Reexamination Report and Master Plan Amendment

Little Egg Harbor Township
Ocean County, New Jersey

Reexamination Report and Master Plan Amendment

June 2015

Prepared for:

Little Egg Harbor Township
Ocean County, New Jersey

Prepared by:

T&M Associates
11 Tindall Road
Middletown, NJ 07748

Adopted June 4, 2015

Stan Slachetka, PP, AICP
NJ Professional Planner No.: 3508

Martin Truscott, PP, AICP, LEED GA
NJ Professional Planner No.: 2443

The original of this document was signed and sealed in accordance with New Jersey Law

H:\LEPL\00103\Calculations & Reports\LELP June 8.docx

Little Egg Harbor Township Planning Board
Kenneth W. Laney Jr., Chairman
Ken Miller, Vice Chairman
Arthur Midgley, Mayor
Eugene Kobryn
George Sauer
George Garbaravage
James Boyle, Jr.
Ann McDonald

Terry Brady, Esq.
Robert A. Mullin, PE, PP, CME
Scott D. Taylor, CLA, AICP, PP, LEED AP
Robin Schilling, Secretary

Master Plan Subcommittee
Kenneth W. Laney Jr., Chairman
George Garbaravage
James Boyle, Jr.
Michael Fromosky

Executive Summary

Introduction

The New Jersey Municipal Land Use Law (MLUL) requires that each municipality in New Jersey undertake a periodic review and reexamination of its local master plan. The purpose of the Reexamination Report is to review and evaluate the master plan and municipal development regulations on a regular basis in order to determine the need for updates and revisions. The Reexamination Report also reviews the progress of the township in achieving its planning objectives, and to consider the need for changes in order to ensure that the municipal plan is current and meets the needs of the township. The Planning Board of the Township of Little Egg Harbor is responsible for completing the reexamination, and preparing and adopting by resolution a report on the findings of the reexamination.

The Township of Little Egg Harbor adopted its last comprehensive master plan in 1999. The township subsequently adopted a Reexamination Report in 2007. In 2015, the township prepared another reexamination report (hereinafter referred to as the 2015 Master Plan Reexamination Report), which serves as a reexamination of the 1999 Master Plan, as supplemented by the 2007 Master Plan Reexamination Report and informed by the experience of Hurricane Sandy.

The 2015 Master Plan Reexamination Report provides opportunities for examining community resiliency, and is the township's response to Hurricane Sandy's impacts. It therefore places special emphasis on facilitating recovery from Hurricane Sandy, as well as promoting resiliency to future storm impacts and other potential natural hazards. To achieve this, the 2015 Master Plan Reexamination Report recommends a number of updates and revisions to the 1999 Master Plan, which have the combined effect of promoting resilience in the township. These changes have been compiled and incorporated into a master plan amendment, which updates and adds to the master plan goals and objectives, and also updates the township's Land Use Element, Community Facilities Plan Element, Economic Plan Element, Circulation Plan Element, and Stormwater Management Plan.

Impacts of Hurricane Sandy

Hurricane Sandy struck the coast of New Jersey on October 29, 2012, and caused extensive damage to the Township of Little Egg Harbor from both storm surge and wind damage. The township reported that approximately 4,000 residential properties and a number of small retail businesses and marinas suffered damage. Additionally, the township reported that seven roadways were damaged, and that electricity, water and sewer service were disrupted. Hurricane Sandy also resulted in damage to community facilities, including the Little Egg Harbor Township Community Center and Parkertown Dock. Trees and power lines also fell throughout the township.

Despite the extent of damages the Township of Little Egg Harbor sustained from Hurricane Sandy, existing land use patterns and prevailing land uses are not anticipated to substantially change. The long-term impacts of Hurricane Sandy will be affected by a variety of factors including insurance payouts, flood insurance regulations, as well as the ability for residents, businesses, and the township to rebuild.

With the impacts of Hurricane Sandy so great, the Township of Little Egg Harbor has significant concern and reason for promoting not only recovery from Sandy, but also building resiliency to future storm impacts and other potential natural hazards. While the current 2015 Master Plan Reexamination Report is broad in scope, the experience of Hurricane Sandy and the need to build resiliency has influenced and informed its preparation.

The Local and Regional Reaction to Hurricane Sandy

Strategic Recovery Planning Report

As a response to Hurricane Sandy, the Township of Little Egg Harbor adopted a Strategic Recovery Planning Report in 2014. The purpose of the Strategic Recovery Planning Report is to outline a recommended set of actions to guide the township in promoting recovery from the impacts of Hurricane Sandy and resiliency to future storms. The actions recommended by the Strategic Recovery Planning Report have been incorporated and described in detail in the 2015 Master Plan Reexamination Report.

Floodplain Management Plan

Concurrent with the development of the 2015 Master Plan Reexamination Report, the Township of Little Egg Harbor was in the process of preparing a floodplain management plan. The purpose of this plan is to identify and assess flood hazards within the township, establish goals and objectives for floodplain management, and present a series of actions designed to minimize flooding and mitigate the impacts from flooding in the future. The 2015 Master Plan Reexamination Report recommends the adoption of a floodplain management plan, which will facilitate the adoption of the actual floodplain management plan.

Ocean County Multi-Jurisdictional All Hazard Mitigation Plan

Ocean County adopted its Multi-Jurisdictional All Hazard Mitigation Plan (HMP) in 2014. The Plan identifies natural hazards that could affect the county's jurisdictions, evaluates the risks associated with these hazards, and identifies the mitigation actions to lessen the impacts of a disaster on Ocean County communities. Ocean County employed a multi-jurisdictional approach to develop the plan, and every municipality in the county was invited to participate as an equal partner with the county. The HMP outlines a number of countywide and local actions to reduce risk exposure. These have been summarized in the 2015 Master Plan Reexamination Report and, where relevant, have been incorporated in the accompanying master plan amendment.

Specific Changes Recommended for the Master Plan and Development Regulations

To promote recovery from Hurricane Sandy and resiliency to future storms and other hazards over the long-term, the 2015 Master Plan Reexamination Report recommends a number of changes to the township's municipal master plan and development regulations. These are outlined in the following subsections.

Changes to the Master Plan

The 2015 Master Plan Reexamination Report recommends that the existing goals and objectives be restated to promote clarity and centrality of information. The 2015 Master Plan Amendment also adds new objectives that are intended to promote recovery and resiliency (i.e., resiliency objectives). These new objectives are outlined below:

Resiliency Objectives

1. Employ storm-resistant building strategies in all future municipal construction in areas to the south of the Garden State Parkway.
2. Construct storm-resistant infrastructure, including equipment, pumps and buildings elevated above the flood hazard elevation and berms or levees to protect capital facilities.
3. Automate and expedite the processing of building permits.
4. Develop a GIS database and user interface to catalog and inventory all infrastructure owned by the township, as well as to provide essential property-specific information, such as zoning, building characteristics, occupancy information, dog and cat licenses, etc.
5. Compile low-elevation aerials to provide high-quality aerial mapping with six-inch contours within special flood hazard areas.
6. Ensure that local planning documents promote hazard mitigation and community resiliency.
7. Prepare and adopt a master plan element for floodplain management.
8. Explore opportunities to participate in the Community Rating System.
9. Prepare a multi-year capital improvement program.
10. Develop evacuation routes and provide signage and education.
11. Investigate opportunities for full-time staff within local fire and EMS agencies.
12. Investigate opportunities for shared services and mutual aid, in particular with inland communities that are not as vulnerable to major storms.
13. Provide natural gas service for generators, as well as more generators at schools.
14. Improve communication infrastructure for police, fire, and EMS (incl., securing of existing equipment).
15. Improve communication between emergency management and water and electric utility companies.
16. Prepare an updated natural resources inventory.
17. Install a town-wide Supervisory Control and Data Acquisition (SCADA) system in conjunction with the township's owned and operated facilities to communicate critical alarms to a centralized location or operational personnel.
18. Strengthen Radio Road from future storm damage.
19. Install bay-front energy dissipation structures where needed.
20. Install riprap along the shoreline where needed.
21. Replenish the eroded beach at Parkertown Dock Recreation Facility.
22. Repair the Iowa Court seawall.

23. Repair bulkheads where needed.
24. Continue to participate in the National Flood Insurance Program.
25. Maintain a local emergency planning committee.
26. Hold quarterly emergency management meetings at town hall meetings.
27. Develop a reverse 911 system.
28. Maintain and update the Emergency Operations Plan.
29. Complete the flood protection project at East Sail, Boat, and Dory drives.
30. Upgrade the emergency power supply at the municipal building/emergency command center.
31. Supply the Municipal Utilities Authority with necessary on-site generators for back-up power for wells, pump stations, and its office. Generators must be installed above flood hazard elevation.
32. Adopt a township-wide debris management plan that provides the Department of Public Works with an emergency staging facility and designated debris management area.
33. Complete work to remedy siltation of inlets that occurred during Hurricane Sandy by removing sand and dredging.
34. Complete work to remedy siltation of inlets caused by storm surge during Hurricane Sandy by dredging all lagoons in the Mystic and Osborne island areas.
35. Perform video inspection and sewer cleaning of sanitary sewer lines in the Mystic Island area and other flood-inundated sections of the township to determine where repairs or replacements are needed.
36. Adopt a township policy to encourage the elevation of residences above the advisory base flood elevation.
37. Adopt a complete streets policy to ensure that local roadways meet the needs of all types of users and all modes of circulation, including walking, bikes, cars, trucks, and buses.

To reflect the recommendations of the 2015 Master Plan Reexamination Report, the 2015 Master Plan Amendment also contains the following components:

- A Land Use Element update that includes current land use mapping, and a discussion of green building and infrastructure techniques to aid the township to build resiliency through development regulations;
- A Community Facilities Plan Element update that includes updated mapping of community facilities and critical infrastructure, and a discussion on promoting resiliency at community facility and critical infrastructure sites;

- A revision to the Economic Plan Element to: recommend the establishment of shared service agreements with inland communities that are not as vulnerable to major storms as Little Egg Harbor and adjacent municipalities; and, provide a discussion of the Mathistown Road and Radio Road Streetscape Improvement Project;
- A Circulation Plan Element update that: reflects the current status of roadways and improvements that were proposed in the 1999 Master Plan; evaluates the current relevancy of transportation policies that were outlined in the 1999 Master Plan; includes new roadway projects that were identified in the recommended actions of the 2014 Strategic Recovery Planning Report; makes recommendations for the development of emergency evacuation routes, the development of which was a recommended action in the 2014 Strategic Recovery Planning Report; and, promotes the development of bicycle and pedestrian connections; and,
- An update to the Stormwater Management Plan that facilitates the implementation of the 2014 Strategic Recovery Planning Report by adding a number of project-specific goals.

Changes to Development Regulations

In addition to the numerous changes to the township's 1999 Master Plan, the 2015 Master Plan Reexamination Report recommends that the township update its zoning policies to promote sustainable development and resilience to future storms, and make the necessary changes to fully implement the township's stormwater management plan. Such changes will promote sustainable development and resilience to future storms, by:

- Requiring the use of native vegetation in buffer areas;
- Allowing buffer areas to be utilized for stormwater management by disconnecting impervious surfaces and treating runoff from them;
- Prohibiting bulk storage within 50 feet of a stormwater management basin/facility;
- Requiring that drainage right-of-way easements be kept in a pervious state to treat runoff before it reaches watercourses;
- Permitting curb cuts or flush curbs with curb stops to enable vegetated swales to be used for stormwater conveyance, and to provide for the disconnection of impervious areas;

- Requiring that developers design sidewalks to discharge stormwater to neighboring lawns where feasible, or to use permeable paving material where appropriate;
- Encouraging the use of natural vegetated swales in lieu of inlets and pipes;
- Permitting the use of pervious paving materials in order to minimize stormwater runoff and promote groundwater recharge;
- Encouraging developers to allow for the discharge of impervious areas into landscaped areas for stormwater management; and,
- Permitting the use of natural vegetated swales for the water quality design storm, with overflow for larger storm events into storm sewers.

Capital Recommendations/Public Facilities and Other Critical Infrastructure

The 2015 Master Plan Reexamination Report also recommends various capital improvements and improvements to public facilities and other critical infrastructure, many of which have been developed in accordance with the preparation of the township's Floodplain Management Plan, 2014 Strategic Recovery Planning Report, the County's Hazard Mitigation Plan, and the Capital Improvement Plan. These recommendations include the following Township-wide projects:

- Automating and updating Township's system for processing permits;
- Developing a Geographic Information System (GIS) to increase resiliency;
- Compiling low-elevation aerials to provide high-quality aerial mapping with six-inch contours within special flood hazard areas;
- Participation in FEMA's Community Rating System (CRS);
- Preparing a Debris Management Plan;
- Maintaining and updating the Emergency Operations Plan;
- Improving communication infrastructure for police, fire and EMS;
- Developing a reverse 911 system; and,
- Installing a Township-wide Supervisory Control and Data Acquisition (SCADA) system.

Other examples of site-specific capital recommendations include:

- Installing emergency and portable generators at key facilities;
- Employing storm-resistant building strategies in municipal construction in areas to the south of the Garden State Parkway;

- Providing natural gas service for generators;
- Installing bay-front energy dissipation structures;
- Installing riprap along the shoreline;
- Replenishing the eroded beach at Parkertown Dock Recreation Facility;
- Repairing the Iowa Court seawall;
- Repairing bulkheads, where needed;
- Completing work to remedy siltation of inlets that occurred during Hurricane Sandy by removing sand and dredging;
- Completing work to remedy siltation of inlets caused by storm surge during Hurricane Sandy by dredging all lagoons in the Mystic and Osborne island areas; and,
- Performing video inspection and sewer cleaning of sanitary sewer lines in the Mystic Island area and other flood-inundated sections of the township to determine where repairs or replacements are needed.

Summary

Hurricane Sandy caused extensive damage in the Township of Little Egg Harbor and exposed many vulnerabilities. While much has been done to promote recovery, additional work is needed. Furthermore, it is important to ensure that the master plan helps the township to promote sustainable development and build resiliency to future storms. The 2015 Master Plan Reexamination Report and accompanying master plan amendments will help the township to meet these needs.

Table of Contents

Introduction 1
Requirements of the Reexamination Report 1
Major Problems and Objectives in 2007 2
Master Plan Objectives 2
Land Use Plan Element 4
Community Facilities Plan Element 7
Recycling Plan Element 7
Economic Plan Element 7
Circulation Plan Element 8
Open Space and Recreation Plan Element 8
Housing Element and Fair Share Plan 8
Stormwater Management Plan 9
Parker's Run Business Park Redevelopment Plan 9
Plan Endorsement 10
The Extent of Significant Changes in Assumptions, Policies and Objectives 10
Changes at the Local Level 10
Hurricane Sandy 10
Strategic Recovery Planning Report 11
Demographic Changes 13
Stormwater Management Plan 15
Floodplain Management Plan 17
Master Plan Objectives 18
Land Use Plan Element 20
Preservation Residential 20
Low Density Residential 20
Medium Density Residential 20

High Density Residential 21
Multifamily Residential 21
Commercial/Business 21
Light Industry 21
Parks/Recreation 21
Public Lands 22
Planned Adult Community 22
Waterfront Development 22
Community Facilities Plan Element 23
Economic Plan Element 23
Open Space and Recreation Plan Element 23
Zoning Board of Adjustment Annual Reports 24
Mathistown Road and Radio Road Streetscape Improvement Project 24
Changes at the County Level 24
2011 Ocean County Comprehensive Master Plan 25
2014 Ocean County Multi-Jurisdictional All Hazard Mitigation Plan 26
Changes at the State Level 29
State Development and Redevelopment Plan/State Strategic Plan 30
Affordable Housing (COAH) 30
Complete Streets 31
Coastal Area Review Act (CAFRA) 31
Time of Decision 32
Solar and Wind Facilities as Permitted Uses in Industrial Zones 32
Stormwater Management 32
Green Buildings and Environmental Sustainability Element 32
Redevelopment Case Law 33
Changes at the Federal Level 33

Specific Changes Recommended for the Master Plan and Development Regulations ... 33
Changes to the Master Plan ... 34
Master Plan Goals and Objectives ... 34
Land Use Element ... 36
Community Facilities Plan Element ... 36
Economic Plan Element ... 36
Circulation Plan Element ... 37
Open Space and Recreation Plan Element ... 37
Stormwater Management Plan ... 37
Changes to Development Regulations ... 38
Changes Recommended by the 2007 Stormwater Management Plan ... 38
Recommendations Concerning Redevelopment Plans ... 40
Master Plan ... 41
Introduction ... 41
Master Plan Goals and Objectives ... 41
Goals and Objectives ... 41
Land Use Element ... 44
Current Land Use Mapping ... 44
Building Resiliency through Development Regulations ... 44
Building Resiliency through Development Regulations ... 45
Green Building and Infrastructure Techniques ... 45
Community Facilities Plan Element ... 48
Promoting Resiliency ... 48
Promoting Resiliency ... 49
Public Facilities and other Critical Infrastructure Mapping ... 50
Economic Plan Element ... 50
Cost Sharing Agreements ... 50

Cost Sharing Agreements 50
Mathistown Road and Radio Road Streetscape Improvement Project 51
Mathistown Road and Radio Road Streetscape Improvement Project 51
Circulation Plan Element 51
Status of Proposed Roadways and Improvements 51
New Jersey Turnpike Authority (Replaces "New Jersey Highway Authority") 51
Otis Bog Road 52
Addition of Municipal Roadway Improvements 52
Flood Protection 52
Addition of County Roadway Improvements 52
Radio Road Restoration 53
Park and Ride Facility 53
Park and Ride Facility 53
Emergency Evacuation Routes 53
Emergency Evacuation Routes 53
Bicycle and Pedestrian Connections 54
Bicycle and Pedestrian Connections 55
Vision for Bicycle and Pedestrian Linkages 55
Facility Design and Maintenance 55
Goals for Bicycle and Pedestrian Linkages 58
Stormwater Management Plan 59

List of Tables

Table 1: Recent Population Development 14
Table 2: Households and Household Structure 15
Table 3: Housing Units 15
Table 4: Zoning Board of Adjustment Annual Report Data 24

List of Appendices

Appendix A: Existing Land Use Map
Appendix B: Public Facilities and Critical Infrastructure Map

Reexamination Report

Introduction

New Jersey's Municipal Land Use Law requires that each municipality in the state undertake a periodic review and reexamination of its local Master Plan. The purpose of the Reexamination Report is to review and evaluate the master plan and municipal development regulations on a regular basis in order to determine the need for updates and revisions. In addition, the preparation of a statutorily compliant Reexamination Report provides a legal presumption of validity of the municipal zoning ordinance. This report constitutes the Master Plan Reexamination Report for Little Egg Harbor Township as required by the Municipal Land Use Law at NJSA 40:55D-89.

Little Egg Harbor Township adopted its last comprehensive master plan in 1999. The Township's last reexamination report was adopted in 2007. The current document (hereinafter referred to as the 2015 Master Plan Reexamination Report) serves as a reexamination of the 1999 Master Plan, as supplemented by the 2007 Master Plan Reexamination Report.

While the 2015 Master Plan Reexamination Report is broad in scope, it has been prepared in light of the experience of Hurricane Sandy. It, therefore, places special emphasis on facilitating recovery from Hurricane Sandy's impacts, as well as promoting resiliency to future storm impacts and other potential natural hazards. To achieve this, the 2015 Master Plan Reexamination Report recommends a number of updates and revisions to the 1999 Master Plan. These changes have been compiled into a master plan amendment, which is included in this document.

Requirements of the Reexamination Report

The Municipal Land Use Law requires that Little Egg Harbor Township provide for the reexamination of the municipal master plan and development regulations at least once every ten years. The purpose of the reexamination is to review the progress of the township in achieving its planning objectives, and to consider the need for changes to ensure that the municipal plan is current and meets the needs of the township. The municipal planning board is responsible for completing the reexamination, and preparing and adopting by resolution a report on the findings of the reexamination.

The Municipal Land Use Law requires that the reexamination report state the following:

- The major problems and objectives relating to land development in the municipality at the time of the adoption of the last reexamination report;
- The extent to which such problems and objectives have been reduced or have increased subsequent to such date;
- The extent to which there have been significant changes in the assumptions, policies and objectives forming the basis for the master plan or development regulations as last revised, with particular regard to the density and distribution of population and land uses, housing conditions, circulation, conservation of natural resources, energy conservation, collection, disposition and recycling of designated recyclable materials, and changes in state, county and municipal policies and objectives;
- The specific changes recommended for the master plan or development regulations, if any, including underlying objectives, policies and standards, or whether a new plan or regulations should be prepared; and,
- The recommendations of the planning board concerning the incorporation of redevelopment plans adopted pursuant to the Local Redevelopment and Housing Law (NJSA 40A:12A-l et seq.) into the land use plan element of the municipal master plan, and recommended changes, if any, in the local development regulations necessary to effectuate the redevelopment plans of the municipality.

The 2015 Master Plan Reexamination Report addresses each of these statutory requirements.

Major Problems and Objectives in 2007

The following subsections describe the major problems and objectives of Little Egg Harbor Township at the time of the 2007 Master Plan Reexamination Report.

Master Plan Objectives

The 2007 Master Plan Reexamination Report discussed the township's progress toward achieving the objectives of the 1999 Master Plan, and how circumstances changed since the formulation of such objectives. The overall objectives of the 1999 Master Plan and the assessment of the 2007 Master Plan Reexamination Report are presented below.

Objective A: To reduce permitted residential densities, where appropriate, consistent with planning efforts aimed at minimizing the fiscal impacts of new residential development.

2007 Assessment: The 2007 Master Plan Reexamination Report notes that, although the township took considerable steps to reduce permitted densities, Objective A remains valid.

Objective B: To concentrate new residential and commercial development in planned centers or other growth corridors where infrastructure is available or comprehensively planned.

2007 Assessment: The 2007 Master Plan Reexamination Report notes that the State Planning Commission adopted three "center designations" in Little Egg Harbor Township to accommodate centers-based development and redevelopment, namely: Tuckerton Town Center; Mystic Island Town Center; and, Parkertown Village Center. Centers are the New Jersey State Development and Redevelopment Plan's preferred vehicle for accommodating growth. The 2007 Master Plan Reexamination Report further notes that Objective B remains valid and relevant to any future land use planning initiatives.

Objective C: To adopt land use regulations that will capitalize upon and promote the Tuckerton Seaport project.

2007 Assessment: The 2007 Master Plan Reexamination Report concluded that this objective is still valid.

Objective D: To adopt land use regulations that encourage a better balance among residential, commercial and industrial land uses so as to promote improved municipal fiscal planning efforts.

2007 Assessment: The 2007 Master Plan Reexamination Report notes that, although the township took considerable steps to improve the balance among different land uses, Objective D remains valid and relevant to future land use planning initiatives.

Objective E: To promote better coordination and consistency between State and Municipal planning efforts.

2007 Assessment: The 2007 Master Plan Reexamination Report notes that the township has adopted cluster zoning provisions for land located outside of Tuckerton Town Center, Mystic Island Town Center, and Parkertown Village Center in an attempt to encourage a pattern of development in rural areas of the township that is in accordance with the intent of the Rural Planning Area (PA 4), as outlined in the State Development and Redevelopment Plan. The 2007 Master Plan Reexamination Report further notes that Objective E remains valid and relevant to future land use planning initiatives.

Objective F: To coordinate with the New Jersey Highway Authority and county to continually improve the roadway system of the Township and to plan for anticipated changes brought on by growth and development.

2007 Assessment: The 2007 Master Plan Reexamination Report concluded that this objective is still valid.

Objective G: To promote bikeways and pedestrian walkways as a means of recreation and to lessen reliance on the automobile as the sole means of transportation.

2007 Assessment: The 2007 Master Plan Reexamination Report notes that the township proposed a bikeway in a paper street right-of-way running parallel to North Green Street (Ocean County Route No. 539), and that the township subsequently vacated the paper street to allow for the bikeway.

Objective H: To promote land use policies and regulations that encourage economic development and redevelopment that improves the Township's property tax base.

2007 Assessment: The 2007 Master Plan Reexamination Report discusses the background of the Parker's Run Business Park Redevelopment Plan, which is intended to promote economic development in the township and is thoroughly discussed in a later section of this report. The 2007 Master Plan Reexamination Report notes that Objective H remains valid.

Land Use Plan Element

The Land Use Plan Element covers the areas of the township that are located outside of the area that is administered by the New Jersey Pinelands Comprehensive Management Plan. The Land Use Plan Element includes mapping and language that outlines a series of land use districts, including:

- Preservation Residential, which is comprised of land that is predominantly environmentally sensitive and is intended to accommodate parks, open space, recreation, government uses and single family dwellings;
- Low Density Residential, which is intended to accommodate single family dwellings at densities ranging from one unit per two to five acres;
- Medium Density Residential, which is intended to accommodate single family dwellings at densities ranging from one to four dwelling units per acres;
- High Density Residential, which is limited to existing developed areas in the Mystic Island section of the Township and is intended to accommodate single family dwellings at a density of five dwelling units per acre or greater;

- Multi-Family Residential, which is intended to accommodate multi-family housing at densities in excess of five dwelling units per acre;
- Commercial/Business, which is intended to accommodate: "highway commercial" uses along US Route 9, generally to the west of Otis Bog Road; "general business" uses along most of the remaining parts of the US Route 9 corridor, as well as the North Green Street (Ocean County Route No. 539) corridor; and, "neighborhood/special business" uses in select areas of the township;
- Light Industry, which is intended to accommodate light industrial uses in the area located between North Green Street (Ocean County Route No. 539), Old North Green Street, and the Garden State Parkway;
- Parks/Recreation, which is intended to accommodate all areas that are improved and utilized for recreation and open space, or planned for such use;
- Public Lands, which is intended to accommodate all lands that are owned and maintained by Little Egg Harbor Township and the Board of Education of Little Egg Harbor Township;
- Planned Adult Community, which is intended to accommodate planned adult communities; and,
- Waterfront Development, which is intended to accommodate commercial and residential water-related uses.

The 2007 Master Plan Reexamination Report upheld and affirmed the intent of each of these land use districts insofar as it made no changes to their descriptions.

In 2001, the Land Use Plan Element was amended to change the land use designation of certain portions of the township. While these amendments resulted in changes to the official zoning map, the changes had, by the time of the 2007 Master Plan Reexamination Report, not been made to the official land use map. As a result, the 2007 Master Plan Reexamination Report recommended that the appropriate revisions be made to the official land use map (i.e., Figure 7 of the Land Use Plan Element). The recommendations for revisions that were made by the 2007 Master Plan Reexamination Report are summarized below:

- Redesignate the area east of the Garden State Parkway and Thomas Avenue as Low Density Residential as is consistent with the 2001 New Jersey State Development and Redevelopment Plan;
- Redesignate the eastern portion of the Parker's Run Business Park Redevelopment Area (i.e., that portion which is located between Railroad

Avenue and US Route 9) as Light Industry as is consistent with the goals of the 1999 Master Plan and the Parker's Run Business Park Redevelopment Plan;

- Redesignate Block 78, Lot 33 as Medium Density Residential as is consistent with court ruling;
- Incorporate Block 264, Lots 20, 21, 21.01, 22, 23, 24, 25, 32, 33, 34, and 35 into the Medium Density Residential land use district as is consistent with the character of the neighborhood; and,
- Redesignate the portion of Grove Park that is situated to the east of the Commercial/Business area along North Green Street (Ocean County Route No. 539) as Medium Density Residential in order to reflect the existing block/lot structure and resolve property ownership issues.

In addition to the above, it is noted that with the adoption of the 2007 Master Plan Reexamination Report, the Land Use Element was amended to:

- Place the following properties into the Parks/Recreation land use district:
  - The "Harbor Group" Property which includes: Block 78, lots 1, 2, 6, 7 and 10; Block 79, lots 1, 2, 4 and 5; and, Block 80, lots 1 and 2;
  - The "Fifth Avenue" Property/Freedom Field Park Connection, which includes: Block 256, Lot 2; and,
  - The "Osborn Island" Property, which is described by the 2007 Master Plan Reexamination Report as linear parcel that is situated on Osborn Island on the easterly side of Radio Road and adjacent to the site of a former golf course;
- Place the entirety of the retirement community known as "Sunrise Bay" within the Planned Adult Community land use district, which is consistent with the development of the area;
- Place Block 287, Lot 4 within the Multi-Family Residential land use district, which is consistent with the township's Housing Element and Fair Share Plan;
- Place Block 258, Lot 1 in the Medium Density Residential land use district, which is consistent with the court settlement agreement of *Francis Hodgson and Carroll Hodgson v. Township of Little Egg Harbor and Planning Board of Township of Little Egg Harbor*.
- Depict the boundaries of the three adopted center boundaries (viz., Parkertown Village Center, Tuckerton Town Center, and Mystic Island Town Center) on the official land use map.

- Depict the Parker's Run Business Park Redevelopment Area on the official land use map, and incorporate the adopted redevelopment plan into the municipal master plan.

Community Facilities Plan Element

The Community Facilities Plan Element of the 1999 Master Plan discussed the township's need for a criminal justice complex. However, by the time of the adoption of the 2007 Master Plan Reexamination Report, the township had constructed a new municipal building and police department on Radio Road. This eliminated the township's need for a criminal justice complex and resulted in the removal of the discussion of such need from the text and mapping of the Community Facilities Plan with the adoption of the 2007 Master Plan Reexamination Report.

In addition to the above, it is noted that with the adoption of the 2007 Master Plan Reexamination Report, the map of the Community Facilities Plan was amended to depict the Little Egg Harbor Township Community Center on West Calabreeze Way. The 2007 Master Plan Reexamination Report made no further amendments or recommendations for amendments to the Community Facilities Plan Element.

Recycling Plan Element

With the adoption of the 2007 Master Plan Reexamination Report, the township adopted its Recycling Plan Element as a part of the municipal master plan. This demonstrated the township's commitment to recycling. No further discussion of the Recycling Plan Element was included in the 2007 Master Plan Reexamination Report.

Economic Plan Element

The Economic Plan Element of the 1999 Master Plan recommended the formation of a business development study group to examine ways to attract ratable development to areas where such development was contemplated pursuant to the 1999 Master Plan, including the North Green Street (Ocean County Route No. 539) corridor and the West Tuckerton area. The Economic Plan Element suggested that the extension of sewer and water facilities into these areas could be used as an incentive to attract ratable development. By the time of the 2007 Master Plan Reexamination Report, however, the township had decided to abandon this initiative. The 2007 Master Plan Reexamination Report, therefore, recommended the amendment of the Economic Plan Element to remove the extension of sewer and water facilities into such areas from the possible incentives. The 2007 Master Plan Reexamination Report justifies the abandonment of this objective and the consequent removal of the extension of sewer and water facilities

from the possible incentives on the grounds that most of the lands in such areas have been preserved or are situated outside of the designated centers (i.e., Tuckerton Town Center; Mystic Island Town Center; and, Parkertown Village Center) that are reflected on the policy map of the State Development and Redevelopment Plan (i.e., State Plan Policy Map).

Circulation Plan Element

The 2007 Master Plan Reexamination Report made no recommendations for changes to the Circulation Plan Element of the 1999 Master Plan.

Open Space and Recreation Plan Element

In 1997, the Little Egg Harbor Township Planning Board adopted a recreation plan that was subsequently re-adopted by reference in the Community Facilities Element of the 1999 Master Plan. In 2002, the township then adopted an open space recreation Plan as an update to the 1997 Recreation Plan. There were no subsequent adoptions or revisions.

As is noted in the 2007 Master Plan Reexamination Report, the township has made significant efforts to develop its open space network since the adoption of the original 1997 Recreation Plan. As a result, the 2007 Master Plan Reexamination Report recommended that the Open Space and Recreation Plan Element be updated to reflect current conditions. No further recommendations were made at the time of the 2007 Master Plan Reexamination Report.

Housing Element and Fair Share Plan

The Little Egg Harbor Township Planning Board adopted a Housing Element and Fair Share Plan on January 22, 2003, which addressed the township's, Council on Affordable Housing-mandated cumulative housing obligation covering the period from 1987 through 1999. The 2003 Housing Element and Fair Share Plan was subsequently endorsed by the Little Egg Harbor Township Committee, and a petition for substantive certification was made to the Council on Affordable Housing on January 27, 2003. The Council on Affordable Housing issued a favorable compliance report on August 16, 2004, which led to an interim substantive certification that was valid from September 8, 2004 to December 19, 2005 (i.e., one year after December 20, 2004, which was the effective date of adoption of the Council on Affordable Housing's third round methodology).

The Little Egg Harbor Planning Board subsequently adopted an updated Housing Element and Fair Share Plan on December 1, 2005, which was then endorsed by the

township planning board and submitted to the Council on Affordable Housing for its review and approval. Prior to the Council of Affordable Housing's action on the 2005 Housing Element and Fair Share Plan, the Appellate Division invalidated the third round methodology. This issue had not been resolved by the time of the 2007 Master Plan Reexamination Report.

Stormwater Management Plan

Little Egg Harbor's Stormwater Management Plan was originally prepared in 2005, and subsequently revised shortly after the adoption of the 2007 Master Plan Reexamination Report.

The Stormwater Management Plan is not directly addressed in the 2007 Master Plan Reexamination Report. However, a complete discussion of the Stormwater Management Plan is provided in the following section of this master plan reexamination report, within the context of a discussion on the extent to which there have been significant changes in the assumptions, policies and objectives that form the basis of the municipal master plan and development regulations.

Parker's Run Business Park Redevelopment Plan

As is noted in the 2007 Master Plan Reexamination Report, the township prepared the Beach Haven Park Redevelopment Plan in 2001. It subsequently amended and renamed as the Parker's Run Business Park Redevelopment Plan in 2003.

The goals of the Parker's Run Redevelopment Plan are:

- Create value for the municipality from existing underutilized municipal land holdings by consolidating parcels for future residential and commercial development;
- Reduce the fragmentation of public land ownership in the area through lot consolidations, street vacations, and land acquisitions to increase the potential valuable and useful contribution to the Township's tax base and residents;
- Provide opportunities for housing of senior citizens;
- Provide opportunities for the creation of a wide variety of non-residential space that will provide entrepreneurial opportunities as well as providing services to residents of the Township; and
- Utilize municipal resources and authority to increase the potential utilization of the lands within the redevelopment area.

With the adoption of the 2007 Master Plan Reexamination Report, the Parker's Run Redevelopment Plan was incorporated into the township's master plan by amendment of the township's official land use map.

Plan Endorsement

At the time of the 2007 Master Plan Reexamination Report, Little Egg Harbor was in the process of securing plan endorsement from the State Planning Commission. The successful petition of initial plan endorsement was required to maintain the three center designations (i.e., Tuckerton Town Center, Mystic Island Town Center, and Parkertown Village Center) in the township. This is due to the fact that the township's three center designations were considered to be "previously designated centers" under state planning rules, and the designation of such centers remained valid for a period of only six years from January 7, 2002.

The Extent of Significant Changes in Assumptions, Policies and Objectives

The following changes in the assumptions, policies and objectives relating to land use and development in Little Egg Harbor Township are noted:

Changes at the Local Level

As indicated in the following subsections, there have been considerable changes at the local level since the adoption of the 2007 Master Plan Reexamination Report.

Hurricane Sandy

Hurricane Sandy struck the coast of New Jersey on October 29, 2012, and brought extensive damage to Little Egg Harbor Township from both storm surge and wind damage. The township reported that approximately 4,000 residential properties and a number of small retail businesses and marinas suffered damage. Additionally, the township reported that seven roadways were damaged, and that electricity, water, and sewer service were disrupted. Hurricane Sandy also resulted in damage to community facilities, including the Little Egg Harbor Township Community Center and Parkertown Dock. Trees and power lines also fell throughout the township.

With the impacts of Hurricane Sandy so great, and the likelihood of future storms, Little Egg Harbor Township has significant concern and reason for promoting recovery from Sandy and building resiliency to future storms. While the current 2015 Master Plan Reexamination Report is broad in scope, the experience of Hurricane Sandy and the

likelihood of future storms has influenced it and caused it to emphasize recovery and resiliency.

Strategic Recovery Planning Report

As a response to Hurricane Sandy, Little Egg Harbor Township prepared and adopted a Strategic Recovery Planning Report in 2014. The purpose of the Strategic Recovery Planning Report is to outline a recommended set of actions to guide the township in promoting recovery from the impacts of Hurricane Sandy and resiliency to future storms.

The actions recommended by the Strategic Recovery Planning Report are as follows:

- Employ storm-resistant building strategies in all future municipal construction in areas to the south of the Garden State Parkway;
- Construct storm-resistant infrastructure, including equipment, pumps and buildings elevated above the flood hazard elevation and berms or levees to protect capital facilities;
- Automate and expedite the processing of building permits;
- Develop a GIS database and user interface to catalog and inventory all infrastructure owned by the Township, as well as to provide essential property-specific information, such as zoning, building characteristics, occupancy information; dog and cat licenses, etc.;
- Compile low-elevation aerials to provide high-quality aerial mapping with six-inch contours within special flood hazard areas;
- Update the 1999 Master Plan to address post-Sandy strategies and policies related to hazard mitigation, community resiliency, as well as forecasted sea level rise and its impacts;
- Prepare amendments to the township's zoning ordinance;
- Adopt a master plan element for floodplain management, including a detailed inventory and mapping of infrastructure damaged during Hurricane Sandy;
- Explore opportunities to participate in the Community Rating System;
- Prepare a multi-year capital improvement program, including a detailed inventory and mapping of infrastructure damaged during Hurricane Sandy;
- Develop evacuation routes and provide signage and education;
- Investigate opportunities for full-time staff within local fire and EMS agencies;
- Investigate opportunities for shared services and mutual aid, in particular with inland communities that are not as vulnerable to major storms;
- Provide natural gas service for generators, as well as more generators at schools;

- Improve communication infrastructure for police, fire, and EMS (incl., securing of existing equipment);
- Improve communication between emergency management and water and electric utility companies;
- Install a town-wide Supervisory Control and Data Acquisition (SCADA) system in conjunction with the Township's owned and operated facilities to communicate critical alarms to a centralized location or operational personnel;
- Restore Radio Road;
- Installation of bay-front energy dissipation structures;
- Install riprap along the shoreline;
- Repair Parkertown Dock and replenish the eroded beach *(n.b., since the adoption of the 2014 Strategic Recovery Planning Report, Parkertown Dock and Pavilion have been repaired; beach replenishment remains to be completed)*;
- Repair the Iowa Court seawall;
- Repair bulkheads at various locations;
- Continue to participate in the National Flood Insurance Program;
- Maintain a local emergency planning committee;
- Hold quarterly emergency management meetings at town hall meetings;
- Develop a reverse 911 system;
- Maintain and update the Emergency Operations Plan;
- Complete the flood protection project at East Sail, Boat, and Dory drives;
- Upgrade the emergency power supply at the municipal building/emergency command center;
- Supply the Municipal Utilities Authority with five on-site generators for back-up power for wells, pump stations, and its office. Generators must be installed above flood hazard elevation;
- Prepare a township-wide debris management plan that provides the Department of Public Works with an emergency staging facility and designated debris management area *(n.b., this was in progress while the 2015 Master Plan Reexamination Report was being prepared)*;
- Remedy siltation of inlets that occurred during Hurricane Sandy by removing sand and dredging *(n.b., this was in progress while the 2015 Master Plan Reexamination Report was being prepared)*;
- Remedy siltation of inlets caused by storm surge during Hurricane Sandy by dredging all lagoons in the Mystic and Osborne island areas *(n.b., this was in progress while the 2015 Master Plan Reexamination Report was being prepared)*; and,

- Perform video inspection and sewer cleaning of sanitary sewer lines in the Mystic Island area and other flood-inundated sections of the township to determine where repairs or replacements are needed.

Implementation of the recommendations that have been listed above will promote recovery from Hurricane Sandy and increased resiliency to future storms. Where relevant within the context of the current reexamination of the 1999 Master Plan, individual actions are discussed elsewhere in this report.

Demographic Changes

After the adoption of the 2007 Master Plan Reexamination Report, the United States Census Bureau released information from the 2010 Census. This information indicates that the township had a population of 20,065 residents in 2010, which represents an increase of 25.8 percent over the 2000 population of 15,945 residents, and 50.5 percent over the 1990 population of 13,333 residents. By comparison, the 2010 Ocean County population of 576,567 residents grew by nearly 13 percent since 2000, and approximately 33 percent since 1990. Thus, Little Egg Harbor Township's population has grown at a considerably faster rate than at the county level in the period since 1990. Additional information regarding the recent population development of Little Egg Harbor Township is provided in Table 1.

Table 1: Recent Population Development

	1990	2000	2010	Δ 1990-2000	Δ 2000-2010
Total Population	13,333	15,945	20,065	19.6%	25.8%
Male	6,423	7,655	9,632	19.2%	25.8%
Female	6,910	8,290	10,433	20.0%	25.9%
Under 5	1,044	931	1,054	-10.8%	13.2%
5 to 9	921	1,112	1,111	20.7%	-0.1%
10 to 14	841	1,201	1,154	42.8%	-3.9%
15 to 19	784	924	1,159	17.9%	25.4%
20 to 24	731	756	964	3.4%	27.5%
25 to 34	2,280	1,800	2,055	-21.1%	14.2%
35 to 44	1,783	2,582	2,422	44.8%	-6.2%
45 to 54	1,305	2,049	2,949	57.0%	43.9%
55 to 59	615	938	1,332	52.5%	42.0%
60 to 64	761	831	1,534	9.2%	84.6%
65 to 74	1,462	1,578	2,537	7.9%	60.8%
75 to 84	651	972	1,313	49.3%	35.1%
85 and Over	155	271	481	74.8%	77.5%
Median Age	35.3	39.9	45.4	13.0%	13.8%
Householder 65 and Over	501	662	2,629	32.1%	297.1%

Source: US Census Bureau

As shown in Table 1, Little Egg Harbor Township's population has grown by 25.8 percent in the period from 2000 to 2010. It is interesting to note that the most significant growth in the township population has occurred in the age cohorts that include individuals aged 45 years and higher, which accounted for 85.1 percent of all population growth in the period from 2000 to 2010. The township's aging population is also seen in the shift in median age from 39.9 years to 45.4 years, which is an increase of 13.8 percent. In addition, the number of householders aged 65 years and higher increased by 297.1 percent in the period from 2000 to 2010. This is a direct result of age-restricted residential development within the township.

There has also been significant development in the changes in the township's housing stock. For instance, the total number of households has grown by 24.5 percent, from 6,179 in 2000 to 8,060 in 2010. In addition, the average household size has decreased by 4.1 percent in the period from 2000 to 2010, which is a reflection of the township's aging population. These changes are portrayed in Table 2.

Table 2: Households and Household Structure

	1990	2000	2010	Δ 1990-2000	Δ 2000-2010
Total Households	4,962	6,179	8,060	24.5%	30.4%
Average Household Size	2.66	2.55	2.46	-4.1%	-3.5%
Families	3,809	4,442	5,674	16.6%	27.7%
Families with Own Children Under 18	1,652	1,872	2,055	13.3%	9.8%
Nonfamily Households	1,153	1,737	2,386	50.7%	37.4%
Householder Living Alone	940	1,389	1,950	47.8%	40.4%
Households with Individuals 65 and Over	1,563	1,916	2,881	22.6%	50.4%

Source: US Census Bureau

In addition to the above, it is noted that the number of housing units has increased by 30.1 percent in the period from 2000 to 2010. The number of occupied housing units was 8,060 in 2010, which represents an increased of 30.5 percent over the 6,176 occupied housing units in 2000. Most of the occupied units are owner-occupied, but 15.9 percent of the occupied housing units in 2010 were rented. Finally, it is noted that while the percentage of vacant housing units decreased by 21.5 percent in the period from 1990 to 2000, the percentage of vacant housing units increased by 29.2 percent in the period from 2000 to 2010. One possible explanation for this is a slow absorption rate of newly constructed units into the local housing market. Table 3 provides general information on the number of housing units in Little Egg Harbor Township.

Table 3: Housing Units

	1990	2000	2010	Δ 1990-2000	Δ 2000-2010
Housing Units	7,194	7,937	10,324	10.3%	30.1%
Occupied Housing Units	4,962	6,176	8,060	24.5%	30.5%
Owner-Occupied Housing Units	4,056	5,002	6,775	23.3%	35.4%
Renter-Occupied Housing Units	906	1,177	1,285	29.9%	9.2%
Vacant Housing Units	2,232	1,752	2,264	-21.5%	29.2%

Source: US Census Bureau

Stormwater Management Plan

Little Egg Harbor's Stormwater Management Plan was prepared in 2005 and revised in 2007, subsequent to the adoption of the 2007 Master Plan Reexamination Report. As provided in the 2007 revision, the goals of the Stormwater Management Plan are to:

- Reduce flood damage, including damage to life and property;
- Minimize, to the extent practical, any increase in stormwater runoff from any new development;

- Reduce soil erosion from any development or construction project;
- Assure the adequacy of existing and proposed culverts and bridges, and other in-stream structures;
- Maintain groundwater recharge;
- Prevent, to the greatest extent feasible, an increase in non-point pollution;
- Maintain the integrity of stream channels for their biological functions, as well as for drainage;
- Minimize pollutants in stormwater runoff from new and existing development to restore, enhance, and maintain the chemical, physical, and biological integrity of the waters of the state, to protect health, to safeguard fish and aquatic life and scenic and ecological values, and to enhance the domestic, municipal, and recreational, industrial, and other uses of water; and,
- Protect public safety through the proper design and operation of stormwater basins.

In addition to the above, it is noted that the 2007 revision of the Stormwater Management Plan provides a thorough overview of stormwater generation and management, and outlines several recommendations for revisions to Chapter 15 of the Code of the Township of Little Egg Harbor that would help to increase the township's resiliency to future storms. These are outlined below:

- Section 15-11.7: The Stormwater Management Plan recommended that this section be amended to include the required use of native vegetation in buffer areas, and also to allow buffer areas to be utilized for stormwater management by disconnecting impervious surfaces and treating runoff from them.
- Section 15-11.9: The Stormwater Management Plan recommended that this section be amended to include language that no bulk storage shall be located within 50 feet of a stormwater management basin/facility.
- Section 15-11.10: The Stormwater Management Plan recommended that language be added to state that the drainage right-of-way easement should be kept in a pervious state to treat runoff before it reaches the watercourse.
- Section 15-12.3: The Stormwater Management Plan recommended that this section be amended to permit curb cuts or flush curbs with curb stops to enable vegetated swales to be used for stormwater conveyance, and to provide for the disconnection of impervious areas.
- Section 15-12.4: The Stormwater Management Plan recommended that this section be amended to permit curb cuts or flush curbs with curb stops to enable

vegetated swales to be used for stormwater conveyance, and to provide for the disconnection of impervious areas.

- Section 15-12.8: The Stormwater Management Plan recommended that this section be amended to require that developers design sidewalks to discharge stormwater to neighboring lawns where feasible, or to use permeable paving material where appropriate.
- Section 15-12.8.1: recommended that this section be amended to require that developers design sidewalks to discharge stormwater to neighboring lawns where feasible, or to use permeable paving material where appropriate.
- Section 15-12.12: The Stormwater Management Plan recommended that this section be amended to encourage the use of natural vegetated swales in lieu of inlets and pipes.
- Section 15-12.15: The Stormwater Management Plan recommended that this section be amended to permit the use of pervious paving materials in order to minimize stormwater runoff and promote groundwater recharge.
- Section 15-12.16: The Stormwater Management Plan recommended that this section be amended to permit flush curbs with curb stops or curbing with curb cuts to encourage developers to allow for the discharge of impervious areas into landscaped areas for stormwater management. It also recommended that this section be amended to permit the use of natural vegetated swales for the water quality design storm, with overflow for larger storm event into storm sewers.

Floodplain Management Plan

At the time of the preparation of the 2015 Master Plan Reexamination Report, the Township of Little Egg Harbor was in the process of preparing a floodplain management plan. The purpose of this plan is to identify and assess flood hazards within the township, establish goals and objectives for floodplain management, and present a series of actions designed to minimize flooding and mitigate the impacts from flooding in the future.

The township's Floodplain Management Plan Steering Committee has set the following goals for the Floodplain Management Plan:

- Reduce loss from flood damage and other hazards through codes and standards.
- Educate stakeholders and the public about floodplain management and stormwater management.
- Protect the natural resources and qualities of the township, including wetlands, stream corridors, open space, and areas with scenic, cultural, and recreational values.

- Protect and ensure that township infrastructure and critical facilities are able to withstand future hazard events and remain operational during and after such events.
- Provide public information resources to township residents and business owners so they are informed of the natural hazards within the community and the precautions they can take to protect their properties.

To meet these goals and address flood hazards within the township, the Floodplain Management Plan Steering Committee has identified the following strategies: implementation of preventative measures, such as zoning amendments to increase resiliency, continued participation in the National Flood Insurance Program, increasing the freeboard requirement for properties in the Special Flood Hazard Area, preserving additional open space within the township, improving access to floodplain mapping and data, adopting a floodplain management ordinance, promoting shoreline stabilization, vigilantly enforcing building codes, and promoting green infrastructure; protecting property through building elevation and flood-proofing buildings; safeguarding natural resources by protecting wetlands, minimizing erosion, improving water quality, and preserving and restoring natural areas; strengthening emergency services through continued use of hazard warning systems, protecting critical facilities, and improving hazards response operations; improving flood infrastructure, such as bulkheads, levees, and dredging coastal waterways; and, improving outreach and access to information and technical assistance.

At the time of the adoption of the 2015 Master Plan Reexamination Report, the Floodplain Management Plan was unadopted. However, the adoption of a floodplain management plan is identified as a goal in the township's Strategic Recovery Planning Report and this master plan reexamination report.

Master Plan Objectives

The overall objectives of the 1999 Master Plan and an evaluation of how circumstances have changed since the 2007 Master Plan Reexamination Report are presented below.

Objective A: To reduce permitted residential densities, where appropriate, consistent with planning efforts aimed at minimizing the fiscal impacts of new residential development.

2015 Assessment: Given the experience of Hurricane Sandy and the potential for similar weather events in the future, it may be necessary to also reduce permitted residential densities in flood-prone areas. The objective of minimizing fiscal impacts of new residential development continues to be valid.

Objective B: To concentrate new residential and commercial development in planned centers or other growth corridors where infrastructure is available or comprehensively planned.

2015 Assessment: As was noted in the 2007 Master Plan Reexamination Report, the State Planning Commission adopted three "center designations" in Little Egg Harbor Township to accommodate centers-based development and redevelopment, namely: Tuckerton Town Center; Mystic Island Town Center; and, Parkertown Village Center. Currently, Parkertown Village Center is not sewered and there is a known issue with groundwater pollution due to the overuse of septic systems in the area. Sanitary sewers should, therefore, be provided in Parkertown Village Center.

Objective C: To adopt land use regulations that will capitalize upon and promote the Tuckerton Seaport project.

2015 Assessment: This objective continues to be valid.

Objective D: To adopt land use regulations that encourage a better balance among residential, commercial and industrial land uses so as to promote improved municipal fiscal planning efforts.

2015 Assessment: In addition to encouraging a better balance among residential, commercial and industrial land uses so as to promote improved municipal fiscal planning efforts, land use regulations should also seek to minimize the potential for land use conflicts.

Objective E: To promote better coordination and consistency between State and Municipal planning efforts.

2015 Assessment: This objective continues to be valid. It is, however, noted that it is also important to promote better coordination and consistency with County planning efforts, particularly with regard to sewer service planning.

Objective F: To coordinate with the New Jersey Highway Authority and Ocean County to continually improve the roadway system of Little Egg Harbor Township and to plan for anticipated changes brought on by growth and development.

2015 Assessment: This objective continues to be valid, particularly in rural areas of Little Egg Harbor Township.

Objective G: To promote bikeways and pedestrian walkways as a means of recreation and to lessen reliance on the automobile as the sole means of transportation.

2015 Assessment: This objective continues to be valid. It is important that population centers of Little Egg Harbor Township be connected by bikeways and pedestrian walkways. Bikeways and pedestrian walkways should also provide connections to schools.

Objective H: To promote land use policies and regulations that encourage economic development and redevelopment that improves the Township's property tax base.

2015 Assessment: This objective continues to be valid.

Land Use Plan Element

Given the experience of Hurricane Sandy and the need to build resiliency to the impacts of future storms and other potential natural hazards, a review of the land use designations that are outlined in the land use plan element of the 1999 Master Plan, as supplemented by the 2007 Master Plan Reexamination Report, has been conducted. While this review has indicated that the land use designations generally remain valid and no specific changes are recommended at this time, it is reiterated that, given the experience of Hurricane Sandy and the potential for similar weather events in the future, it may be necessary to reduce residential densities in flood-prone areas.

Preservation Residential

As noted in the Land Use Plan Element, the Preservation Residential land use designation is intended promote residential development at a density (viz., one unit per five acres) that is compatible with and protects the most environmentally sensitive areas of the township. It limits land uses to parks, open space, recreation, government uses and single-family dwellings. No specific changes to the Preservation Residential land use designation are recommended at this time.

Low Density Residential

As noted in the Land Use Plan Element, the Low Density Residential land use designation is intended to promote residential development at a density that ranges from one dwelling unit per two to five acres in areas that are environmentally sensitive, or lack suitable access or infrastructure to permit more intense development. No specific changes to the Low Density Residential land use designation are recommended at this time.

Medium Density Residential

As noted in the Land Use Plan Element, the Medium Density Residential land use designation is intended to promote residential development at a density that ranges from one to four dwelling units per acre in areas with suitable access and infrastructure.

No specific changes to the Medium Density Residential land use designation are recommended at this time.

High Density Residential

As noted in the Land Use Plan Element, the High Density Residential land use designation is intended exclusively for existing developed areas in the Mystic Island section of the township, which are predominantly developed with single-family detached dwellings at densities of five units per acre or greater. No specific changes to the High Density Residential land use designation are recommended at this time.

Multifamily Residential

As noted in the Land Use Plan Element, the Multifamily Residential land use designation is intended to provide areas for the development of multifamily housing at densities in excess of five dwelling units per acre. The designation is intended to be limited to areas with existing multifamily development, or areas where there are approvals for multifamily development. The designation also promotes life care, assisted living, nursing homes, residential health care and adult day care uses to address the residential and health needs of senior citizens. No specific changes to the Multifamily Residential land use designation are recommended at this time.

Commercial/Business

As noted in the Land Use Plan Element, the Commercial Business land use designation is intended to accommodate: "highway commercial" uses along US Route 9, generally to the west of Otis Bog Road; "general business" uses along most of the remaining parts of the US Route 9 corridor, as well as the North Green Street (Ocean County Route No. 539) corridor; and, "neighborhood/special business" uses in select areas of the township. No specific changes to the Commercial/Business land use designation are recommended at this time.

Light Industry

As noted in the Land Use Plan Element, the Light Industry land use designation corresponds to the township's existing light industrial zone that is located in the triangular tract between North Green Street (Ocean County Route No. 539), Old North Green Street, and the Garden State Parkway. No specific changes to the Light Industry land use designation are recommended at this time.

Parks/Recreation

As noted in the Land Use Plan Element, the Parks/Recreation land use designation is intended to include all areas of the township that are improved and utilized for

recreation and open space, or targeted for such use in the recreation plan that was adopted by the Little Egg Harbor Township Planning Board in 1997.

Given the subsequent adoption of the 2002 Open Space and Recreation Plan Element, and the township's significant efforts to develop its open space network, the parks/recreation land use designation should be reviewed and expanded as necessary to cover all lands reflected in the 2002 Open Space and Recreation Plan Element and the Recreation and Open Space Inventory of the New Jersey Department of Environmental Protection.

Public Lands

As noted in the Land Use Plan Element, the Public Lands designation is intended to include all areas that are owned and maintained by Little Egg Harbor Township and the Little Egg Harbor Board of Education. No specific changes to the Public Lands land use designation are recommended at this time.

Planned Adult Community

The Planned Adult Community land use designation is intended to promote development of planned adult retirement communities. A total of four areas were designated as Planned Adult Community in the 1999 Master Plan. These include: the completed Mystic Shores development in the vicinity of Mathistown Road; the Cranberry Creek development on the south side of US Route 9, east of Mathistown Road; the area on the west side of North Green Street (Ocean County Route No. 539) between Railroad Avenue and Frog Pond Road; and, the area between Radio Road and Center Street, in the vicinity of the Tall Timbers development. The 2007 Master Plan Reexamination Report did not recommend the expansion of the Planned Adult Community land use designation. No specific changes to the Planned Adult Community land use designation are recommended at this time.

Waterfront Development

As noted in the Land Use Plan Element, the Waterfront Development land use designation is intended to include certain lands that are appropriate for commercial and residential waterfront and marine-type uses. The Waterfront Development land use designation is intended to match the existing locations of the Marine Commercial and Waterfront Development zones. No specific changes to the Waterfront Development land use designation are recommended at this time.

Community Facilities Plan Element

In the period since the adoption of the 2007 Master Plan Element, the township has made several steps to enhance its recreation and open space and bikeway networks.

In addition, Hurricane Sandy resulted in damage to community facilities, as well as highlighted the importance of and stress-tested the township's police, fire, emergency service, and public works facilities. To illustrate, Hurricane Sandy caused extensive damage to the interior and exterior of the Little Egg Harbor Township Community Center. Specifically, floodwaters entered the main community center building and accessory buildings. This caused extensive damage to: drywall; insulation; doors; electric systems; heating systems; hot water heater; HVAC units; tile flooring; kitchen; kitchen appliances; gas systems; fire suppression system; bathrooms; furnishings and amenities; and, ductwork. Plumbing and related interior features were also damaged, and debris caused blockage of drainage lines. The total damages to the community center amounted to more than $660,000. Additionally, the docks, gangways, decking, and stringers were washed away from Parkertown Beach during Hurricane Sandy. The Parkertown Dock building was also damaged by the storm surge of seawater. Specifically, the pavilion building was undermined and destroyed. Hurricane Sandy also exposed vulnerabilities of building mechanical and electrical systems, and other public infrastructure.

Economic Plan Element

The Economic Plan Element of the 1999 Master Plan recommended the reduction of the municipal cost burden through cost sharing with adjacent municipalities (i.e., shared services). However, the extensive flooding, damage and destruction that resulted from Hurricane Sandy in adjacent municipalities and other coastal areas of New Jersey have highlighted the need to consider shared service agreements with other, less vulnerable municipalities.

Open Space and Recreation Plan Element

In 1997, the Little Egg Harbor Township Planning Board adopted a recreation plan that was subsequently re-adopted by reference in the Community Facilities Element of the 1999 Master Plan. In 2002, the township then adopted an Open Space and Recreation Plan Element as an update to the 1997 Recreation Plan. There have been no subsequent adoptions or revisions.

Since the adoption of the original 1997 Recreation Plan, however, the township has made significant efforts to develop its open space network. For example, it introduced a

municipal open space tax, though it was reduced after Hurricane Sandy. In addition, the township also started to work with Ocean County on issues related to the open space network. Given the age of the township's original recreation plan and the considerable efforts that have been made, the 2007 Master Plan Reexamination Report recommended that the Open Space and Recreation Plan Element be updated to reflect current conditions. This was not done. Given the growth in the township population and housing stock, as well as the experience of Hurricane Sandy, which demonstrated the value of open space areas in promoting natural infiltration of groundwater and resiliency to extreme weather events, the importance of the township's open space and recreation areas is underscored.

Zoning Board of Adjustment Annual Reports

The Little Egg Harbor Township Zoning Board of Adjustment releases an annual report that covers the Board's actions in each calendar year. The board works with applicants to develop improved designs and reduce the intensity and quantity of variances, often reducing the number requested. Summaries of the Board's actions from 2010, 2011, 2012, and 2013 can be found in the following table.

Table 4: Zoning Board of Adjustment Annual Report Data

Year	Total Applications	Approved	Denied	Dismissed	Total Variance Requests	Most Frequent Variance	Number	Zone with Most Variances Requested	Number
2010	9	13	1	0	14	Use Variance	6	NA	NA
2011	13	19	0	2	22	Minimum Lot Depth	5	R-50	13
2012	10	16	0	0	16	Rear Yard Setback	4	GB	5
2013	18	42	1	0	43	Minimum Lot Depth	7	R-50	34

Source: Little Egg Harbor Township Zoning Board of Adjustment Annual Reports

Mathistown Road and Radio Road Streetscape Improvement Project

The township is currently in the process of planning streetscape improvements along: Mathistown Road, between Center Street and Radio Road; and, Radio Road, between Basswood Lake Road and the Little Egg Harbor Township Senior Center, which is located at 641 Radio Road. Project plans include the installation of a five-foot wide

sidewalk, new concrete curbing, benches, and decorative street lighting at a total estimated cost of $845,000 (incl., construction and professional services). In addition to improving pedestrian access, execution of these improvements will also improve the business climate, raise property values, and increase the overall desirability and attractiveness of the township.

Changes at the County Level

Since the adoption of the 2007 Master Plan Reexamination Report, there have been several changes at county level, including the adoption of the 2011 Ocean County Comprehensive Master Plan and the 2014 Ocean County Multi-Jurisdictional All Hazard Mitigation Plan.

2011 Ocean County Comprehensive Master Plan

The Ocean County Planning Board adopted a comprehensive master plan in 2011. The Comprehensive Master Plan serves as a county policy statement about the future development of Ocean County. While it makes no statements that are explicitly relevant to future land use planning within Little Egg Harbor Township, it does make a number of recommendations that are relevant to the recovery from Hurricane Sandy and the promotion of resiliency to future storms in Ocean County. These include:

- Encourage the New Jersey Department of Transportation to modernize and upgrade state highways throughout Ocean County, including US Route 9, NJ Route 35, NJ Route 37, NJ Route 70, NJ Route 72, NJ Route 88 and NJ Route 166.
- Encourage the retention of established residential neighborhoods and the rehabilitation of the county's older housing stock. Facilitate participation in home rehabilitation and historical preservation grant programs, where applicable.
- Encourage low-impact design techniques to minimize the disturbance of natural areas and maximize the recharge of stormwater on-site.
- Support the tourism amenities and needs of shore towns and continue to facilitate the protection and replenishment of county's beaches and shoreline areas.
- Continue to support the Ocean County Agriculture Development Board (OCADB) in its mission to protect and enhance the county's agricultural resources.
- Maintain an ongoing evaluation of the recreational needs of Ocean County residents, and assist in identifying new park and open space areas, as necessary.
- Continue to work with all federal, state, local and non- profit partners to acquire open space and maximize financial resources available for preservation.

- Encourage land use planning strategies such as low- impact design to preserve open space and maximize the natural infiltration of stormwater.
- Explore and assess best management practices used by other areas in the country to address stormwater management.
- Continue to assess structural and nonstructural options for stormwater management to increase infiltration, remove debris and reduce nutrient and pollution loads.
- Encourage compliance with new legislation that requires the New Jersey Department of Transportation to address stormwater management issues on state highways, including US Route 9, NJ Route 35, NJ Route 37, NJ Route 70, NJ Route 72, NJ Route 88 and NJ Route 166.

If implemented by Ocean County, the recommendations that have been listed above will promote recovery from the impacts of Hurricane Sandy and promote resiliency to future storms in Little Egg Harbor Township and the county at large.

2014 Ocean County Multi-Jurisdictional All Hazard Mitigation Plan

The 2014 Multi-Jurisdictional All Hazard Mitigation Plan is intended to provide a blueprint for saving lives and reducing property damage from the effects of natural and man-made disasters in Ocean County, as well as to improve community resiliency following disastrous events. The Multi-Jurisdictional All Hazard Mitigation Plan is also intended to fulfill state and federal legislative requirements related to local hazard mitigation planning, and facilitate access to pre- and post-disaster grant funding.

The Multi-Jurisdictional All Hazard Mitigation Plan is comprehensive in scope, and outlines a mitigation strategy that is centered on the following countywide goals and objectives:

- Encourage sustainable development to protect people, property, community resources and the environment from natural and human-made disasters.
  - Meet and exceed minimum standards of the National Flood Insurance Program.
  - Manage building code, land use code, ordinance and other planning mechanisms to prevent and mitigate the impact of disasters on people and property.
  - Improve information available for mitigation planning.
  - Coordinate and increase applications for federal and state grant programs.

  - Integrate and leverage other planning mechanisms from: neighboring jurisdictions; local, county and regional organizations; and, state partnerships to implement the plan.
  - Improve shelter management.
- Build and rebuild structures and infrastructure to protect people, and to reduce impacts of future disasters.
  - Increase the number of residential properties protected from hazards.
  - Increase the number of community resources and amount of infrastructure protected from hazards.
  - Improve the ability of critical facilities and infrastructure to safely operate during storms and utility interruptions.
  - Improve evacuation capability.
- Protect and restore the natural environment to support disaster resiliency.
  - Improve the health of natural systems to safely and naturally accommodate flooding and wildfire.
  - Improve the health of natural systems used to protect residential properties and other community resources.
  - Plan for increased open space in the most vulnerable areas.
  - Promote appropriate urban-wild land interface for wildfire mitigation.
- Promote education, awareness and outreach before, during and after disaster.
  - Improve and expand information and opportunities for input available by television, radio, websites, social media, newsletters, and meetings.
  - Increase participation in mitigation programs, including the Community Rating System, StormReady, and FireWise programs.
  - Tailor timely messages for audiences, including children, parents, community groups, universities, seniors and other groups.
  - Improve alert and warning systems.

To support the implementation of the 2014 Multi-Jurisdictional All Hazard Mitigation Plan in Little Egg Harbor Township, the plan recommends that the township use it (i.e., the 2014 Multi-Jurisdictional All Hazard Mitigation Plan) to support future floodplain management, and as a resource for the further development of community education and outreach programs. The 2014 Multi-Jurisdictional All Hazard Mitigation Plan also recommends that the township work with the Ocean County Office of Emergency Management to obtain the digital geographic data (i.e., GIS data) that was used in the plan for the purposes of developing and improving the township's local mapping program.

In addition to the above, the 2014 Multi-Jurisdictional All Hazard Mitigation Plan identifies the following Little Egg Harbor Township-specific actions to mitigate hazards *(commentary in italics)*:

- Adopt advisory base flood elevation mapping. *This has been completed;*
- Replenish beaches. *The township has been awarded a grant to replenish beaches;*
- Promote and develop a Community Emergency Response Team (CERT) program. *Little Egg Harbor has a Community Emergency Response Team (CERT) program;*
- Promote and develop a "We Care" program to better protect those with special needs or reduced mobility during emergencies;
- Promote and develop police outreach program in schools;
- Continue to enforce building codes. *Little Egg Harbor Township actively enforces building codes;*
- Continue to participate in the National Flood Insurance Program. *The township continues to participate in the National Flood Insurance Program;*
- Develop and implement shelter management plans;
- Dredge in appropriate locations to mitigate flooding and maintain lagoon access. *The township has been awarded a grant to create living shorelines, replenish beaches, and perform thin layer deposition in its marshes. The material used for this work will be dredged material from the lagoons and creeks of Little Egg Harbor Township;*
- Elevate residential properties. *All new construction in the flood hazard area is required to be elevated to one foot above the preliminary Flood Insurance Rate Map elevations;*
- Implement debris management programs. *The township is currently preparing a debris management plan;*
- Implement erosion control-related projects. *The township is currently preparing a floodplain management plan, which is relevant to the promotion of erosion control;*
- Implement flood control-related projects. *The township has been awarded a grant to create living shorelines, replenish beaches, and perform thing layer deposition in its marshes. Additionally, the township is currently preparing a floodplain management plan;*
- Implement generator-related actions. *The township has been pursuing grants to replace the diesel generator at the municipal building. The township is currently preparing a capital improvement plan, which will include the provision of new generators;*

- Implement prescribed burn actions. *The New Jersey State Forest Fire Service periodically carries out controlled burns to clear underbrush and leaf litter that can fuel wildfires;*
- Improve mapping capability. *The township is currently developing a municipal GIS system, which will result in improved mapping capability;*
- Improve pump stations. *The township does not control the Little Egg Harbor Municipal Utilities Authority. It is, however, noted that the authority has applied for funding from the Federal Emergency Management Authority to accomplish this;*
- Install a grounding system to protect against future lighting strikes. *This remains to be completed;*
- Install riprap along the shoreline. *This remains to be completed;*
- Participate in the Community Rating System program. *The township is currently preparing a floodplain management plan, which will facilitate participation in the Community Rating System program;*
- Maintain a local emergency planning committee. *Section 33-4 of the Code of the Township of Little Egg Harbor establishes an Emergency Management Service Council. The Emergency Management Service Council is responsible for assisting the township in establishing various local volunteer agencies needed to meet the requirements of all local emergency management activities;*
- Maintain and improve information on the Internet (e.g., on the township website and social media outlets). *This is ongoing;*
- Maintain emergency operations plan. *This is ongoing;*
- Maintain, improve, and expand education and awareness programs. *This is ongoing;*
- Obtain new and improve existing warning systems (e.g., Nixle and Reverse 911). *The Little Egg Harbor Township Police Department uses Nixle;*
- Participate in the National Night Out program. *This remains to be completed;*
- Purchase GIS Training (i.e., train staff in the use of GIS). *The township is currently developing a GIS system;* and,
- Distribute information on grant programs that support residential, business and natural resource mitigation projects to appropriate local stakeholders.

Changes at the State Level

As indicated in the following subsections, there have been considerable changes at the state level since the adoption of the 2007 Master Plan Reexamination Report.

State Development and Redevelopment Plan/State Strategic Plan

The Office of Planning Advocacy, which is located within the Department of State, now staffs the State Planning Commission. The Office of Planning Advocacy has released a draft State Strategic Plan to supersede the current State Development and Redevelopment Plan. Public Hearings were held in February, March, and September of 2012. The draft State Strategic Plan is based upon a criteria-based system rather than a geographic planning area. The draft State Strategic Plan has not been adopted by the State Planning Commission at this time and was put on hold following Hurricane Sandy. Little Egg Harbor Township should continue to monitor the progress of the new plan and its implication for future planning in the township.

The 2001 State Development and Redevelopment Plan remains current.

Affordable Housing (COAH)

COAH originally adopted affordable housing rules for the third round period in 2004. However, an Appellate Division decision in 2007 stayed COAH from reviewing any plans as part of a petition for substantive certification, and resulted in a remand of the 2004 rules back to COAH to revise them consistent with the Appellate Division decision. COAH subsequently adopted revised third round rules in 2008.

In 2010, the Appellate Division invalidated COAH's 2008 third round rules, and the "growth share" methodology upon which they were based. In 2013, the New Jersey Supreme Court upheld and modified the Appellate Division's 2010 decision that invalidated COAH's third round rules. As a result, COAH was then charged with the task of adopting new affordable housing rules.

COAH has since failed twice to adopt new affordable housing rules for the third round period. Due to COAH's failure to adopt such rules, the New Jersey Supreme Court concluded on March 10, 2015 that there no longer exists a legitimate basis to block access to the courts, which was the original intent of the COAH process. The New Jersey Supreme Court's March 10 decision notes that: "parties concerned about municipal compliance with constitutional affordable housing obligations are [now] entitled to such access, and municipalities that believe they are constitutionally compliant[,] or that are ready and willing to demonstrate … compliance [with such obligations,] should be able to secure declarations that their housing plans and implementing ordinances are presumptively valid in the event they … must defend [themselves] against exclusionary zoning litigation."

In its March 10 decision, the New Jersey Supreme Court established a transitional process to not immediately allow exclusionary zoning actions to proceed in court. The

decision notes that: "[d]uring the first thirty days following [June 8, 2015] ..., the only actions that will be entertained by the courts will be declaratory judgment actions filed by any [municipality] ... that either (1) had achieved substantive certification from COAH under prior iterations of Third Round Rules before they were invalidated, or (2) had "participating" status before COAH. Assuming [that] any such [municipality] ... waits and does not file a declaratory judgment action during [the] ... thirty-day period, an action may thereafter be brought by a party against [the municipality] ..., provided the action's sole focus is on whether the [municipality's] ... housing plan meets its Mount Laurel obligations (a constitutional compliance challenge). The court's evaluation of a [municipality's] ... plan that had received substantive certification, or that will be submitted to the court as proof of constitutional compliance, may result in the [municipality's] ... receipt of the judicial equivalent of substantive certification and accompanying protection as provided under the [Fair Housing Act] ...."

Little Egg Harbor has filed a plan with COAH, but the plan was not been certified. Therefore, Little Egg Harbor fulfills Criterion 2 as outlined in the transitional process that has been described above. The township will, as a result, be able to file a declaratory action judgment immediately upon the March 10 decision becoming effective on June 8, 2015.

Complete Streets

In late 2009, the New Jersey Department of Transportation (NJDOT) adopted a Complete Streets Policy. A "complete street" is defined by the NJDOT as a "means to provide safe access for all users by designing and operating a comprehensive, integrated, connected multi-modal network of transportation options." Seven (7) counties and 104 municipalities (as of July 2014) have adopted complete streets policies. The intent of the policy is to provide streets to meet the needs of all types of users and all modes of circulation, including walking, bikes, cars, trucks, and buses. The 2015 Master Plan Reexamination Report recommends that the township adopt a complete streets policy.

Coastal Area Review Act (CAFRA)

CAFRA regulations apply to development projects near coastal waters. Generally, the closer the project is to the water, the more likely it will be regulated. The southern half of Little Egg Harbor Township is in the CAFRA zone.

CAFRA divides the CAFRA zone into subzones where development is regulated by varying degrees. CAFRA regulates almost all development activities involved in residential, commercial, or industrial development, including construction, relocation

and enlargement of buildings, excavation, grading, shore protection structures, and site preparation.

Time of Decision

On May 5, 2010, Governor Christie signed P.L. 2010 c.9 into law, effectively nullifying the "time of decision" rule, which had previously allowed municipalities the ability to alter zoning requirements even after an application for development had been filed but before a formal decision on the application had been rendered. P.L. 2010 c.9 provides that the development regulations applicable to a property at the time an application for development is filed will govern the review of the application and any decision made pertaining to it. P.L. 2010 c.9 was effective on May 5, 2011.

Solar and Wind Facilities as Permitted Uses in Industrial Zones

The Municipal Land Use Law was amended in 2008 to provide that solar and wind facilities on parcels of 20 acres or more shall be deemed as permitted uses in industrial zone districts. In addition, the definition of "inherently beneficial use" in the Municipal Land Use Law now includes a wind, solar, or photovoltaic energy facility or structure.

Stormwater Management

In 2004, the New Jersey Department of Environmental Protection (NJDEP) adopted municipal stormwater regulations that required preparation and adoption of a stormwater management plan and ordinance by the township to address the need for promoting groundwater recharge and controlling the impacts of stormwater runoff from development.

As has been previously noted, Little Egg Harbor Township initially adopted a municipal stormwater management plan in 2005, and last revised it in 2007.

Green Buildings and Environmental Sustainability Element

Many New Jersey municipalities have endorsed efforts to reduce their carbon footprint, decrease greenhouse gas emissions, encourage the use of renewable energy sources, conserve energy, and minimize the use of natural resources. Federal and state programs have been established to assist municipalities to address these goals. In the private sector, the US Green Building Council, a private organization, has established the Leadership for Energy and Environmental Design (LEED) certification programs to encourage and standardize the certification of buildings, which are energy efficient and incorporate sustainable environmental design concepts.

Recognizing the importance of green building and sustainability, the Legislature amended the Municipal Land Use Law (MLUL) in 2008 to add the "Green Building and Environmental Sustainability Plan Element" to the list of optional elements of municipal master plans. The scope of the new element is as follows: "A green buildings and environmental sustainability plan element, which shall provide for, encourage and promote the efficient use of natural resources and the installation and usage of renewable energy systems, consider the impact of buildings on the local, regional, and global environment; allow ecosystems to function naturally; conserve and reuse water; treat storm water on site; and optimize climatic conditions through site orientation and design."

Little Egg Harbor Township should prepare a Green Building and Sustainability Element as a new element of the master plan.

Redevelopment Case Law

There have been a number of recent court decisions concerning the use of the criteria for determining an area "in need of redevelopment" pursuant to the Local Redevelopment and Housing Law. The most significant of these decisions is the New Jersey Supreme Court's decision in Gallenthin vs. Paulsboro, which reevaluated and set guidelines for the use of the statutory criteria for determining an area in need of redevelopment. The New Jersey Legislature also held hearings in 2010 on legislation to update the New Jersey Redevelopment and Housing Law. In 2013, the legislation (Assembly Bill 3615) became law, and is intended to protect property owners by limiting the redevelopment powers of municipalities under the Local Redevelopment and Housing Law. This amendment raises the standard for a blight finding to one in which the property must be unproductive.

Changes at the Federal Level

New FEMA Flood insurance maps are in the process of being adopted. These maps increase the flood zone and base flood elevations for some coastal areas of the township. Property owners will need to take preventative measures to ensure they are in compliance with the new regulations.

Specific Changes Recommended for the Master Plan and Development Regulations

Given the extent to which there have been significant changes in assumptions, policies and objectives at the local, county, and state levels, the 2015 Master Plan Reexamination

Report recommends a number of changes to the township's master plan and development regulations.

Changes to the Master Plan

The recommended changes to the township's master plan are outlined in the following subsections.

Master Plan Goals and Objectives

All goals and objectives should be restated in the master plan amendment to promote clarity and centrality of information. Goals and objectives should also be updated to reflect conditions as of 2015.

In addition to the above, to promote sustainability and resiliency, as well as the local-level implementation of the 2014 Ocean County Multi-Jurisdictional All Hazard Mitigation Plan and the recommendations of the 2014 Strategic Revitalization and Planning Report, it is recommended that the township incorporate the following additional goals and objectives into the master plan:

- Employ storm-resistant building strategies in all future municipal construction in areas to the south of the Garden State Parkway.
- Construct storm-resistant infrastructure, including equipment, pumps and buildings elevated above the flood hazard elevation and berms or levees to protect capital facilities.
- Automate and expedite the processing of building permits.
- Develop a GIS database and user interface to catalog and inventory all infrastructure owned by the Township, as well as to provide essential property-specific information, such as zoning, building characteristics, occupancy information, dog and cat licenses, etc.
- Compile low-elevation aerials to provide high-quality aerial mapping with six-inch contours within special flood hazard areas.
- Ensure that local planning documents promote hazard mitigation and community resiliency.
- Prepare and adopt a master plan element for floodplain management.
- Explore opportunities to participate in the Community Rating System.
- Prepare a multi-year capital improvement program.
- Develop evacuation routes and provide signage and education.
- Investigate opportunities for full-time staff within local fire and EMS agencies.
- Investigate opportunities for shared services and mutual aid, in particular with inland communities that are not as vulnerable to major storms.

- Provide natural gas service for generators, as well as more generators at schools.
- Improve communication infrastructure for police, fire, and EMS (incl., securing of existing equipment).
- Improve communication between emergency management and water and electric utility companies.
- Prepare an updated natural resources inventory.
- Install a town-wide Supervisory Control and Data Acquisition (SCADA) system in conjunction with the Township's owned and operated facilities to communicate critical alarms to a centralized location or operational personnel.
- Install bay-front energy dissipation structures where needed.
- Install riprap along the shoreline where needed.
- Replenish the eroded beach at Parkertown Dock Recreation Facility.
- Repair the Iowa Court seawall.
- Repair bulkheads where needed.
- Continue to participate in the National Flood Insurance Program.
- Maintain a local emergency planning committee.
- Hold quarterly emergency management meetings at town hall meetings.
- Develop a reverse 911 system.
- Maintain and update the Emergency Operations Plan.
- Complete the flood protection project at East Sail, Boat, and Dory drives.
- Upgrade the emergency power supply at the municipal building/emergency command center.
- Supply the Municipal Utilities Authority with five on-site generators for back-up power for wells, pump stations, and its office. Generators must be installed above flood hazard elevation.
- Adopt a township-wide debris management plan that provides the Department of Public Works with an emergency staging facility and designated debris management area.
- Complete work to remedy siltation of inlets that occurred during Hurricane Sandy by removing sand and dredging.
- Complete work to remedy siltation of inlets caused by storm surge during Hurricane Sandy by dredging all lagoons in the Mystic and Osborne island areas.
- Perform video inspection and sewer cleaning of sanitary sewer lines in the Mystic Island area and other flood-inundated sections of the township to determine where repairs or replacements are needed.
- Adopt a township policy to encourage the elevation of residences above the advisory base flood elevation.

- Adopt a complete streets policy to ensure that local roadways meet the needs of all types of users and all modes of circulation, including walking, bikes, cars, trucks, and buses.

Land Use Element

The 2015 Master Plan Reexamination Report recommends that the Land Use Element be amended to: facilitate increased sustainability and promote resilience through the use of green building and infrastructure techniques; and, indicate the need for current existing land use mapping.

Community Facilities Plan Element

The 2015 Master Plan Reexamination Report recommends that the Community Facilities Plan Element be revised to discuss the impacts of Hurricane Sandy on community facilities (e.g., the Little Egg Harbor Community Center, municipal parks), as well as ways to make them more resilient to future storms. Ways to build resiliency to future storms may be active (e.g., elevation of critical infrastructure above the flood hazard elevation, construction of levees, etc.) or passive (e.g., expansion of open space areas that both enhance quality of life but provide areas for natural drainage, protection and enhancement of wetland areas, etc.). The Community Facilities Plan Element should include a discussion of both approaches to resiliency building.

In addition to the above, the Community Facilities Plan Element should include current mapping of public facilities and other critical infrastructure within the township, including the relation of these features to mapped flood hazard areas.

Economic Plan Element

A minor amendment to the Economic Plan Element is recommended. As has been previously noted, the Economic Plan Element recommended cost sharing with adjacent municipalities (i.e., shared services) in order to reduce municipal expenses. However, given the experience of Hurricane Sandy, the Economic Plan Element should be revised to also recommend the establishment of shared service agreements with inland communities that are not as vulnerable to major storms as Little Egg Harbor and other adjacent municipalities. Such a revision would help to implement the recommendations of the Strategic Recovery Planning Report and promote resiliency to future storms whilst contributing to a reduced municipal cost burden.

In addition to the above, the economic plan element should be amended to include a new section that provides background information on the Mathistown Road and Radio Road Streetscape Improvement Project, which has been discussed in an earlier section

of this report. Including a discussion of this project in the Economic Plan Element will ensure its consistency with the township master plan.

Circulation Plan Element

Given the experience of Hurricane Sandy and the potential for future storms, as well as the significant length of time that has passed since its original adoption in 1999, it is prudent to amend the Circulation Plan Element to:

- Reflect the current status of the proposed roadways and improvements that were identified;
- Evaluate the current relevancy of transportation policies that were outlined;
- Include new roadway projects identified in the recommended actions of the Strategic Recovery Planning Report; and,
- Review existing emergency evacuation routes (incl., signage thereof) and include recommendations for the development of additional emergency evacuation routes, the development of which was a recommended action in the Strategic Recovery Planning Report.

In addition to the above, the circulation plan element should be updated to support and promote the development of bicycle and pedestrian connections.

Open Space and Recreation Plan Element

Since the adoption of the original 1997 Recreation Plan and the 2002 Open Space and Recreation Plan Element, the township has made significant efforts to develop its open space network. As a result, the 2007 Master Plan Reexamination Report recommended that the Open Space and Recreation Plan Element be updated to reflect current conditions. This was not done. This 2015 Master Plan Reexamination Report reiterates this recommendation and notes that open space and recreation areas not only increase a community's desirability, but also promote resiliency to hurricanes and similar extreme weather events.

Stormwater Management Plan

It is recommended that the Stormwater Management Plan be revised to facilitate the implementation of the Strategic Recovery Planning Report, which made several recommendations that pertain to stormwater management. Recommendations of the Strategic Recovery Planning Report that are relevant to stormwater management include the:

- Installation of bay-front energy dissipation structures;

- Installation of riprap along the shoreline;
- Replenishing the eroded beach at Parkertown Dock Recreation Facility;
- Repairing of the Iowa Court seawall;
- Repairing of bulkheads where necessary;
- Continued participation in the National Flood Insurance Program;
- Completion of the flood protection project at East Sail, Boat, and Dory drives;
- Completion of work for the remediation of the siltation of inlets that occurred during Hurricane Sandy by removing sand and dredging;
- Completion of work for the remediation of the siltation of inlets caused by storm surge during Hurricane Sandy by dredging all lagoons in the Mystic and Osborne island areas; and,
- Performing video inspection and cleaning of sanitary sewer lines in the Mystic Island area and other flood-inundated sections of the township to determine where repairs or replacements are needed.

Revising the Stormwater Management Plan to facilitate the implementation of the Strategic Recovery Planning Report will significantly help to improve the efficiency of stormwater management within the township and build resiliency to future storms.

Changes to Development Regulations

In an effort to promote resiliency in Little Egg Harbor Township, it is recommended that the township update its zoning policies to promote sustainable development and resilience to future storms.

In addition to the above, it is recommended that Little Egg Harbor Township make necessary changes to implement the 2007 Stormwater Management Plan. This is discussed in the following subsection.

Changes Recommended by the 2007 Stormwater Management Plan

The 2007 Stormwater Management Plan outlines several recommendations for revisions to Chapter 15 of the Code of the Township of Little Egg Harbor that would help to increase the township's resiliency to future storms. These are outlined below:

- Section 15-11.7: The Stormwater Management Plan recommended that this section be amended to include the required use of native vegetation in buffer areas, and also to allow buffer areas to be utilized for stormwater management by disconnecting impervious surfaces and treating runoff from them.

- Section 15-11.9: The Stormwater Management Plan recommended that this section be amended to include language that no bulk storage shall be located within 50 feet of a stormwater management basin/facility.
- Section 15-11.10: The Stormwater Management Plan recommended that language be added to state that the drainage right-of-way easement should be kept in a pervious state to treat runoff before it reaches the watercourse.
- Section 15-12.3: The Stormwater Management Plan recommended that this section be amended to permit curb cuts or flush curbs with curb stops to enable vegetated swales to be used for stormwater conveyance, and to provide for the disconnection of impervious areas.
- Section 15-12.4: The Stormwater Management Plan recommended that this section be amended to permit curb cuts or flush curbs with curb stops to enable vegetated swales to be used for stormwater conveyance, and to provide for the disconnection of impervious areas.
- Section 15-12.8: The Stormwater Management Plan recommended that this section be amended to require that developers design sidewalks to discharge stormwater to neighboring lawns where feasible, or to use permeable paving material where appropriate.
- Section 15-12.8.1: recommended that this section be amended to require that developers design sidewalks to discharge stormwater to neighboring lawns where feasible, or to use permeable paving material where appropriate.
- Section 15-12.12: The Stormwater Management Plan recommended that this section be amended to encourage the use of natural vegetated swales in lieu of inlets and pipes.
- Section 15-12.15: The Stormwater Management Plan recommended that this section be amended to permit the use of pervious paving materials in order to minimize stormwater runoff and promote groundwater recharge.
- Section 15-12.16: The Stormwater Management Plan recommended that this section be amended to permit flush curbs with curb stops or curbing with curb cuts to encourage developers to allow for the discharge of impervious areas into landscaped areas for stormwater management. It also recommended that this section be amended to permit the use of natural vegetated swales for the water quality design storm, with overflow for larger storm event into storm sewers.

A review of Chapter 15 of the Code of the Township of Little Egg Harbor indicates that these recommendations have not yet been implemented. Given the experience of Hurricane Sandy, and the expectation of similar and more frequent events, it is important that these recommendations be implemented. Their implementation would

increase resiliency in the Township of Little Egg Harbor by making use of green infrastructure techniques (e.g., natural vegetated swales) that reduce stormwater runoff and promote groundwater infiltration.

Recommendations Concerning Redevelopment Plans

The Parker's Run Redevelopment Plan is currently the township's only redevelopment plan, and the Parker's Run Redevelopment Area is currently the township's only redevelopment area. As has been previously noted, with the adoption of the 2007 Master Plan Reexamination Report, the Parker's Run Redevelopment Plan was incorporated into the township's master plan by amendment of the township's official land use map.

There has been little progress in achieving the vision and goals of the Parker's Run Redevelopment Plan. As a result, it is recommended that a comprehensive review of the Parker's Run Redevelopment Plan be conducted. In particular, the review should focus on: the appropriateness of uses in light of existing conditions; the current real estate market; and, proximity to infrastructure, such as roadways and sewer service. The review should also consider the appropriateness of the distribution of uses within the redevelopment area.

Master Plan Amendment

Introduction

The purpose of this master plan amendment is to incorporate the recommendations and changes that have been outlined in the 2015 Reexamination Report into the township's master plan, or to establish the basis for future actions through the definition of new goals and objectives. This master plan amendment: updates and adds to the master plan goals and objectives; makes a minor amendment the township's Economic Plan Element; updates the Land Use Plan Element with updated existing land use mapping and a discussion on building resiliency; includes an update to the community facilities plan element to promote resiliency and include updated mapping of community facilities and critical infrastructure; makes extensive updates to the Circulation Plan Element; and, adds a number of goals to the Stormwater Management Plan.

Please note that in addition to the changes outlined in this master plan amendment, the preparation of a new, comprehensive Open Space and Recreation Plan Element that reflects the current conditions of the township's open space and recreation system is recommended. After the preparation of such an Open Space and Recreation Plan Element, the township should update the brief section of the Community Facilities Plan Element that is entitled "Recreation and Open Space".

Master Plan Goals and Objectives

Given the experience of Hurricane Sandy, it is important that the master plan goals and objectives promote sustainability and resiliency, as well as the local-level implementation of the 2014 Ocean County Multi-Jurisdictional All Hazard Mitigation Plan and the recommendations of the 2014 Strategic Revitalization and Planning Report. The master plan is, therefore, amended to include new goal "i", which is to be met through objectives 1 through 36. New goal "i" and objectives 1 through 36 are provided below. In addition, existing goals "a" through "h" are: reproduced to promote clarity and centrality of information; and, updated to the extent necessary in order to adequately reflect conditions as of 2015.

Goals and Objectives

The following are the underlying goals and objectives of the Little Egg Harbor Township Master Plan:

b. To reduce permitted residential densities, where appropriate, and consistent with: planning efforts aimed at minimizing the fiscal impacts of new residential development: and, existing conditions and potential vulnerabilities of flood-prone areas.
c. To concentrate new residential and commercial development in planned centers or other growth corridors where infrastructure is available or comprehensively planned.
d. To adopt land use regulations that will capitalize upon and promote the Tuckerton Seaport project.
e. To adopt land use regulations that: encourage a better balance among residential, commercial and industrial land uses so as to promote improved municipal fiscal planning efforts; and, minimize the potential for land use conflicts.
f. To promote better coordination and consistency between State, County and Municipal planning efforts.
g. To coordinate with the New Jersey Highway Authority and Ocean County to continually improve the roadway system of Little Egg Harbor Township and to plan for anticipated changes brought on by growth and development.
h. To promote bikeways and pedestrian walkways as a means of recreation and to lessen reliance on the automobile as the sole means of transportation.
i. To promote land use policies and regulations that encourage economic development and redevelopment that improves the Township's property tax base.
j. To promote sustainability and resiliency, as well as the local-level implementation of the 2014 Ocean County Multi-Jurisdictional All Hazard Mitigation Plan and the recommendations of the 2014 Strategic Revitalization and Planning Report. To reach this goal, the following objectives should be met:
    1. Employ storm-resistant building strategies in all future municipal construction in areas to the south of the Garden State Parkway.
    2. Construct storm-resistant infrastructure, including equipment, pumps and buildings elevated above the flood hazard elevation and berms or levees to protect capital facilities.
    3. Automate and expedite the processing of building permits.
    4. Develop a GIS database and user interface to catalog and inventory all infrastructure owned by the Township, as well as to provide essential property-specific information, such as zoning, building characteristics, occupancy information, dog and cat licenses, etc.

5. Compile low-elevation aerials to provide high-quality aerial mapping with six-inch contours within special flood hazard areas.
6. Ensure that local planning documents promote hazard mitigation and community resiliency.
7. Prepare and adopt a master plan element for floodplain management.
8. Explore opportunities to participate in the Community Rating System.
9. Prepare a multi-year capital improvement program.
10. Develop evacuation routes and provide signage and education.
11. Investigate opportunities for full-time staff within local fire and EMS agencies.
12. Investigate opportunities for shared services and mutual aid, in particular with inland communities that are not as vulnerable to major storms.
13. Provide natural gas service for generators, as well as more generators at schools.
14. Improve communication infrastructure for police, fire, and EMS (incl., securing of existing equipment).
15. Improve communication between emergency management and water and electric utility companies.
16. Prepare an updated natural resources inventory.
17. Install a town-wide Supervisory Control and Data Acquisition (SCADA) system in conjunction with the Township's owned and operated facilities to communicate critical alarms to a centralized location or operational personnel.
18. Strengthen Radio Road from future storm damage.
19. Install bay-front energy dissipation structures where needed.
20. Install riprap along the shoreline where needed.
21. Replenish the eroded beach at Parkertown Dock Recreation Facility.
22. Repair the Iowa Court seawall.
23. Repair bulkheads where needed.
24. Continue to participate in the National Flood Insurance Program.
25. Maintain a local emergency planning committee.
26. Hold quarterly emergency management meetings at town hall meetings.
27. Develop a reverse 911 system.
28. Maintain and update the Emergency Operations Plan.
29. Complete the flood protection project at East Sail, Boat, and Dory drives.
30. Upgrade the emergency power supply at the municipal building/emergency command center.

31. Supply the Municipal Utilities Authority with necessary on-site generators for back-up power for wells, pump stations, and its office. Generators must be installed above flood hazard elevation.
32. Adopt a township-wide debris management plan that provides the Department of Public Works with an emergency staging facility and designated debris management area.
33. Complete work to remedy siltation of inlets that occurred during Hurricane Sandy by removing sand and dredging.
34. Complete work to remedy siltation of inlets caused by storm surge during Hurricane Sandy by dredging all lagoons in the Mystic and Osborne island areas.
35. Perform video inspection and sewer cleaning of sanitary sewer lines in the Mystic Island area and other flood-inundated sections of the township to determine where repairs or replacements are needed.
36. Adopt a township policy to encourage the elevation of residences above the advisory base flood elevation.
37. Adopt a complete streets policy to ensure that local roadways meet the needs of all types of users and all modes of circulation, including walking, bikes, cars, trucks, and buses.

Land Use Element

As has been previously noted, the 2015 Master Plan Reexamination Report recommends that the Land Use Element be amended to facilitate increased sustainability and promote resilience through the use of green building and infrastructure techniques. The 2015 Master Plan Reexamination Report also recommends that the Land Use Element be amended to include current existing land use mapping. This is achieved below.

Current Land Use Mapping

The Land Use Element should be updated to include the current land use mapping that is presented in Appendix A of this document.

Building Resiliency through Development Regulations

The following new section on building resiliency through development regulations should be added to the Land Use Element.

Building Resiliency through Development Regulations

Given the experience of Hurricane Sandy and the potential for future storms, there is a compelling need to build resiliency in Little Egg Harbor Township. The Land Use Plan Element, therefore, recommends that the township's development regulations be designed to build resiliency throughout the township. This should be done through the promotion of green building and infrastructure techniques. This section of the Land Use Plan Element overviews green building and infrastructure techniques, and is meant to inform the future development of municipal development regulations.

Green Building and Infrastructure Techniques

Green building and infrastructure techniques are an important tool for promoting resiliency in Little Egg Harbor Township. They use permeable surfaces (e.g., porous concrete, gravel, mulch, etc.), landscape formations (e.g., channels, depressions), plant material, or other technologies to reduce stormwater runoff by promoting natural infiltration. Their use can promote resiliency by mitigating flooding (i.e., reducing the risk and impacts of flooding) and helping the township to quickly recover from storms. In addition, they provide numerous co-benefits, not the least of which are: reducing long-term maintenance and operation costs of stormwater infrastructure; and, capturing runoff pollution (e.g., particular matter, heavy metals) and preventing their entry into sensitive terrestrial waterways.

The Land Use Plan Element recommends the incorporation of green building and infrastructure techniques in the township's development regulations. Recommended green building and infrastructure techniques are described in the following subsections.

Downspout Disconnection: Downspout disconnection refers to the rerouting of rooftop drainage pipes to specialized containment devices (e.g., rain barrels, cisterns) and permeable areas, instead of traditional stormwater drainage systems. This allows stormwater runoff from building roofs not only to infiltrate soil, but also to be collected for later use (e.g., watering lawns and gardens), which reduces demand on public water supplies.

Rain Gardens: Rain gardens are shallow, vegetated basins that absorb stormwater runoff from impervious surfaces (e.g., rooftops, sidewalks, and streets). Runoff is channeled into rain gardens, and is then used by plants, infiltrated into the ground, and evaporated. They may be installed in a variety of locations, and can be an attractive element of site design. In addition, it is important to note that rain gardens can be installed in a variety of locations. Indeed, they may be installed in any properly graded unpaved space, and in parking lots and paved areas through the construction of specialized planter boxes that collect and absorb runoff.

Bioswales: Bioswales are open, linear channels with vegetation, mulching, or xeriscaping that slow stormwater runoff and attenuate flooding potential while conveying stormwater runoff away from critical infrastructure. While they convey stormwater runoff away from critical infrastructure, their permeable surface permits the natural infiltration of stormwater. They are often used as an alternative to, or enhancement of, traditional stormwater drainage systems.

Permeable Pavements: Permeable pavements help to reduce stormwater runoff, which helps to improve the quality of terrestrial waters and mitigate flooding. With traditional (i.e., impervious) pavement, stormwater runs into drains and inlets, which places a burden on such infrastructure, and may result in the discharge of pollutants (e.g., sediment, oil residue, etc.) into terrestrial waters. Permeable pavements, however, infiltrate, treat, or store rainwater where it falls. Key examples of permeable pavements include pervious concrete, porous asphalt, and permeable interlocking pavers.

Green Roofs: Green roofs are roofs that are covered with substrate and vegetation that enable the infiltration of rainwater. This not only minimizes stormwater runoff, but leads to reduced building operating costs and energy consumption by providing improved insulation of the roof surface, and absorbing less heat on the roof surface (i.e., increasing the roof surface albedo over traditional roof surfaces). Flat and low-pitched roofs are most suited to green roof development and retrofitting therewith.

Tree Cover: Increased tree cover in developed areas is an important example of green infrastructure. Trees reduce and slow stormwater by intercepting precipitation in their leaves and branches. In addition, their root systems help to aerate soil, which facilitates natural infiltration of stormwater and reduces runoff. Trees also purify the air, and can help to cool developed areas by providing shade, and through evaporative

cooling and increased latent heat flux (i.e., the dissipation of sensible heat).

Living Shorelines: Living shorelines are an approach to shoreline stabilization that uses wetland plants, submerged aquatic plants, oyster reefs, coir fiber logs, sand fill, and stone to provide shoreline protection and maintain important habitat areas. They offer numerous benefits over hardened structures (e.g., bulkheads and concrete walls), including protection of the riparian and intertidal environments, improvement of water quality via filtration of upland runoff; and, creation of habitat for aquatic and terrestrial species.

Open Space Preservation: Preservation of open space areas within and adjacent to developed areas can help to mitigate the water quality and flooding impacts of stormwater. Indeed, natural open space areas promote increased groundwater recharge, lower stormwater runoff, and reduced levels of nutrients and sediment in terrestrial waters. They also help to cool developed areas through evaporative cooling and increased latent heat flux. The use of building coverage and impervious surface limits, tree-save requirements, and noncontiguous clustering are key ways to promote open space preservation through development regulation.

Community Facilities Plan Element

The Community Facilities Plan Element should be updated to include updated mapping of community facilities and critical infrastructure, and to promote resiliency at community facility and critical infrastructure sites. This is achieved in the following subsections.

Please note that in addition to the amendments to the Community Facilities Plan Element that are outlined in this section, this master plan amendment includes several goals and objectives that are relevant to community facilities. These goals and objectives have been presented within the context of amendments to the master plan goals and objectives. The Land Use Plan Element of this master plan amendment also includes a discussion on green building and infrastructure techniques, which may be applied to the community facilities.

Promoting Resiliency

The following section on promoting resiliency should be added to the Community Facilities Plan Element.

Promoting Resiliency

Hurricane Sandy caused extensive damage to community facilities and other critical infrastructure in Little Egg Harbor Township. To illustrate, floodwaters entered the Little Egg Harbor Township Community Center and accessory buildings, which caused extensive damage to the structure, mechanical and other equipment, and plumbing and drainage lines. In total, damages to the community center site amounted to more than $660,000. In addition, bulkheads were damaged in various locations, and there was extensive damage and destruction to the Parkertown Dock Recreation Facility.

Given the experience of Hurricane Sandy and the potential for similar storms in the future, it is important that the township promote the resiliency of its community facilities and critical infrastructure. This can be done through the application of green building and infrastructure techniques, which are discussed in the Land Use Element of this master plan. It can also be achieved through physical flood control and related devices, elevation of facilities above the advisory base flood elevation, careful site selection for new facilities, or other means. As well, resiliency can be promoted by providing new and upgraded emergency power generation facilities at important sites (e.g., municipal buildings, police station, schools, pump stations of the municipal utilities authority), which will help the township to function in times of crisis. By promoting the resiliency of community facilities and critical infrastructure, the township is not only protecting its investments, but may also set an important example for others to follow and, thereby, increase the overall sustainability and resiliency of the township.

To promote the resiliency of Little Egg Harbor's community facilities and critical infrastructure, it is recommended that the township develop a resiliency screening process or checklist to guide future investment. Such a checklist could be used to examine, for example, the susceptibility of a community facility or critical infrastructure site to flooding, and the level of protection provided against same. Such a checklist could also include a requirement that at least one of the green building and infrastructure techniques that are presented in the amended Land Use Plan Element be used in any given project, and that initial plans be submitted for capital review by the planning board. By developing such a screening process or checklist, the township would promote the resiliency of its community facilities and critical infrastructure in an effective and efficient manner.

Public Facilities and other Critical Infrastructure Mapping

The Community Facilities Plan Element should be updated to include the public facilities and critical infrastructure mapping that is presented in Appendix B of this document. Please note that this mapping shows the relation of these features to mapped flood hazard areas.

Economic Plan Element

The Economic Plan Element should be revised to update the discussion on cost sharing agreements and provide information on the Mathistown Road and Radio Road Streetscape Improvement Project. The following subsections outline the recommended changes.

Cost Sharing Agreements

As has been previously noted in the 2015 Master Plan Reexamination Report, the 1999 Economic Plan Element recommended cost sharing with adjacent municipalities (i.e., shared services) in order to reduce municipal expenses. However, given the experience of Hurricane Sandy, the Economic Plan Element should be revised to also recommend the establishment of shared service agreements with inland communities that are not as vulnerable to major storms as Little Egg Harbor and other adjacent municipalities.

This is achieved with the following new section, which replaces the existing section of the 1999 Economic Plan Element that is entitled "Cost Sharing Agreements with Adjacent Municipalities".

Cost Sharing Agreements

One method of reducing the tax burden is to reduce expenses. Typically, municipalities are not able to reduce expenses alone, since many services are mandatory and other reductions are not viable. As a result, the State of New Jersey encourages municipalities to reduce expenses and improve service by entering into cost sharing agreements among municipalities, school districts and local public authorities to share resources (n.b., the New Jersey Department of Community Affairs provides advice and guidance in evaluating and establishing shared service agreements). Establishment of cost sharing agreements with adjacent municipalities, as well as with inland municipalities that are not as vulnerable to major storms as Little Egg Harbor is, has significant potential to reduce municipal expenses.

Mathistown Road and Radio Road Streetscape Improvement Project

The Economic Plan Element should be revised to include a discussion of the Mathistown Road and Radio Road Streetscape Improvement Project. By providing such a discussion, the master plan consistency of the project will be ensured.

Mathistown Road and Radio Road Streetscape Improvement Project

The township is currently in the process of planning streetscape improvements along: Mathistown Road, between Center Street and Radio Road; and, Radio Road, between Basswood Lake Road and the Little Egg Harbor Township Senior Center, which is located at 641 Radio Road. Project plans include the installation of a five-foot wide sidewalk, new concrete curbing, benches, and decorative street lighting at a total estimated cost of $845,000 (incl., construction and professional services). In addition to improving pedestrian access, execution of these improvements will also improve the business climate, raise property values, and increase the overall desirability and attractiveness of the township.

Circulation Plan Element

As has been previously mentioned in the 2015 Master Plan Reexamination Report, the Circulation Plan Element should be updated to: reflect the current status of the proposed roadways and improvements that were identified; evaluate the current relevancy of transportation policies that were outlined; include new roadway projects identified in the recommended actions of the Strategic Recovery Planning Report; include recommendations for the development of emergency evacuation routes, the development of which was a recommended action in the Strategic Recovery Planning Report; and, promote the development of bicycle and pedestrian connections. The following sections describe the amendments to the Circulation Plan Element.

Status of Proposed Roadways and Improvements

The Circulation Plan Element should be updated to reflect the current status of projects outlined in the section that is entitled "Proposed Roadways and Improvements". To achieve this, the following subsections should replace the respective subsections "Proposed Roadways and Improvements".

New Jersey Turnpike Authority (Replaces "New Jersey Highway Authority")

The New Jersey Turnpike Authority operates and maintains the Garden State Parkway. The Authority is currently undertaking a project to widen the Garden State Parkway from milepost 30 to milepost 80. The project will add a lane in each direction, and also

include the widening and rehabilitation of bridges and the installation of Express EZ-Pass lanes at certain toll plazas. The widening of the Garden State Parkway within Little Egg Harbor Township is complete and the new lanes have been opened to traffic. The project plans do not include any change to the number of access ramps at Interchange 58, which services Little Egg Harbor Township.

Otis Bog Road

Otis Bog Road from Nugentown Road to US Route 9 south to Center Street was previously designated as a future minor collector running generally parallel to Mathistown Road, consistent with the 1978 Master Plan. Based upon the original 1999 Circulation Plan Element, Otis Bog Road was to be extended to Center Street as part of a development application. The development has not proceeded. However, the need for the road extension has increased as a result of the township's population growth, and the future construction of a Wal-Mart. The township should seek an alternate means to complete this road extension.

Addition of Municipal Roadway Improvements

The Circulation Plan Element should be expanded to include needed municipal roadway improvements that were mentioned in the 2014 Strategic Recovery Planning Report. To achieve this, the following section should be added to the existing section of the Circulation Plan Element that is entitled "Municipal".

Flood Protection

Hurricane Sandy caused extensive flooding and washed-out portions of Iowa Court, and exposed vulnerabilities on Sail, Boat, and Dory drives. As a result, the township has taken measures to provide a seawall along Iowa Court and other flood protection measures for these roadways. These measures will protect life, health, and property, and should be completed without delay. It is noted that the 2014 Strategic Recovery Planning Report recommends specific actions to complete the Iowa Court Seawall and flood protection projects along Sail, Boat and Dory dries.

Addition of County Roadway Improvements

The Circulation Plan Element should be expanded to include needed county roadway improvements that were mentioned in the 2014 Strategic Recovery Planning Report. To achieve this, the following section should be added to the existing section of the Circulation Plan Element that is entitled "Ocean County".

Radio Road Restoration

Radio Road was severely damaged during Hurricane Sandy. A retaining wall at the end of the roadway was destroyed, and total of approximately 310 square feet of asphalt was washed out from two different locations. In addition, a portion of sidewalk that provided access to the beach from Radio Road was washed out, and six roadway signs were washed away. The township has coordinated with Ocean County to restore Radio Road. The restoration of Radio Road was outlined as an action in the 2014 Strategic Recovery Planning Report.

Park and Ride Facility

The following new section on park and ride facilities should replace the existing section of the Circulation Plan Element that is entitled "Park and Ride Facility".

Park and Ride Facility

Park and ride facilities meet the parking needs of carpooling and bus commuters. Typically, the facilities are strategically situated to intercept commuters at convenient locations. A park and ride facility at Interchange 58 of the Garden State Parkway has been envisioned for quite some time, having first been mentioned in the original Circulation Plan Element of the 1999 Master Plan. In 2014, however, the Ocean County Board of Chosen Freeholders took steps that would provide funding to develop a formal park and ride facility at Interchange 58. The township has worked with the Ocean County Board of Chosen Freeholders and the New Jersey Turnpike Authority to make this a reality, and the park and ride facility is expected to open in Spring 2015. The need for other such facilities at other locations in Little Egg Harbor Township should be investigated.

Emergency Evacuation Routes

The following new section on emergency evacuation routes should be added to the existing section of the Circulation Plan Element that is entitled "Transportation Policies".

Emergency Evacuation Routes

As a response to Hurricane Sandy, Little Egg Harbor Township evacuated more than 4,000 persons, including 100 residents of the Mystic Shores Nursing Home. The township's location on coastal waterways and the potential for additional hurricanes and storms in the future make it necessary to maintain existing and plan for additional emergency evacuation routes to move people and equipment in times of emergency,

and provide safe, efficient routes to emergency shelters and similar facilities within the region. This is particularly important for flood-prone areas of the township.

Currently, the following roadways are designated by the New Jersey Department of Transportation as emergency evacuation routes: Garden State Parkway; Great Bay Boulevard; North Green Street (Ocean County Route 539); and, US Route 9. These roadways provide important regional connections. It is critical that they are properly maintained in order to ensure the efficient evacuation of the township in times of crisis. Condition road the roadway surface, signalization, signage (incl., traffic and designation/identification signage) are important to the proper maintenance of emergency evacuation routes.

Additional emergency evacuation routes should be provided to the greatest extent possible. With a view toward providing additional emergency evacuation routes, it is noted that key aspects of emergency evacuation route planning include identification of potential routes, completing necessary modernization and upgrading, ensuring that routes are properly maintained, and informing the public about the presence of such routes. To elaborate, it is noted that potential routes should provide regional connections, or provide connections to roadways and bridges that provide regional connections. Modernizing and upgrading roadways to be used as emergency evacuation routes will improve mobility and facilitate the evacuation of the township in times of crisis. Two important examples of upgrades include directional and identification signage, and improved roadway drainage facilities. Proper maintenance will ensure that designated emergency evacuation routes are ready to serve their purpose in times of crisis. Informing the public about the presence of emergency evacuation routes will help to facilitate the evacuation of the township in times of crisis.

In addition to the above, it is noted that the planning of emergency evacuation routes should be coordinated with the New Jersey Department of Transportation, Ocean County, and neighboring municipalities. This is important not only because evacuation routes would provide connections to the broader region, but also because roadways used as potential evacuation routes may fall under state, county, or municipal jurisdictions.

Bicycle and Pedestrian Connections

The existing section of the Circulation Plan Element that is entitled "Bike Paths" is should be replaced with the following new section on bicycle and pedestrian connections.

Bicycle and Pedestrian Connections

Bicycle and pedestrian connections are encouraged and should be provided to the maximum extent possible in all areas of the township, and particularly between parks, recreation, and open space areas, and important population centers. Providing such connections will not only help to make Little Egg Harbor Township more sustainable by promoting non-motorized transportation, but also greatly improve the quality of life for township residents. While sidewalks are an important pedestrian facility, the focus of this Circulation Plan Element is on dedicated and shared bicycle lanes, greenways and multipurpose trails.

To maximize the provision of bicycle and pedestrian linkages, this Circulation Plan Element does not specify the exact locations where they should be provided, but, rather, establishes a vision, discusses key principles of the design and maintenance of bicycle and pedestrian facilities, and outlines important goals and objectives for their provision.

Vision for Bicycle and Pedestrian Linkages

The Circulation Plan Element's vision is to develop the township's network of bicycle and pedestrian linkages and secure the recreation and transportation benefits of bicycling and walking for township residents. The Circulation Plan Element envisions a network of bicycle and pedestrian linkages that connects the township's population centers with: open space and recreation areas; schools; commercial nodes; and, other key destinations in Little Egg Harbor Township and neighboring municipalities.

The Circulation Plan Element also envisions that linkages will be provided in the form of: on-road bicycle lanes; lanes shared between bicycles and vehicles, where appropriate; greenways; and protected multipurpose trails. In all variations, bicyclists and pedestrians will be able to travel in a safe and efficient manner throughout the network, which will boost bicycling and walking for recreation, and increase their use as a means of transport.

Facility Design and Maintenance

When planning bicycle and pedestrian linkages, it is important to pay attention to the needs and expectations of users; the facility's visual appeal and design; and its upkeep. The following sections provide an overview of basic concepts to guide the planning and development of bicycle and pedestrian facilities within Little Egg Harbor Township.

High Quality Experience: As a starting point, it is important to consider the elements that lead to a high quality experience. Examples of such elements include: visual appeal; pleasantness and convenience of location; presence of interconnections, residential areas, and community facilities; sufficient length; accessibility for users with limited

mobility; and, the availability of special features, such as educational opportunities, benches, shelters, and similar amenities. When planning bicycle and pedestrian facilities, it is important to maximize the availability of these elements in order to provide a high quality experience.

User Needs: It is also important to consider the needs and physical ability of the user. For example, the elderly and disabled will typically have different levels of ability than the remainder of the population. By giving consideration to the needs and physical ability of all users, use and success of the network will be maximized. Accommodating a broad cross section of users of all ages and abilities will help to maximize the use and success of the network.

Connectivity: Connectivity refers to the linkages a network provides from a given point to another. When planning bicycle and pedestrian facilities, it is important to consider possible connections between neighborhoods, business districts, parks, community facilities, and natural environments. By providing such connections, bicycle and pedestrian facilities can provide a viable route to a destination.

Facility Type: Facility type will affect its design. The basic types of bicycle and pedestrian facilities are: on-road bicycle lanes; shared lanes; greenways; and, multipurpose trails.

- **Dedicated, On-Road Bicycle Lanes:** On-road bicycle lanes provide dedicated space for cyclists where motorists are not allowed to park, stand or drive. They are designated with striping, signage and pavement markings, and make the movements of motorists and cyclists more predictable, thereby increasing safety. They are generally unidirectional, and travel in the same direction as the adjacent vehicle travel lanes. They are located on the right side of the roadway (i.e., along the curb), and, when on-street parking is available, are generally situated between vehicle travel and parking lanes. According to guidelines of the American Association of State Highway and Transportation Officials, the minimum recommended width of an on-road bicycle lane is four feet. However, six feet is the preferred width recommended by this Circulation Plan Element. The additional width provides a greater degree of separation between bicycles and motor vehicles. Standards of the American Association of State Highway and Transportation Officials indicate that striping to separate on-road bicycle lanes from vehicle travel lanes should be six inches in width. Striping to separate on-road bicycle lanes from parking lanes should be four inches.
- **Shared Lanes:** Bicycle facilities may be provided in lanes shared between bicycles and motor vehicles. Shared lanes may be suitable on roadways with low traffic

volumes or wide roadway shoulders, and are generally a low-cost solution because they can be provided without the requirement for physical changes to the roadway. Indeed, shared lanes only require bikeway network signage; they can, however, be supplemented with pavement markings. The width of a shared lane should, ideally, be 15 feet to allow for enough clearance between bicycles and large vehicles.

- **Greenways:** Greenways are long, linear open spaces that provide a setting for nature conservation and recreation. They often contain trails and link parks. The corridors of streams and rivers, and utility easements lend themselves to greenway development. Greenways are often the location of bicycle and pedestrian facilities.
- **Multipurpose Trails:** Multipurpose trails facilitate connections within the community. They provide for safe, non-motorized passage between residential and commercial areas, parks and open space areas, and other community features. A width of eight to ten feet is appropriate for multipurpose trails. In certain high-traffic areas, however, a tread width of ten to twelve feet may be appropriate. In all cases, the width should be wide enough to accommodate bidirectional passage. Multipurpose trails may be provided in roadway rights-of-way, but, when they are provided in such areas, are physically separated from motor vehicle traffic by open space or some other type of physical barrier (e.g., guard rail, curbing, etc.).

Signage: Signage serves a number of important functions. Most importantly, it helps a user to identify his or her location and conveys information about facility characteristics. As such, proper signage is an important part of bicycle and pedestrian facility design.

Signage at the trailhead should include: the name of the facility; a large-format map; length; permitted activities; and, information on connections. Signage should contain a minimal amount of text by making extensive use of icons and pictograms. Locational markers placed at regular intervals along the route should supplement this information. Additionally, interpretative signage should be provided where significant natural or cultural features are present. All signage should be made of durable materials that resist fading, water damage, and vandalism.

With regard to traffic signage, it is noted that the Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD) provides standards for all traffic control devices nationwide, including signs for bicycle facilities. All traffic control devices nationwide must conform to its standards. It is, therefore, the recommendation of the Circulation Plan Element that the current MUTCD be consulted when planning traffic control signage.

Amenities: When planning bicycle and pedestrian facilities, it is important to provide appropriate amenities. The appropriateness of a particular amenity will be determined by the function, type, and anticipated users of the facility.

Amenities have a significant impact on a user's overall experience, and may include: bicycle racks; bicycle repair stations and air pumps; benches; picnic areas; drinking fountains; animal-proof refuse containers; observation areas; and shelters, among others.

Maintenance: The proper maintenance and upkeep of Little Egg Harbor Township's bicycle and pedestrian facilities will ensure the public's continued use, safety, and enjoyment. As such, maintenance is an integral part of the bicycle and pedestrian facility planning process.

The maintenance required for a specific facility will be determined by type, surface, and amenities. Consequently, it is the recommendation of this Circulation Plan Element that a maintenance plan be written for the bicycle and pedestrian network in Little Egg Harbor Township.

A facility's future maintenance needs must also be considered during the design process. For instance, off-road facilities should be designed to be accessible to maintenance vehicles. Additionally, benches and other amenities should be designed to be low maintenance. By giving forethought to maintenance in the design process, a facility's future maintenance requirements can be simplified.

Goals for Bicycle and Pedestrian Linkages

The township's goals for bicycle and pedestrian linkages are as follows:

- Provide bicycle and pedestrian linkages between population centers and major destinations within the township, and to neighboring municipalities.
- Establish a permanent advisory committee for bicycle and pedestrian facilities.
- To the greatest extent possible, develop bicycle and pedestrian linkages between dead-end streets and cul-de-sacs.
- Provide identification and guide signs for bicyclists and pedestrians.
- Provide safe and adequate bicycle parking options at key destinations, and in all public parks.
- Work with Ocean County to provide signage that alerts motorists of the presence of bicyclists along county roadways.
- Provide only bicycle-safe sewer grates in all areas of the township.
- Provide adequate lighting to ensure safety for bicyclists and pedestrians.

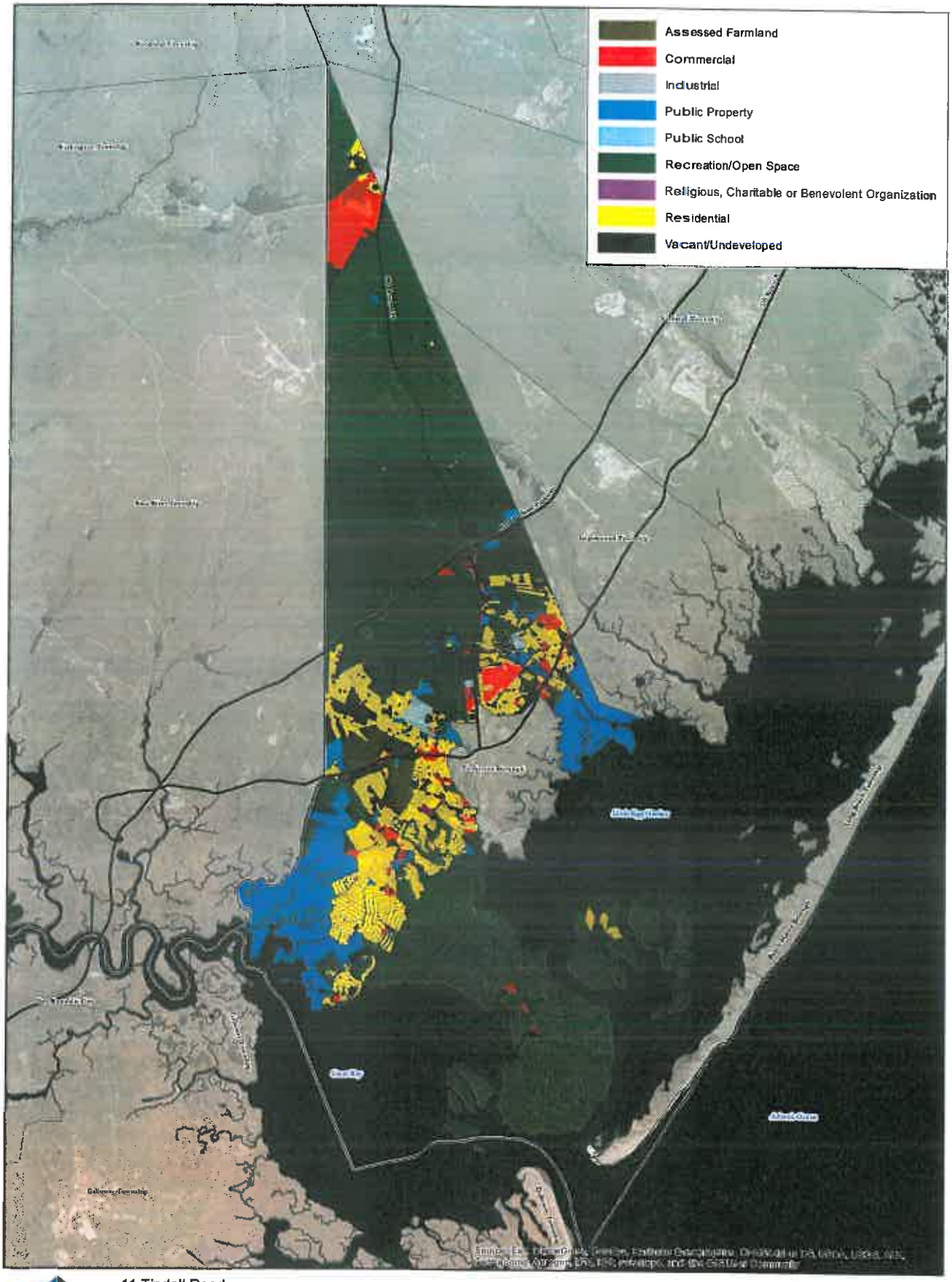
- Ensure that all bicycle projects comply with recognized design standards, such as the *Guide for the Development of Bicycling Facilities* prepared by the American Association of State Highway and Transportation Officials.
- Investigate potential funding mechanisms for bicycle and pedestrian facilities, including grants and open space trust funds.
- Coordinate bicycle planning with Ocean County and the State of New Jersey.
- Develop a township-wide bicycle and pedestrian facility map that is displayed at parks and other major destinations.
- Provide traffic calming at key locations to improve bicycle and pedestrian safety and encourage use of facilities.

Stormwater Management Plan

As noted in the 2015 Master Plan Reexamination Report, the Stormwater Management Plan should be amended to facilitate the implementation of the 2014 Strategic Recovery Planning Report. This is done by adding the following goals to the list of goals provided in the Stormwater Management Plan:

- Install bay-front energy dissipation structures;
- Install riprap along the shoreline;
- Replenish the eroded beach at Parkertown Dock Recreation Facility;
- Repair the Iowa Court seawall;
- Repair bulkheads where necessary;
- Continue participation in the National Flood Insurance Program;
- Complete the flood protection project at East Sail, Boat, and Dory drives;
- Complete work to remediate the siltation of inlets that occurred during Hurricane Sandy by removing sand and dredging;
- Complete work to remediate the siltation of inlets caused by storm surge during Hurricane Sandy by dredging all lagoons in the Mystic and Osborne island areas; and,
- Perform video inspection and cleaning of sanitary sewer lines in the Mystic Island area and other flood-inundated sections of the township to determine where repairs or replacements are needed.

Appendix A: Existing Land Use Map



11 Tindall Road
Middletown, NJ 07748-2792
Phone: 732-671-6400
Fax: 732-671-7365

0 4,000 8,000 16,000 Feet

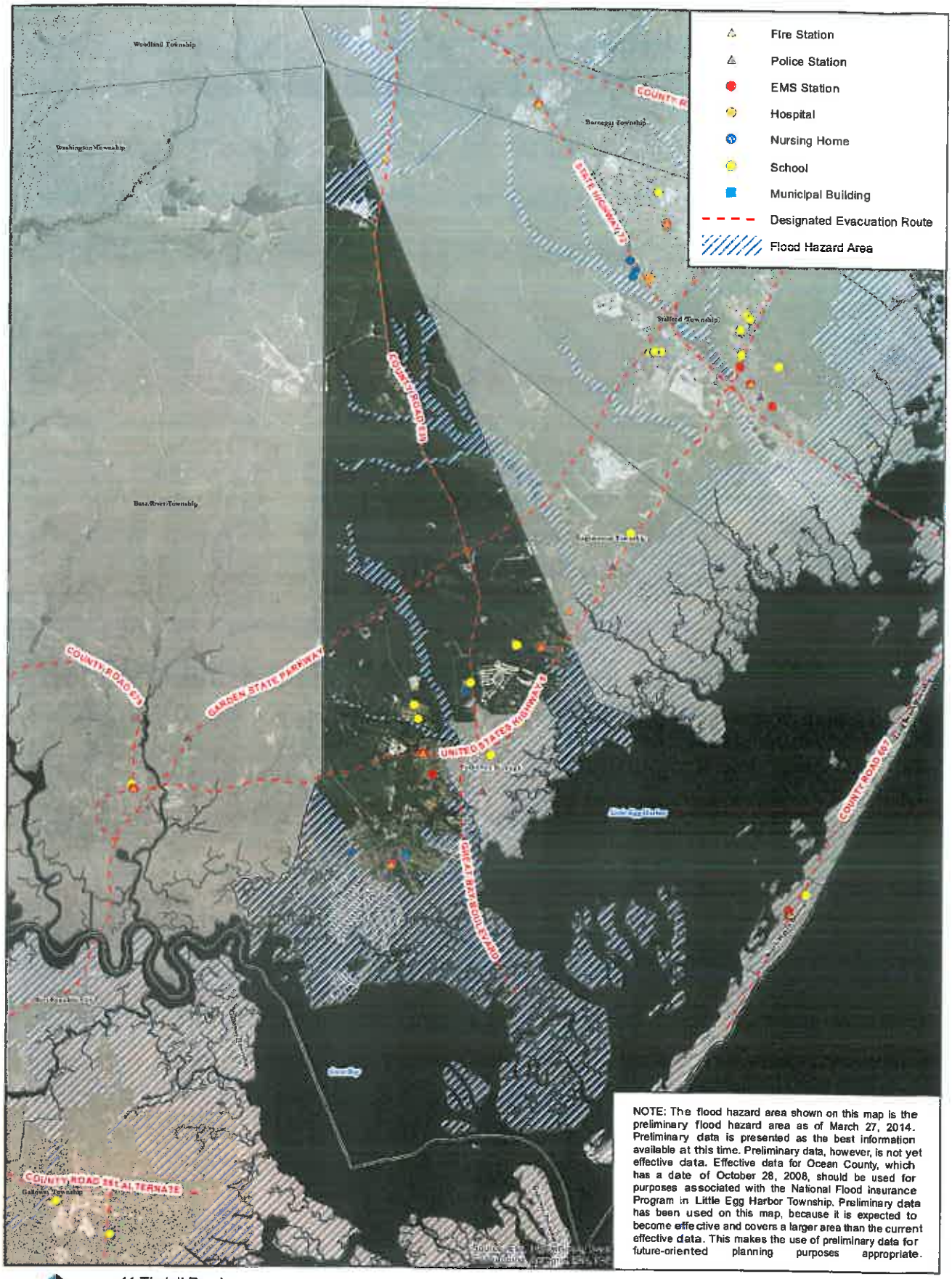
Prepared by: RED, 09-06-14
Source: NJDEP, NJDOT, Ocean County GIS, T&M Associates
File Path: H:\LEPL\00103\Projects\Land Use_2.mxd

Existing Land Use
Little Egg Harbor Township
Ocean County, New Jersey

N

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

Appendix B: Public Facilities and Critical Infrastructure Map



NOTE: The flood hazard area shown on this map is the preliminary flood hazard area as of March 27, 2014. Preliminary data is presented as the best information available at this time. Preliminary data, however, is not yet effective data. Effective data for Ocean County, which has a date of October 28, 2008, should be used for purposes associated with the National Flood Insurance Program in Little Egg Harbor Township. Preliminary data has been used on this map, because it is expected to become effective and covers a larger area than the current effective data. This makes the use of preliminary data for future-oriented planning purposes appropriate.

11 Tindall Road
Middletown, NJ 07748-2792
Phone: 732-671-6400
Fax: 732-671-7365

0 4,000 8,000 16,000 Feet

Critical Infrastructure
Little Egg Harbor Township
Ocean County, New Jersey

Prepared by: RED, 09-06-14
Source: NJDEP, NJDOT, Ocean County GIS, FEMA, T&M Associates
File Path: H:\LEPL\00103\Projects\Critical Infrastructure.mxd

N

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.