9.0 Conservation Element

The 2003 Master Plan and subsequent 2009 Reexamination did not contain a specific element for conservation. Although there is not an element for this portion of the plan, Goals and Objectives that are relative to this element are stated on Page 22. It is recommended that a new specific Conservation Element be implemented at this time as follows:

9.0 Conservation Element

9.1 Introduction

This Element will describe existing conditions and issues affecting the City of Cape May, provide goals, objectives and recommendations for conservation, determine stakeholders and reference other plans involving conservation.

The vast majority of land not developed in Cape May is environmentally constrained by floodplain, wetlands or both. These environmentally sensitive lands, and the wildlife habitats that they support, are very much a part of what makes Cape May an attractive area to live and vacation and are also important for environmental tourism, such as birding. Where much of these lands are unable to be developed due to State development regulations, Cape May should strive to acquire lands that are potentially developable in environmentally sensitive areas to preserve these lands from development and enable those to be used for passive recreation areas.

9.2 Goals/Objectives

This 2019 Reexamination Report has prioritized the protection and preservation of its environmental assets recognizing the importance to the City's character and economy. As indicated in this Reexamination, the City has a unique advantage over other shore communities in that its beach, harbor and environmental resources create a sense of place no other town in our region can offer. This coupled with the City's historic and cultural assets provides the City with a unique branding and marketing advantage. The City's primary focus is now on the preservation of these assets for all City residents and visitors.

The following are the goals and objectives for conservation in the City:

- Goal: To protect the quality of the City of Cape May's natural and manmade environment in order to preserve the balance of its ecological systems and safeguard the future health and welfare of residents and visitors.

- Objectives:

    a. Conserve and protect environmentally sensitive resources including natural, scenic and historic areas in the City by requiring that new land uses be subject to performance standards designed to minimize potential adverse impacts.

b. Minimize negative effects of land use upon the City's built environment through evaluation and implementation of performance standards for environmentally sensitive lands.

c. Encourage the preservation of open space and environmentally sensitive lands in order to protect the environmental integrity of unique resources.

d. Pursue the acquisition of wetlands and open space by the City and a consortium of public and private environmental groups.

e. Provide controlled access to wetland areas to promote environmental protection and public education.

f. Acquire environmentally sensitive lands in East Cape May known as "Sewell Point". Acquisition of the tract would ensure the area east of Pittsburgh Avenue would be retained as open space for passive environmental recreation.

g. Strive to maximize the City's energy conservation and energy efficiency to aid the State of New Jersey in achieving its energy goals stated in the State Energy Master Plan consistent with historic preservation standards.

h. Foster conservation partnerships and develop nature branding for the City.

9.3 Overview of Conservation Planning Efforts

In addition to the planning efforts noted in this Master Plan Reexamination 2019, Cape May has participated in various planning efforts over the past decade that have been used to update and further develop this element. This element has been developed to incorporate information and implement recommendations these cumulative plans into a document to guide future efforts.

Environmental Resource Inventory for the City of Cape May

In September 2017, the Cape May Environmental Commission with the aid of the Association of Environmental Commissions (A.N.J.E.C.), the Cape May City Green Team, and Cape May City Council completed the update of the Environmental Resource Inventory (ERI). This inventory update addresses and provides the following:

- Cape May City Master Plan Recommendations
- Data Base of Open Space (R.O.S.I.)
- Wildlife Inventories, Threatened & Endangered Species
- Water Resources including Potable, Wetlands, Estuaries, CAFRA, Ocean, Harbor and Stormwater
- Vegetation & Landscape including Dune grass, NJ And Plant List for Wildlife, Shade Tree, Xeriscaping, Water Conservation Garden

- Open Space, Sewell Point Tract
- Chemical Contamination & Hazardous Waste
- Energy Conservation

The ERI and the September 2017 Update is hereby incorporated in this element by reference and is the basis for this updated element.

9.4 Environmental Commission

The City of Cape May's Environmental Commission function is to study and make recommendations concerning open space preservation, water resources management, air pollution control, solid waste management, noise control, soil and landscape protection, environmental appearance, marine resources and protection of flora and fauna. The Commission also maintains and updates the Environmental Resource Inventory for the City. The Commission also conducts research into the use and possible use of the open land areas of the City. The Commission also serves an advisory role to the Planning Board and Zoning Board and reviews land use applications in that capacity.

The Cape May Environmental Commission has advocated a proactive policy regarding wetlands. They have suggested acquisition of all environmentally sensitive wetlands within the City Limits, specifically targeting the protection of the East Cape May wetlands areas. Consideration of wetland buffers has also been recommended, recognizing that State and Federal guidelines govern within these areas. Cape May continues to rely on state regulations governing wetlands for establishment of appropriate wetland buffers.

The Cape May Environmental Commission has drafted a document titled "Cape May City's Energy Master Plan 2019" for consideration of adoption. This plan establishes goals and recommendations for Cape May to promote itself as a more carbon neutral champion. This plan is adopted as an Appendix to this element and should be the basis for further planning and development of the Energy Master Plan.

The Environmental Commission should be commended for their hard work and conservation efforts. The City should continue to support their efforts.

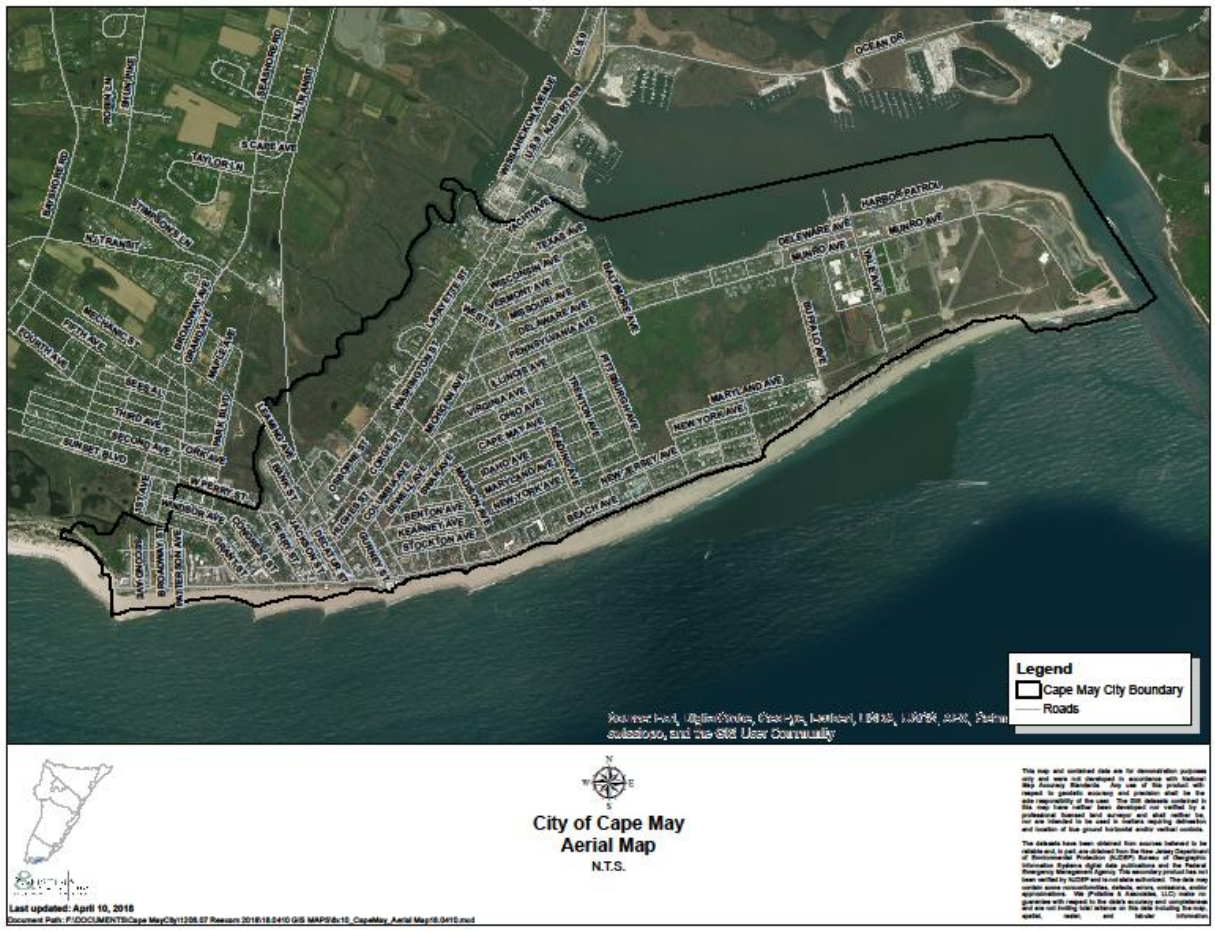
9.5 Location & Features

Cape May City is a community located at the southern tip of the Cape May Peninsula in Cape May County. The City encompasses more than 2.5 square miles of land and is one of the oldest vacation communities in the country. The City is uniquely positioned along the Atlantic Ocean, as most communities run north-south along the Atlantic Ocean; the City runs east-west along the ocean. The City also abuts the Cape May Harbor and Cape Island Creek. Its location at the Cape has brought it prosperity, and the City has long reaped the benefits of tourism, beach and ecological resources and historical landmarks.

Located on the northern end of Cape May is the Cape May Inlet. The inlet is a deep inlet protected by rock groins that allows boats to safely travel to and from the Atlantic Ocean through Cape May Harbor. Located five miles east of Cape May Point off the Atlantic Ocean, which is near Cape May

Channel, the inlet allows access to Cape May Harbor and Jarvis Sound. Jarvis Sound leads north along the New Jersey Intracoastal Waterway toward Wildwood. Cape May Harbor leads south to meet up with the Cape May Canal, which eventually connects into Delaware Bay. Cape May Harbor is also the location of southern terminus of the New Jersey Intracoastal Waterway.

Cape May is designated in the New Jersey State Development and Redevelopment Plan as an Environmentally Sensitive Planning Area (PA5), which is apparent on Map 2 – Natural Features. The vast majority of undeveloped land in Cape May is environmentally constrained by floodplain, wetlands or both. These environmentally sensitive lands, and the wildlife habitats that they support, are very much a part of what makes Cape May an attractive area to live and vacation. These resources form the basis for the City's flourishing eco-tourism. Figure 1 shows an aerial photograph of the City and its relationship to surrounding water bodies:



Map 9.1: City of Cape May Aerial Map

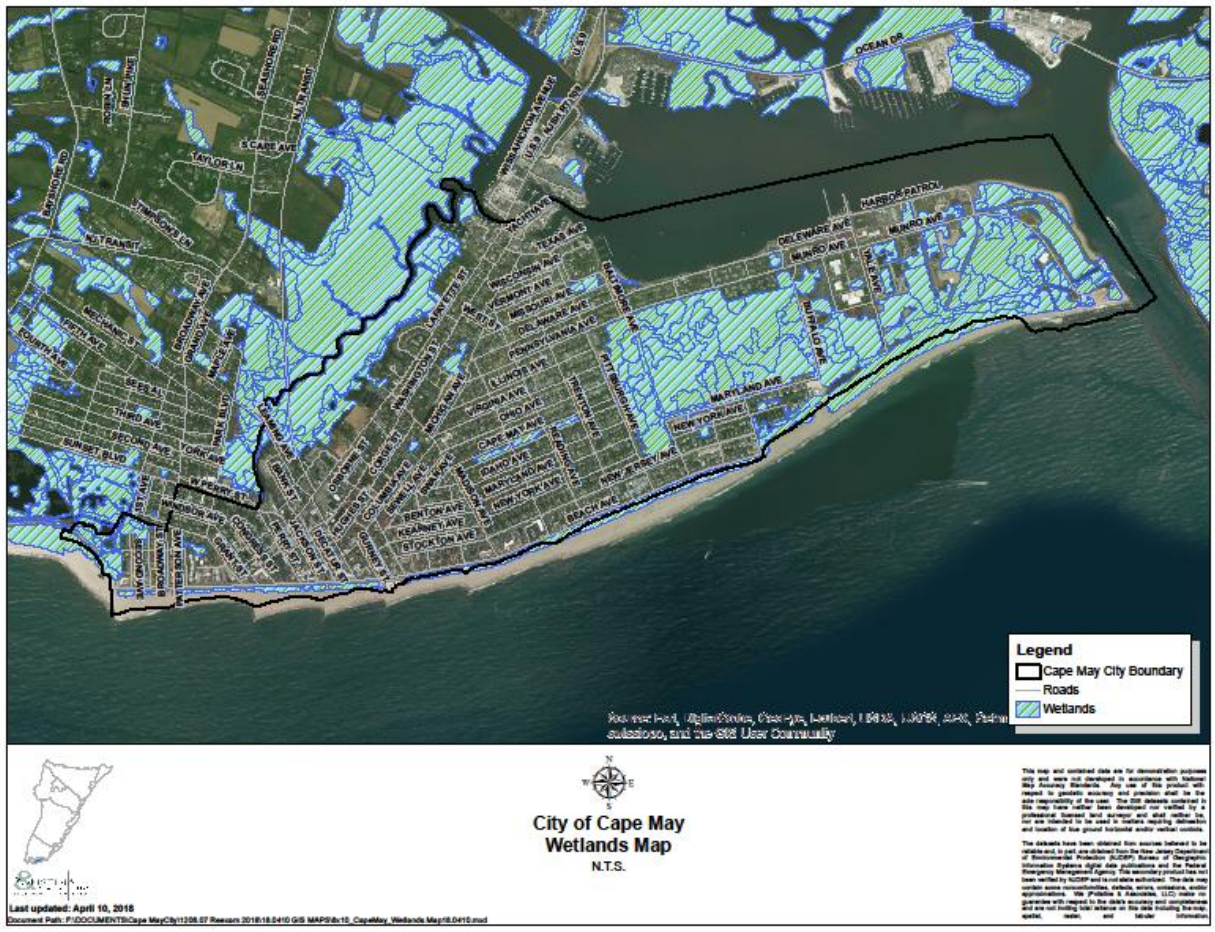
9.6 Wetlands

Wetlands are incredibly important biologically diverse ecosystems that not only store water and help to control runoff and flooding, they support numerous wildlife habitats, including threatened

or endangered species. Numerous species of plants and animals spend their entire lives in wetlands or others use them as feeding, nesting or nursery grounds or stop in them to rest during migration.

Wetlands help to maintain water quality. Marsh vegetation can remove excess sediments and nutrients from the environment. Wetlands help to control floods and reduce erosion during storms. Coastal wetlands are a valuable resource that provides valuable open space for recreation while at the same time protecting the shoreline from the destructive power of storm waves.

Cape May City's location on the coastal plain in proximity to several water bodies and its relatively low elevation put the City's development in proximity to important sensitive wetland areas. Figure 2 shows an aerial photograph of the City and its areas of wetlands:



Map 9.2: City of Cape May Wetlands Map

Cape May is an integral part of the Atlantic Flyway. Millions of birds migrate each fall to warmer climates and stop, rest and feed in Cape May to fortify themselves to continue the journey southward. This presents a unique opportunity to observe numerous species each autumn and again in the spring, and many tourists come to the area to observe the migrating birds. The wetland habitats that support these birds are not only important environmentally, but economically as the migrating birds draw numerous tourists to the area. Bird watching has flourished as an ecotourism element that has helped Cape May become a 12 month tourist destination.

These wetlands also areas provide refuge to many of our well-known marine species including flounder, blue claw crabs, horseshoe crabs, striped bass, weakfish, tautog, minnows and clams. Adults enter through the canal from Delaware Bay and through the Inlet from the Atlantic Ocean. They reproduce in the shallow grassy areas in our back bays and creeks. The salt marshes provide the juveniles with food, shelter and protection. The wetlands areas, buffers and adjacent open space provide an important role in protecting the quality of these ecosystems.
Areas like this are important to continue the populations of these species and to our commercial and recreational fisheries. These wetland areas within the City been designated and mapped as a critical wildlife area for migrating shorebirds by the NJDEP, non-game and endangered species division.

There are three major areas of wetlands depicted on the wetlands map: Cape May Harbor/East Cape May; Cape Island Creek; and Cape May Meadows.

Cape May Harbor/East Cape May

East Cape May is located east of Pittsburgh Avenue with the area bound on each side by Cape May Harbor and the Atlantic Ocean. This area, as well as area west of Pittsburgh Avenue was formerly coastal tidal marsh. Cape May Harbor is a man-made harbor that was dredged between 1903-1908. The dredged material was used as fill for the surrounding areas including the area we now call Village Green. As much as Cape May is known for its beaches and historic architecture, it is also a world-renown wildlife viewing destination due to its location on a migratory flyway. The harbor and adjacent wetlands and open space provide habitat as well as a rest stop for the wildlife during their migration making the harbor an invaluable natural resource. The harbor provides a valuable eco-tourism location with boating, kayak and paddleboard access. The Coast Guard Base, Harborview Park and the Fisherman's Memorial Park front on this waterway. Although there is development and many activities going on in and around the harbor, a diversity of micro-habitats and associated wildlife still inhabit this area.

A large scale development was proposed along the Harborfront in the late 1980's. A group named “Save Cape May Harbor” petitioned to save this portion from development. In 1992 this area was purchased with Green Acres funding by the City of Cape May. This same group established “The Nature Center of Cape May” under the direction of the Cape May City Environmental Commission and operates presently with leadership from New Jersey Audubon Society.

There is great concern regarding the potential development of the wetlands in East Cape May. This is the last concentration of undeveloped land in Cape May. It contains over 90% wetlands and rivals Higbee Beach in terms of ecological significance. Much of this land is zoned residential and only the state’s wetland protection policies have so far prevented development. A large residential subdivision plan has been filed but it has been in litigation with the State over the extent of the wetlands for a number of years. This 79 acre tract known as "Sewell Point" is a prime example of lands suitable for acquisition and preservation. The City should continue in its attempt to acquire this land, which would assure its permanent protection.

Cape Island Creek

Cape island Creek is a brackish salt water tributary that flows into Schellenger's Creek and ultimately Cape May Harbor. It parallels Lafayette Street on its northwesterly side and is bound by

Lower Township on the side opposite. The creek runs to a County operated control structure at West Perry Street. The area south of the control structure was formerly flowed by the creek. Cape Island Creek historically flowed through this area and has since been replaced by a county storm system that flows into existing Cape Island Creek. This creek in this area was piped below surface when this area was filled for development. This wetland area abuts the land acquired for the Lafayette Street Park project.

South Cape May is located on the point of Cape May and is a low-lying area consisting of mostly wetlands, bound by the West Cape May border, Beach Drive, and West Perry Street.

Cape May Meadows

In April 2011, the Cape May area received the 2010 Coastal America Partnership Award for restoring the Lower Cape May Meadows. This 350 acre beach and wetlands area between Cape May and Cape May Point is a key freshwater ecosystem for migratory birds. For decades it suffered from coastal erosion that caused saltwater to degrade the wetlands. Studies began in 1987 to determine how to restore the degraded wetlands and replenish the beaches to prevent saltwater damage. Several beach replenishments have occurred since 2004. The Army Corp, NJDEP, US Fish and Wildlife Service, and the Nature Conservancy all actively participated in this enhancement.

9.7 Wetlands Zoning

The Zoning Ordinance and Zoning Map both contain specific zoning for wetlands. Section 525-58F contains PW Preserved wetlands. The following intent was adopted:

(1) Intent. It is the purpose and intent of this subsection to recognize the fact that substantial portions of certain vacant lands within the City contain wetlands that are preserved and protected by state and federal laws. This recognition is important so that municipal officials and personnel as well as property owners and citizens generally are aware that preserved wetlands do exist in the City. It is the specific intent of the City that all persons will take appropriate action to assist in the preservation and protection of wetlands.

(2) Boundaries of wetlands. Actual boundaries of preserved wetlands are subject to detailed surveying by property owners and authorized agencies pursuant to applicable state and federal laws. Boundary lines shown on the City of Cape May Zoning Map established by § 525-6 are graphic representations intended to indicate the approximate location of preserved wetlands, but shall not be relied on as precise delineations. Districts in which preserved wetlands are located shall be identified with a "PW" designation on the Zoning Map.

Specific areas abutting wetlands have been zoned as PW Preserved Wetlands. This zoning designation is in addition to the underlying zone. It is a recognition that wetlands are in proximity to the area. No specific zoning standards are required.

Contained in the ERI, the Environmental Commission has requested that the Planning Board investigate the use of extensive buffer requirements consistent with CAFRA's Coastal Zone Management policies and other wetlands regulations in the PW designated zones with the City limits. These butters could extend up to 300 feet. The precise extent needs to be evaluated. Wetlands zoning has also been recommended in the Resiliency Element to aid in FEMA CRS planning. Benefits would include possibly reducing the City's reduced flood hazard insurance rates.

9.8 Atlantic Ocean Beaches

Cape May's beaches are vital to both the environmental and physical protection of the City, as well as being one of its most valuable economic resources. Beach nourishment, dune stabilization and maintenance are essential in protection of the City from coastal flooding and shall remain a priority activity.

Cape May recognizes the fragility of the beach and dunes and should continue the beach replenishment projects in cooperation with the U.S. Army Corps of Engineers. The City of Cape May has a 50-year contract commitment from the Federal Government to maintain the entire City of Cape May beachfront at least until the year 2040. The beach restoration helps protect properties in the City from flooding due to coastal storms. According to the City of Cape May Beach Management Plan, the US Army Corps of Engineers is approximately 22 years into the construction phase of a 50-year beach nourishment program that includes all of Cape May City west of the Cape May Inlet. Initial nourishment of City beaches under the Corps program took place in 1993. Routine renourishment is scheduled approximately every 2 years. This activity has been effective in ensuring beach and dune protection measures are in place to protect the City from flooding. Responsibility of this program shall remain with City Council to ensure compliance with the City of Cape May Beach Management Plan and continuation of the program provided by the US Army Corps of Engineers. Along the ocean water's edge we strongly support and endorse solving the beach drop-off issue and protecting the littoral beach line.

Dune enhancement with dune grass plantings and dune fence maintenance should be completed on an annual basis. Volunteer groups such as schools, civic groups, etc. with the public works department have been involved in performing this work in the past. Dune grass plantings should consider species with thickness over height to preserve views.

Seawalls consisting of bulkheads and groins identified above run on the ocean side (south) of Beach Avenue. Construction is both concrete and stone combination, concrete, and wood. The seawall and dunes near the intersection of Beach Avenue and Wilmington Avenue are periodically breached and the ocean waters flow downhill along Beach Avenue and flood the historic district and Frog Hollow neighborhood. The breach is primarily due to two reasons: first, the alignment of Beach Avenue in this area juts out towards the ocean, creating a narrow beach that increases the exposure of the dunes. In addition, the sea wall in this constrained area is relatively short and the waves can easily overtop the wall. Replacement of the timber seawall with a continuous higher reinforced concrete wall is recommended.

9.9 Conservation Partnerships

Cape May has recognized the power of arts, history, environment and culture in transforming the landscape of the community. The City has adopted a program of public-private partnerships that have infused a progressive growth of Cape May's annual economy into a twelve month economy as opposed to the average 12 week season typical in most seashore resort communities. This program facilitates the leasing of City-owned property on a long term basis for $1.00 per year with non-profit organizations being responsible for the renovations, operations, and maintenance of the properties. This ensures that the City maintains a nurturing environment by providing the

essential physical infrastructure so that local, non-profit cultural, environmental, arts and historical organizations can flourish while benefiting the taxpayer by reducing costs associated with maintenance of the properties. Currently, the City has such agreements involving City-owned property and they are listed as follows:

- The Nature Center with the New Jersey Audubon Society
- The Marine Research Facility with Rutgers University

The Nature Center of Cape May

The Nature Center of Cape May with the New Jersey Audubon Society is a environmental education center located on Cape May Harbor. The Nature Center's website indicates its mission focuses in providing quality environmental education experiences, encouraging stewardship of the harbor area and other natural areas, and promoting volunteerism as a rewarding means of community involvement and service. The Nature Center of Cape May was founded in 1992, with the twin goals of creating a responsible stewardship program for open space surrounding Cape May Harbor and providing environmental education for people of all ages.

The Nature Center was adopted by the New Jersey Audubon Society in 1995. The Center is located at 1600 Delaware Avenue adjacent to the shores of the Cape May Harbor. Its facilities includes a welcome center, a three-story observation tower, indoor observation lounge, three classrooms, exhibit aquaria, a small gift shop, and multiple themed display gardens. The harbor and adjacent area provide natural classrooms that are used in the center's programs as well as opportunities for kayaking and paddle boarding. The Center has indicated a need to expand and renovate its facilities and the City should support these efforts.

The Marine Research Facility with Rutgers University

The Center is located at 1636 Delaware Avenue adjacent to the shores of the Cape May Harbor and the Nature Center. The Marine Research Facility with Rutgers University provides national and international leadership in marine science and is New Jersey's focal point for education, research, and service in estuarine, coastal, and ocean environments. The building next to the Nature Center is leased by Rutgers University offices for their oyster research project. Projects have included utilizing Cape May Harbor to develop a breed of disease-resistant oyster.

As a partner and stakeholder that shares the same goals and objectives as the City, the City and Center should continue to foster and develop their relationships by supporting each other. These partners also share the same interests in preserving environmentally sensitive lands in this area and these relationships should be important in developing environmentally sensitive shore protection and passive access along the Harborfront. These stakeholders should be involved in any future planning.

9.10 Water Conservation

Cape May City has demonstrated an aggressive approach in implementing solutions and water conservation techniques to deal with problems associated with potable water.

The City adopted a water conservation ordinance Code Section 510-43 that contains restrictions for all persons and properties using water supplied by the City of Cape May Water Utility. These

include requirements for outdoor watering of lawns, plants and gardens, outdoor washing by hose, requiring rain sensors on automatic irrigation or sprinkler systems, and allowing drinking water only on request in restaurants. The City should continue to update the water conservation ordinance and visibly enforce it.

The City obtains its water from wells drilled into the Kirkwood Aquifer. Salt water intrusion into the groundwater aquifers continues to remain a problem associated with Cape May City as well as other seashore communities. The City solved its potable water salinity problem in 1998, when the reverse osmosis desalination plant was completed. Cape May continues to supply other adjacent communities dealing with aquifer salt water intrusion problems with potable water. The City continues to assess the desalination plant's physical and operational conditions to sustain the efficiency and cost effectiveness of the facility and has also proposed improvements and new wells to better service the plant located at 833 Canning House Lane. Cape May should continue its leadership role in dealing with this problem and strive to deal with problems associated with the desalination process, including energy costs and brine discharges. It is recommended that the City continue to monitor the desalination plant's NJDEP approved "permitted discharges into Cape Island Creek to maintain conformance and eliminate potential adverse impacts. It is also recommended that the City implement alternative energy sources to help reduce costs associated with the desalination plant.

Water conservation is such a mission in Cape May City that City staff has a water conservation message on their business cards, a unique way to encourage this effort. In 2014, Cape May installed water meters with encoded registers and radio frequency automatic meter reading and leak detection for approximately 4,000 accounts. This initiative has ensured more timely identification of unknown leaks and thus conserved water, especially in seasonally occupied homes. The City should continue to promote water conservation and efficiency measures including implementation of water efficient toilets, showers, faucets, and irrigation. Encouraging and implementing water conservation practices such as implementing rain sensitive irrigation controls, drip irrigation, rain barrel harvesting systems and drought tolerant planting selection are essential to recharging the aquifer. Finally, as repairs/replacement are required to municipal facilities, the City plans to follow the recommendations of the Local Government Energy Audit.

The City has and maintains a Water Conservation Demonstration Garden at Madison and Cape May Avenues to help to educate the community on the importance of water conservation and to illustrate xeriscaping for responsible water use. These efforts should continue. The ongoing Garden project hosts a variety of low-water use and wildlife-friendly plants. A brochure is available throughout the community that describes the type of trees, shrubs flowers and grasses used in the garden. These

should be incorporated into the zoning ordinance. A Low Water Gardening Coloring Book was also created and should continue to be printed and distributed in the Elementary School. An informative brochure titled "Use Water Wisely" has been produced by the CMC Environmental Commission and the Southern Cape Regional Water Advisory Commission. conservation. These Water Conservation Reminders and materials should continue to be posted on the City website and sent out in tax/utility mailings.

9.11 Energy Conservation

Cape May City has adopted practices that promote alternative energy sources and should continue its role as a "green community". The use of alternative energy sources including solar power, geothermal power, and wind power could provide long term energy cost savings and open grant opportunities for the City. Recently in 2017, new standards for passive solar and wind energy systems were adopted. Cape May should continue to evaluate new energy technologies and develop and implement these with sensitivity towards treatment in the historic district.

The City should advocate the use of passive energy for municipal projects. The City has a green building program for high performance buildings that should be followed. Solar energy projects within the City have been developed and include solar projects at the Convention Hall, Lifeguard headquarters, the Nature Center and the Public Works Department. The City has also installed solar parking kiosks throughout the community. Municipal owned sites such as City Hall, Public Safety Building, Transportation Center, water tower, Cape May Stage, Firehouse, Franklin Street School, Mid-Atlantic Center for Arts, tennis club, Nature Center and any other municipal projects should be considered for solar or other alternative energy source.

Wind Power has played a significant role in Cape May County since 1706 and should also be considered for use in Cape May City today. Cape May City's location near the seashore may make it an ideal site for wind turbines and the City should look for project opportunities and consider further study where warranted. In May 2014, the City installed a wind turbine for clean energy and educational purposes at the Cape May Elementary School as a result of a competitive Sustainable Jersey Wal-Mart Grant. This project exemplifies the type of project suitable for Cape May. Furthermore, wave energy, geothermal energy, and other alternative energy options should be considered where viable.

Since 1948, the City and the United States Coast Guard have progressively forged a cooperative and viable working relationship that has yielded numerous shared services and community programs which neither party could have operated or financed solely. A classic example of this relationship was the Coast Guard's support during the City's installation of a water desalination plant from 1995 to 1998. The Coast Guard provided technical assistance during the planning stages and lobbying support during the permit and funding phases of the project. This project not only addressed the City needs but addressed the Coast Guard base's needs as they currently are the largest bulk water user. Another example of these cooperative efforts was the support from City Council of the Coast Guard Wind Turbine project that was proposed.

Using the City's prior relationships with the Coast Guard as an example, the City should also forge a relationship with the Coast Guard to take advantage of shared technical assistance and resources to address both parties future renewable energy projects. The relationship may provide opportunities for shared renewable energy initiates in the future.

As private development of wind energy system projects becomes more prevalent, Cape May should address this type of development within its zoning regulations. The existing local zoning regulations do not address wind power improvements. Zoning should be adopted that includes standards for appropriate locations within the City, size and setbacks, appearance, and provisions to address abandonment.

The City should take an active role in incorporating energy efficiencies and strategies to reduce energy use and costs. The City should encourage and promote the use of energy efficient light bulbs in all municipal buildings. Electric low speed vehicles should be considered for the municipal vehicle fleet. Green Building Codes should be considered for all new and renovations to municipal buildings. The City was approved through the LGEA Program to conduct an audit of all City Buildings. The audit was completed by Dome Tech Inc. and included four municipal buildings and a number of buildings that are owned by the City but maintained by various non-profits. Energy beneficence upgrades were made in all the municipal buildings as documented in File 2. The City applied for ARRA funds to implement the audits and lighting and HVAC improvements have been installed using this grant and the Direct Install Program. Almost $100,000 worth of energy efficiency improvements were installed in the four municipal buildings in Cape May City. The total energy savings resulting from the Direct Install and Block Grant funds was estimated at an annual energy savings of $27,600. The City has registered all of its buildings for third party energy to reduce cost and further implement the audit. Energy audits should be continued.

Deconstruction practices should also be considered for municipal projects. Deconstruction is the practice of disassembling a structure that allows for re-use and/or recycling components of a building. This process reclaims a substantial amount of materials and minimizes waste.

Cape May City is intimately involved with Energy Education and Outreach and is leading by example. With solar projects on two public buildings and the erection of a wind turbine at Cape May Elementary School in May 2014, alternative energy projects are visible and encouraged. The Cape May City website "Green Initiatives" page links to teacher resources including "The Solar Learning Lab" and "WindWise Curriculum", renewable energy education programs geared for grades 5-12. Additionally, Cape May City has a web sub-site, www.CapeMayCity.com/Sustainability, dedicated completely to the City's commitment to sustainability where residents, visitors, and the general public can learn about the great strides the City has made and continues to make to encourage green living. Outreach through the web is one of the greatest ways the City can reach the most people with the information about the importance of living and governing sustainably, especially in this special town that is blessed with so many fragile natural resources. On this site is the town's green building and environmentally preferable purchasing policies; information about the use of alternative energy; the Convention Hall built to Silver LEED standards; how to get around town gas-free; municipal energy efficiency improvements; and other important information about energy conservation. A wide variety of Energy Star and NJ Clean Energy Program brochures are available throughout the City and on the website.

9.12 Current Conservation Activities

Master Plan

Cape May City has a long history of meaningful open space planning. The 2003 Master Plan, 2009 Reexam and this 2019 Reexam represent a continuation of the City's planning efforts. This Plan sets the goal to preserve and enhance the City's open space system and upgrade recreational land use to protect Cape May's environmental resources and meet the needs of residents and visitors. As the

primary planning policy document for the community, this master plan has been prepared to identify areas in the community that will likely be impacted by future flood hazards, and offer measures for mitigation and adaptation strategies to protect the community's assets and properties which include conservation and preservation of natural resources and open space that serve as protective flood mitigation measures (e.g. wetlands). Planning policies for mitigation and adaptation strategies to protect properties from future flooding, including sea level rise and extreme storm events have also been provided and cross-referenced to all relevant elements of the municipal master plan.

Open Space Preservation

The City established a Open Space Fund in 2002 that can be used to fiscally support conservation hazard mitigation projects. Municipally owned open space in other area has been increased by the acquisition and development of the current Lafayette Street Park site. The City of Cape May has adopted a zoning ordinance which provides regulations for preserving open space. Acquisition of open space preservation continues.

Beachfill Project

The City of Cape May has a 50-year contract commitment from the Federal Government to maintain the entire City of Cape May beachfront at least until the year 2040. The beach restoration helps protect properties in the City from flooding due to coastal storms. According to the City of Cape May Beach Management Plan, the US Army Corps of Engineers is approximately 22 years into the construction phase of a 50-year beach nourishment program that includes all of Cape May City west of the Cape May Inlet. Initial nourishment of City beaches under the Corps program took place in 1993. Routine renourishment is scheduled approximately every 2 years. This activity has been effective in ensuring beach and dune protection measures are in place to protect the City from flooding. Responsibility of this program shall remain with City Council to ensure compliance with the City of Cape May Beach Management Plan and continuation of the program provided by the US Army Corps of Engineers.

Beach Management Plan

The City's Beach Management Plan was developed in 2008 to provide a framework for cooperation among the City of Cape May (City) the New Jersey Division of Fish and Wildlife's (NJDFW) Endangered and Nongame Species Program (ENSP), and the United States Fish and Wildlife Service's (USFWS) New Jersey Field Office (NJFO) in the stewardship of federally and State-listed endangered and threatened beach-nesting birds and flora (listed species) occurring on the City's beaches. Information related to natural hazard risk reduction is discussed including dune management activities. The Public Works Department continuously manages the beach according to the plan, delineating areas for the protection of birds, their nests, and certain precious plant species.

Habitat Conservation Ordinance

Cape May City recognizes the importance of protecting existing vegetation and replacing vegetation that is removed when land is developed. Cape May's landscaping ordinance requires up to 60% of a lot be left in vegetation and tree replacement for larger trees that are removed. The Habitat Conservation Ordinance was adopted by the City Council of the City of Cape May by Ordinance No. 600; amended in its entirety 12-2-2004 by Ordinance No. 10-2004 (Ch. XXXII of the 1997 Revised General Ordinances). These regulations can be found on the City's web site and regulate vegetation and tree replacement. In addition to requiring the replacement of removed trees, the applicant is required to replace any trees located within the footprint of the proposed structure. Applicants are required to plant replacement tree and bush species classified by the Backyard Habitat for Birds, a

Guide for Landowners and Communities in New Jersey, published by the New Jersey Audubon Society.

Certified Wildlife Community Habitat

New Jersey Audubon, through efforts of staff and volunteers at the Nature Center of Cape May and Cape May Bird Observatory embarked on a multi-year project to get Cape Island certified through the National Wildlife Federation as a designated Community Wildlife Habitat. In 2017, the City and three other Cape Island municipalities were awarded the designation of a Certified Wildlife Community Habitat for the Cape Island Community Habitat. Cape Island has become New Jersey's 3rd community in New Jersey to attain this designation. Cape May, Cape May Point, West Cape May and Lower Twp have now together pledged a commitment towards incorporating wildlife-friendly landscaping measures. A community wildlife habitat certification recognizes the importance of maintaining and creating habitat to support the millions of birds, butterflies, dragonflies, frogs, toads and turtles that depend on our backyards for cover, food and water. Through this designation, we hope to increase efforts to manage acreage "south of the canal" for wildlife as well as bring attention to the critical nature of preserving and stewarding all land in this globally-recognized region of New Jersey. The Community Wildlife Habitat program also opens the door for discussions about sustainable gardening practices designed to increase native plantings, conserve water and eliminate pesticide use. It provides a platform for our communities to address important issues like creating corridors for wildlife, managing stormwater pollution, drought, pollinator decline, and invasive species.

Shade Tree Commission

The City has worked diligently to maintain and preserve trees in the community and has tasked the Shade Tree Commission with this effort. Protecting trees within the City has many benefits for the environment as well as for the health and safety of residents. Trees help to prevent flooding and improve water quality. They also contribute to climate control and reduce soil erosion and sedimentation. Indiscriminate, uncontrolled and excessive destruction, removal, and cutting of trees upon lots and tracts of land within the City can cause increased drainage control costs, increased soil erosion and sedimentation, decreased fertility of the soil, degradation of water resources, and decreased groundwater recharge.

Community Forestry Management Plan

The City participates in Tree City USA and has also adopted a Community Forestry Management Plan authored by the Shade Tree Commission with the intent of increasing the community's understanding of the urban forest and increasing the public's appreciation of trees on public and private land that benefit the entire community. The plan is continually updated as required and addresses management of trees in the City. Cape May City and the Shade Tree Commission have worked in conjunction with Atlantic City Electric in a project to carefully prune all trees away from power lines with the assistance of a City arborist. Every tree anywhere near power lines was inventoried and documented in a database and pruning techniques were selected by the arborist for each individual tree that needed to be carefully pruned away from power lines.

Green Grounds and Maintenance

In 2011, the Environmentally Preferable Purchasing Policy was adopted by resolution of City Council. This Policy includes guidance for Grounds and Maintenance that include including all landscape renovations shall employ sustainable landscape management techniques for design, construction, and maintenance whenever & where possible. These techniques include integrated pest management, grass recycling, drip irrigation, composting, and use of natural mulch. Low water plants are recommended when possible. Products manufactured with recycled content and

permeable substitutes for walkways are recommended. This policy can be viewed on the City's web site.

Green Team

The Green Team was established to plan, develop and promote in the City. This Team has taken on many new initiatives including the installation of a wind turbine at the Cape May Elementary School, development of a School Safety Plan, Energy Education and Outreach, and planned a Energy Efficiency Workshop for Businesses. These efforts have led to Sustainable Jersey certification in 2012. Since being established the Cape May City Green Team has worked to document past actions and to develop new actions to achieve recertification. The Green Team also participates in Harbor Fest, conducted a very aggressive Pledge Campaign, worked to achieve Wildlife Certification, and participated in development of the Vision Plan. In order to make a direct impact on the citizens of Cape May City about the importance of sustainability, the Green Team and Cape May City decided to host a Green Festival with vendors, exhibitors, and entertainment all focused on living green and protecting the environment. The theme of the event was "Cape May City - Home of the World Series of Birding" which in itself points out the importance of protecting the local environment for the birds. The event highlighted achievements in sustainability of local government, county organizations, and even awarded individual citizens and businesses of Cape May City that were exceptional in their efforts to be "green". Partners included Green Team members, New Jersey Watershed Ambassador Program, Cape May Nature Center, local churches, and City officials and employees.

Green Building Practices

City Council adopted the resolution endorsing the adoption of green building practices for civic, commercial and residential building on May 17, 2011. A new "Green Initiatives" tab to the homepage of the City's website has also been added. Cape May City promotes and provides informational brochures on a variety of Energy Star programs. These informational materials are available at City Hall where the construction office is located.

Community Education and Outreach

The City created a website as a product of its Tourism Utility, www.discovercapemaynj.com. This resource connects residents and visitors with all of the events available in Cape May City from scheduled events at Convention Hall to Kayaking Tours provided through the Nature Center. The website promotes sustainability prominently with a Sustainability Tab in the About Us section. The City also maintains it commitment to the Nature Center as an educational partner and helps to ensure the original twin goals of creating a responsible stewardship program for open space surrounding Cape May Harbor and providing environmental education for people of all ages continue today. The City also published and distributed a comprehensive guide to Cape May City which contains a great variety of important information for residents and visitors including information about: trolley use to promote less reliance on cars; what and how to recycle; the central recycling station; pedestrian and bicycle safety; specific beach usage; ADA access; recreation areas and facilities; wellness programs; and a full calendar of events from all partner organizations. This brochure was mailed to all residents, is available at City buildings and around town, and is online.

9.13 Open Space

Open space serves many purposes, from animal habitat to public recreation to the mitigation of stormwater flooding and stormwater recharge of aquifers. The City currently lists the following open space properties on the Recreation and Open Space Inventory (ROSI) on file with Green Acres:

- Beach Front
- Colonial House Park
- Fisherman's Memorial
- Harborfront Tract
- Harry Lozour Park
- Indiana & Missouri Mini Park
- Lafayette Street Park/Playground
- Massachusetts Avenue Mini Park
- Median Strip Cape May Ave
- Open Space Median Strip
- Pennsylvania & Michigan M
- Physick Estate
- Physick Estate Park
- Rotary Park
- Wm. Moore Tennis Center

There are several City parks in locations throughout the City, some of which perform natural floodplain functions. In addition, the City's 2.2 miles of uninterrupted beach front are replenished regularly and exhibit a complete dune system. Undeveloped tracts in the City that perform open space and natural floodplain functions can be found along Cape Island Creek and the Harborfront/East Cape May area. It is recommended that these areas be targeted for acquisition whenever possible.

9.14 Recommendations

1. Preservation and Acquisition. Environmental sensitive lands, floodplains, and wetlands acquisition and/or preservation are recommended wherever possible. The vast majority of land not developed in Cape May is environmentally constrained by floodplain, wetlands or both. These environmentally sensitive lands, and the wildlife habitats that they support, are very much a part of what makes Cape May an attractive area to live and vacation and are also important for environmental tourism, such as birding. Where much of these lands are unable to be developed due to State development regulations, Cape May should strive to acquire lands that are developable in environmentally sensitive areas to preserve these lands from development and enable those to be used for passive recreation areas. Acquisition of all environmentally sensitive wetlands within the City limits is recommended when and where feasible.

2. Water Conservation Efforts. The City has adopted a Water Conservation Ordinance. City should continue to develop it and visibly enforce it. Efforts to help to educate the community on the importance of water conservation and to illustrate xeriscaping for responsible water use should continue. The low water garden on Cape May Avenue should also be expanded to reduce labor and mowing of grassed area while creating more suitable bird and butterfly habitat. Converting a large portion of Cape May Avenue grassed area into a wildflower area (like Garden State Parkway wildflower areas) should also be considered.

3. Energy Conservation Efforts. It is recommended that the City endorses increasing alternative energy sources within the City limits, both solar power and wind power as suggested for particular areas.

4. Landscaping. The use of low-water use and wildlife-friendly plants should be promoted. These specific types of trees, shrubs flowers and grasses should be incorporated into the zoning ordinance and be posted on the City website.

5. Green Infrastructure. The City should consider encouraging and permitting green infrastructure to reduce the amount of impervious surface as indicated in the resiliency element. It is recommended that the the City consider requiring: Swales on properties to slow storm water runoff ; Rain barrels to capture roof runoff, which would otherwise enter into the storm-drain system; Rain gardens, on both public and private properties, to increase water infiltration into the soils and recharging ground water. The City should investigate other green infrastructure options as well. Rutgers University's Water Resources Program (http://www.water.rutgers.edu/) may offer free consultation for green infrastructure projects. Another useful reference is the Homeowner's Stormwater Handbook (http://s3.amazonaws.com/delawareestuary/pdf/stormwater-guide.pdf) developed by the Partnership for the Delaware Estuary.

6. Cape May Harbor & Other Areas. Develop/Promote Harbor Access and Uses as well as other passive recreation areas. Take advantage of nature branding to include and promote recreational and ecotourism uses such as fishing, birding, surfing, paddle boarding, sailing, etc. It is recommended to promote, preserve and protect the environmental assets and encourage habitat enhancement. Environmentally sensitive shore protection and access are needed that both facilitate access and enhance habitats. The City should continue to explore the design, development and funding of living shorelines along the Harbor area.

7. Nature Center Facilities. Foster and develop the current relationship with the Nature Center and New Jersey Audubon. The City and New Jersey Audubon have established a Facilities Task Force that has a vision to recognize and develop Cape May City as a year round environmental, conservation and unique natural locale via engaging educational programs and ecotourism activities. The Facilities Task Force is an established collaborative effort between the City and the New Jersey Audubon Society to transform the Nature Center and specifically the Charlotte Todd Education Hall into a robust, full service environmental learning center and community service resource. Tasks include: evaluation of the present facility and planning for future wants and needs; assessment of building feasibility; development of marketing, branding and promotion strategies; and developing funding strategies and an action plan. These efforts should be continued to be supported.

8. Nature Branding. Foster and develop the current relationship with the Nature Center and New Jersey Audubon. The Branding Task Force is a collaborative effort of the New Jersey Audubon and the City with the mission to develop and implement marketing strategies and promotional events focused on establishing the City, and by extension Cape Island, as a birding mecca and ecotourism and experience-based-education destination. Tasks include: developing a promotable nature brand for the City and Cape Island; promote nature branding to commercial stakeholders and public entities; feature the spectacular seasonal nature migrations including birds, butterflies, marine mammals, horseshoe crabs and other natural phenomena; develop sources of efficient focused marketing channels and funding. These efforts should be continued to be supported.

9. PW Preserved Wetlands. The importance of this specialized open space serves a wide range of vital functions. Wetlands store water and help to control runoff and flooding. Wetlands provide wildlife habitat and micro-climate control such as air and water purification. They also contribute to protecting significant vegetation and trees. It is recommended that wetland buffer requirements be investigated and developed so that appropriate buffers can be implemented on presently PW designated zones with the City limits. These butters could extend up to 300 feet, however, the precise extent needs to be studied. This buffer width requirement would be outlined in a new zoning ordinance.

10. Ocean Waters Management: We are concerned that our ocean waters maintain a quality for the marine environment and a swimmable condition for both residents and visitors. It is recommended that the City promotes and requires that the public beaches be litter free. It is also recommended that an ever present enforcement element is provided along the beaches to ascertain that contamination of the ocean's waters will not be from non-source point pollution contributions.

11. Energy Conservation and Stewardship. Support of recommendations contained in the parking and circulation element is also recommended. Alternative transportation modes such as park and walk or biking as often as possible should be promoted within the City limits thus protecting our air quality and burning less fossil fuel. Support for the bike trail is also consistent with the goals and objectives of this element. It is also recommended that should the 100 acres of Sewell Point open space be acquired and protected, part of this area should be designated as birding trails. Further the City may wish to consider, in the future, creating a solar collecting area as a part of a sustainable investment in renewable energy resources. The DEP is beginning to present and encourage green and clean energy. They have mapped out a plan as to how New Jersey can shape opportunities for solar energy within communities.

12. Energy Master Plan. Cape May proposes to be a leader in facilitating the use of solar, wind and other alternative energy systems and promoting itself as a carbon neutral champion and seeks to plan for the use of alternative energy sources. "Cape May City's Energy Master Plan 2019" prepared by the City's Environmental Commission establishes goals and recommendations for Cape May to promote itself as a more carbon neutral champion. This plan is adopted as an appendix to this element and should be the basis for further planning and development of the Energy Master Plan. The Energy Master Plan 2019 is adopted with the following change: "Immediate Actions." indicated on Page 3 shall be replaced with "Further Considerations." The City should authorize and further develop a more detailed and comprehensive Cape May City Energy Master Plan.

13. Green Space Conservation. All public parks and private gardens should increase the number of native plants for the protection of birds, butterflies and honey bees, thus maintaining the life cycle of these species. The Environmental Commission should be consulted when public green space plantings need to designed. The Commission can advise what native plantings are most suitable and will survive best in the desired location. Additionally, our City has the responsibility to maintain these spaces so they continue to benefit the community.

14. Cape Island Creek. There should be no removal of any vegetation along the entire length of Cape Island Creek. These wetlands plants provide protection for endangered and aquatic species. The boundaries of Cape Island Creek need to be kept intact.

15. Green Building. Our municipality is also committed to tackling Climate Change and seeks to assure an annual budgetary commitment to invest in the installation of solar panels on municipal buildings, including the newly endorsed, "Public Safety Building." As responsible stakeholders, the City of Cape May remains committed to adhering to the City's "Green Building" Ordinance. Powering the City with renewable systems is a great fit for Cape May's enormous supplies of wave power, sunlight and strong winds and should be encouraged.

16. Public Works Facility. The Public Works Facility at Canning House Lane has been identified as a potential site for the installation of wind turbines. The City may benefit by providing energy for the public works facility, desalination plant and possibly other consumers and should proceed with establishing an alternative energy generator at this site.

17. Resiliency & Sustainability. Sustainable Jersey has legitimized renewable energy in Cape May. Thus, private homeowners can commit to and reap the benefits of "Smart Energy". Choices can be made to coincide with Cape May City's Resiliency Element of the Master Plan. Citizens are encouraged to plan for challenges of rising sea levels. Individual homeowners are encouraged to add eco-friendly solar collectors to help prevent and abate climate changes. New energy technologies are an extremely important element to fulfilling Cape May's commitment to lessening its dependence on fossil fuels.

18. Education. Other local efforts, which add to quality of life for all, have been introduced by the Environmental Commission in 2018, encourage the community to ban or avoid plastic grocery bags, straws, bottles, cups and styrofoam food containers, etc. The Commission has vigorously organized educational efforts to create awareness about the devastating global effects from plastics entering all oceans. From birds, to fish, to humans, plastics of all varieties are entering the food chain. Education promoting bio-based products in lieu of chemicals, herbicides, pesticides and fertilizers should also be promoted. Our campaign will continue, as some solutions are presented and met both in the City and the State of New Jersey. These efforts should be supported.

19. East Cape May - Sewell Point. A 79 acre tract known as "Sewell Point" is a prime example of lands suitable for preservation. There is great concern regarding the potential development of these wetlands in East Cape May. A large residential subdivision plan has been in litigation with the State over the wetlands limitations for a number of years. The City should continue in its attempt to assure its permanent protection. Acquisition is recommended if feasible.

20. Land Use Application Review. The Planning and Zoning Boards through land use application review shall ensure regulations are enforced and the Environmental Commission and Shade Tree Commission should be consulted for their expertise and recommendations. The City recognizes the importance of protecting natural resources. Current regulations preserve soils and existing vegetation and require the replacement of vegetation that is removed when land is developed. Cape May has a landscaping ordinance that requires up to 60% of a lot be left in vegetation and tree replacement for larger trees

that are removed. Participation by the Environmental Commission and Shade Tree Commission in land development reviews has ensured compliance with the regulations and should continue.

21. Beach Management. Cape May's beaches are vital to both the environmental and physical protection of the City, as well as being one of its most valuable economic resources. Beach nourishment, dune stabilization and maintenance are essential in protection of the City from coastal flooding and shall remain a priority activity. Cape May recognizes the fragility of the beach and dunes and should continue the beach replenishment projects in cooperation with the U.S. Army Corps of Engineers. As the beaches are the first line of protection from flooding and waves from storms approaching from the sea, continual preservation and enhancement of the beach and dunes is recommended. Projected sea level rise and coastal dynamics should also be incorporated into beach management plans.

22. Beach Seawall/Promenade. Seawalls consisting of bulkheads and groins identified above run on the ocean side (south) of Beach Avenue. Replacement of the timber seawall with a higher continuous reinforced concrete wall is recommended. Elevating the low or missing section of the seawall would help reduce the flooding if the dune breaches. It also could provide the foundation for an extension of the promenade which would provide enhanced recreation, pedestrian access, and bicycle access. Extending, widening and raising the promenade is recommended for the entire beachfront.

23. Dune Protection. Dune trampling has occurred in several beachfront areas. It is recommended that the following Building Ecological Solutions to Community Coastal Hazards (BESSHC) Recommendation be incorporated for dune protection:

    - Install dune fencing more aggressively with the aim of limiting the number of pedestrians choosing to cross the dune and improve the chance that dune vegetation thrives, which will help to trap additional sand and minimize erosion.

    - Install signage with both a warning and education about the importance of the dune.

    - Target residents and seasonal visitors of this beach area for education and outreach regarding the importance of this dune to Cape May City. There is an opportunity here to teach residents and visitors about the importance of dunes and dune vegetation. This may result in better maintenance of the dunes at beach access points and better retention of sand. One way to do this would be collaborating with local surf shops, fishing shops, and realtors and providing informational material for them to distribute to those who might use the area.

    - Heavily plant the dune with native dune grasses, forbs, and shrubs. As a deterrent to dune trespassers, consider planting or seeding poison ivy, which is an excellent native wildlife plant and thrives in dunes. Community involvement in a planting project at the location would make this more effective by helping to build interest in preserving the plantings and the dune. Coordination with the USACE would be needed during beach replenishment projects so that sand does not bury the plants during replenishment activities.

- Replace cut-through footpaths with elevated dune walkovers wherever possible to reduce dune erosion and vulnerabilities to storm surge.

- Conserve, restore, and protect native dune vegetation. Consider ways to restore, create, and strengthen dune complexes that incorporate native, dune-building vegetation and plugs gaps in existing dune formations. Detailed guidance is provided on dune design, plant selection, and planting methods in the NJ Sea Grant Dune Manual *Dune It Right*. Promote the use of native dune vegetation in local landscaping.

- Construct a second walkway with a viewing platform at the foot of Wilmington Ave. The walkway would roughly parallel the exiting walkway, but would provide a more direct path to the beach and a platform for viewing the surf.

24. Harborfront Beaches along Delaware Avenue. Delaware Avenue is an important access road to the Coast Guard Station, but incurs repeated flooding and erosion. Although the road has been repaired and riprap placed along the shoreline, the flooding and erosion problems have, and will continue to, persist and intensify and this solution is not environmentally sensitive. It is recommended that the following Building Ecological Solutions to Community Coastal Hazards (BESSHC) Recommendation be incorporated: The City should consider a living shoreline in this area backed with a vegetated berm. The berm is necessitated by the desire to limit flooding of the roadway. The berm could contain a structural core constructed of rocks, geo-tubes, gabions, or even a bulkhead. A living shoreline should be constructed in front of the berm. The living shoreline would be both aesthetically pleasing as well as ecologically beneficial. As part of a living shoreline, an offshore sill or breakwater could also be needed.

25. Living Shorelines. The wetlands along the Harbor and Cape Island Creek provide protection to the infrastructure and homes in the City. As erosion and sea level rise continue, these wetlands are being displaced. Steps should be taken to stabilize these wetlands through living shorelines, which will not only reduce erosion and increase resiliency but will also qualify for Community Rating System credits. Living shorelines are a shoreline stabilization practice that address erosion and attenuate wave energy using a hybrid approach of strategically placed plants, stone, sand fill and other structural or organic materials. Living shorelines typically have other co-benefits such as the protection of flora and fauna habitats, flood mitigation, improved water quality and attractive, natural appearances. These practices are an alternative to the traditional hard or "gray" infrastructure (e.g. bulkheads, revetment walls, etc.), which are especially vulnerable to sea level rise and extreme flood

events. The Harborfront and Lafayette Street Park may also be a good opportunities to install a living shoreline to minimize trail erosion and the impacts of flooding and erosion at the toe of the slope of the hills and neighboring properties.

26. Funding Sources. Project completion is often limited by the City's available funding. The City should strive to continually seek out grants and funding sources. Application for applicable state and federal grants should occur on an annual basis to fund structural projects.