Beach Voters & Taxpayers Association Inc.
P.O. Box 223, Lavallette, NJ 08735
OrtleyBeach.org

2014 Strategic Plan for Ortley Beach Storm Sandy Revitalization Project

The OBVTA solicited concerns and recommendations from the membership at one of the monthly meetings concerning the strengths and weaknesses of Ortley Beach which would be referenced at the time of reconstruction of the community. Additionally a Strategic Planning Committee was formed to develop specific objectives as recommended by the membership. The committee was then requested to identify specific activities that would assist in the implementation of the identified objectives. Finally the OBVTA Board of Directors reviewed the work of the committee and the recommendations of the membership and approved the following objectives and action items for consideration by the Township of Toms River, the County of Ocean and the State of New Jersey as reconstruction activities are implemented.

Following is a listing of the objectives and recommended action items. OBVTA and its Directors stand ready to assist the political subdivisions as they work to reconstruct and hopefully enhance our community.

Objectives for Ortley Beach Beautification-Revitalization Project include:

1. Provide for enhancement of recreational and parkland areas of Ortley Beach:

- Install attractive and consistent benches along the boardwalk
- Provide a view of the bay with benches and landscape.
- Provide Bay access via boat ramp or kayak ramp
- Create a parkland at a portion of the MUA Property
- Install bocce courts at the recreational facilities
- Implement running paths on Bay Avenue
- Provide ADA Compliant playground equipment at all recreational areas.
- Create "Vest Pocket Parks" as land becomes available
- Use Blue Acres Funding to obtain funding for property acquisition
- Rebuild Bayside Park. Staff the parks with a full time person

2. Provide for enhancement of Business District and Gateway to Ortley Beach:

- Change street lights to lamplights in all areas of Ortley
- Place a façade / welcome signage at the North and South entrance to Ortley Beach
- Locate planters evenly along route 35 N&S
- Encourage business owners to enhance their facades with a common look
- Install brick pavers adjacent to sidewalks along route 35 north.
- Enhance route 35 north with shrubs, stone and landscape. Continually maintain area
- Provide attractive refuse containers along Route 35, Bay Blvd., Ocean Ave and Bayside Park

Officer Directors

Paul Jeffrey, President
Mel Persi, Vice President
Toni Tomarazzo, Secretary
Steve Sherrill, Treasurer

At Large Directors

Kathy Barisciano
Joseph Cantalupo
Cathy Crisafulli
Joan Strathern
Mike Wymbs

P1

3. Improve communications between the residents of Ortley Beach and the Township Council

- Establish a committee to meet monthly with a committee of the governing ‘
- Encourage a resident to run for Council to adequately represent Ortley Beach.
- OBVTA to maintain a current web site for information purpose.

4. Provide for an attractive and welcoming environment in Ortley Beach

- Apply a consistent look/theme throughout Ortley Beach (Dolphin Theme?)
- Plant new salt tolerant trees
- Planters along roadway
- Install pavers at selected crosswalks
- Remove grass from median and along route 35 S and replace with stone or mulch.

5. Ensure effective maintenance of the beach and environs (e.g., surroundings, neighborhood, locality)

- Establish a committee of OBVTA Members to constantly monitor the beach and parking lots
- Maintain natural environment at beach; avoid unnecessary poles and wiring, i.e. loudspeakers along boardwalk and dune signs, etc.
- Encourage OBVTA Members to adopt portions of the beach
- Develop a plan to improve the maintenance of route 35 South

6. Provide for a community meeting location in Ortley Beach

- Immediately meet with representatives of the OBVTA to solicit needs with respect to the replacement of the Ortley Beach First Aid Building
- Provide a facility for community meetings and social events
- Provide for a police, EMS station, and fire engine at the former location of the First Aid Squad Bldg

7. Ensure that an effective street and sewer cleaning plan is implemented

- Publish a schedule of routine street sweeping and drain cleaning

File: OBVTA Planning Objectives MAP 1/16/2014

P2