Town Commission Meeting

Section: New Business

Meeting Date: January 21, 2026

From: Town Manager

RE: 2025 Brevard County Hazard Mitigation Plan

Background Information:

The Brevard County Hazard Mitigation Plan (HMP) has been approved by the Florida Division of Emergency Management FDEM). The next step is to officially adoption by Resolution the HMP by the Town Commission.

The Hazard Mitigation Plan must be adopted to remain eligible for future FEMA funding such as the Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA), and other FEMA non-emergency disaster assistance. The completed adoption documents must be sent back to Brevard County Emergency Management to be transmitted to the Division and FEMA. An officially approval letter from FEMA will be sent back to the Town for our records.

Attachments:

Resolution 2026 – 01

Brevard County Hazard Mitigation Plan 2025

Brevard County Hazard Mitigation Plan

2025

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Record of Changes

Date	Comments	Completed by
March 2025	5-Year Update - Draft	BC
April 2025	FDEM Feedback Revision	BC

What is Hazard Mitigation?

Hazard mitigation is any action that minimizes the risk of a hazard by reducing vulnerability and exposure. Risk is the relationship between probability, exposure, vulnerability and impacts. There are two types of hazard mitigation. Each type has a different approach to reducing risk. The table below describes the types of mitigation.

Types of Hazard Mitigation		
Type	**Description**	**Examples**
Structural	Physical modifications to infrastructure, buildings, or the environment to lessen hazard risk	Building seawalls Retrofitting buildings to resist damage from airborne objects Converting developed areas to greenspace
Non-structural	Methods other than construction that reduce the risk from hazards	Upgrading building codes Changing land use regulations Public education

Purpose

All of Brevard County completes hazard mitigation projects with the idea that spending money now will save money later. According to a 2019 National Institute of Building Sciences report, every dollar spent mitigating a hazard can save up to thirteen dollars in the recovery phase. These savings benefit the entire community. Households benefit by saving money on their insurance premiums and rebuilding costs. Local governments benefit from smaller shocks to their budget from the lower cost of recovery, and a faster return of services. The return of services helps the community benefit with a shorter time to a new normal.

The purpose of the Hazard Mitigation Plan is to be the framework through which mitigation activities are conducted in Brevard County. It establishes a structured, methodical approach to assessing risks, setting goals, and identifying solutions. Having the plan in place ensures that the County and its jurisdictions are prepared to act quickly when funding or resources become available. The data gathered about hazards, demographics, and vulnerability is shared with the community. The entire process provides an avenue for multijurisdictional coordination, allowing data to be shared, projects to be aligned, and capabilities to be strengthened across the entire County.

The Brevard County Local Mitigation Strategy has guided mitigation activities for the County and its jurisdictions for almost 30 years. It has long been the broad brush used to encourage communities reduce their risk through mitigation. The Local Mitigation Strategy has been renamed to the Brevard County Hazard Mitigation Plan to better encapsulate the whole mitigation concept in Brevard County. It captures the planning process, risk analysis, and strategy formulation that guide mitigation efforts in the county. The change also represents a return to Brevard's roots, as the original version of this document was a Hazard Mitigation Plan. By restoring that title, the County aligns with national terminology for the same planning mechanism, ensuring consistency with federal partners while clearly communicating the purpose of the plan.

Background

The Hazard Mitigation Plan spans more than two decades and reflects lessons learned from disasters. Each version of the plan represents the changing landscape of Brevard County and how it conducts mitigation. The plan was first written in 1998 and was influenced by the Florida Division of Emergency Management's Local Mitigation Strategy initiative. The Local Mitigation Strategy initiative led to the formation of Brevard Prepares, the first coordinated effort to formalize hazard mitigation planning. National initiatives and a growing recognition that proactive hazard mitigation was critical to reducing disaster losses continued to shape the plan.

In 2000, the Disaster Mitigation Act amended the Stafford Act, requiring jurisdictions seeking Federal Emergency Management Agency funding to adopt a Hazard Mitigation Plan. This legislation also established Hazard Mitigation Assistance (HMA) programs such as the Hazard Mitigation Grant Program (HMGP), the Flood Mitigation Assistance (FMA) program, and the Pre-Disaster Mitigation (PDM) program. In 2002, Brevard County adopted its first formal revision of the Hazard Mitigation Plan, which introduced the overarching goal of creating a "Disaster Resistant Community."

The 2004 hurricane season brought four storms to the State of Florida and a renewed interest in hazard mitigation in Brevard County. In this period, the County invested in Mitigation 20/20 software, which offered a templated approach but caused the plan to expand to almost 2,000 pages. The flooding brought by Tropical Storm Fay in 2008 galvanized a stronger commitment to flood mitigation across the county.

The modern plan period began in 2015, when the plan was updated and shortened to approximately 500 pages. This shorter version of the plan still maintained the intent of the original document but condensed and removed sections where possible. Hurricane Matthew in 2016 caused multiple Hazard Mitigation Grant Program applications from organizations throughout the county. Hurricane Irma impacted Brevard County in 2017 and resulted in an allocation of over $13 million for the Hazard Mitigation Grant Program. There were over 20 projects submitted to the Steering Committee for support to apply for the grant funding. In 2020, the COVID-19 pandemic complicated the plan update and forced flexibility for holding planning meetings. The 2025 update has continued the modernization of the Hazard Mitigation Plan by removing redundancies and increasing flexibility for a changing environment.

Hazard Mitigation Plan Resources

The Brevard County Hazard Mitigation Plan is supported by a wide range of plans, strategies, statutes, and technical resources. These materials provide the legal framework, policy guidance, and scientific data needed to ensure that mitigation planning is comprehensive, evidence-based, and aligned with state and federal standards.

Key statutory and regulatory references for the entire plan include:

- County and Municipal Codes of Ordinances
- Emergency Management Plans
- Florida State Statutes
- Land Development Regulations
- Local Comprehensive Plans
- The State of Florida Hazard Mitigation Plan

In addition to the above sources, the threat and hazard identification and risk assessment incorporates a variety of technical resources, datasets, and historical documents including:

- Brevard County Emergency Management Comprehensive Emergency Management Plan
- Brevard County Geographic Information Systems databases
- Previous versions of Brevard County's Local Mitigation Strategy
- Federal Emergency Management Agency's National Risk Index
- Florida Forestry Service wildfire risk data
- Jurisdictional planning documents such as Comprehensive Plans, Future Land Use Plans, and Capital Improvement Plans
- National Climatic Data Center archives
- National Oceanic and Atmospheric Administration datasets
- National Weather Service records and forecasting tools
- Sea Level Rise studies conducted by the City of Cape Canaveral and Brevard County

Threat and Hazard Identification and Risk Assessment

The risk assessment uses available data to provide a data-based approach for mitigation in Brevard County. The information in this assessment assists stakeholders to make their case for mitigation proposals. It is the central resource for the hazards and how their effects impact Brevard County.

Disasters and Brevard County

Since 1972, Brevard County has been designated in 45 Presidentially Declared Disasters. Since 2020, Brevard County has seen impacts from multiple hazards. Five incidents resulted in Presidentially Declared Disasters including one pandemic and four hurricanes.

For a full listing of historical weather events to hit Brevard County, including economic, agricultural and human impacts, view the National Climatic Data Center data at the following website: http://www.ncdc.noaa.gov/stormevents/

For a full listing of Presidential Disaster Declarations, visit the following website: http://www.fema.gov/presidential-disaster-declarations

Initial Threat and Hazard Identification

Brevard County is vulnerable to a wide range of threats and hazards. The Federal Emergency Management Agency requires an evaluation of a full range of hazards. This risk assessment evaluates natural, technological, and human-caused hazards that are reasonably likely to occur in Brevard County.

The following hazards have been evaluated and profiled:

Natural – hazards caused by weather, geologic, or environmental processes

- Tropical cyclones, including high winds and storm surge
- Flooding, including coastal and inland flooding
- Tornado
- Severe Thunderstorms
- Coastal Erosion
- Sea Level Rise
- Severe Winter Storms
- Extreme Heat
- Drought
- Wildfire
- Tsunami
- Space Weather and Geomagnetic Storms
- Disease Outbreak

Technological and Human-Caused – hazards caused accidentally, deliberately, or by the presence of human technologies

- Dam/Levee Failure
- HazMat Incident
- Radiological Release
- Communications Failure
- Terrorism
- Cyber Attack
- Transportation Accident
- Civil Disorder

Not Profiled

- Earthquakes – there is no fault near Brevard County
- Sinkholes – the topography and composition of the ground in the county is not conducive to sinkhole formation

Risk Assessment Methodology

To conduct the assessment, hazards were identified based on the county's overall risk to those hazards and previous versions of the plan. Then, the county's assets, including populations, property, and infrastructure, were accounted. The hazard's impacts were then assessed based on the vulnerabilities of those assets within the county. This resulted in the Hazard Profiles as outlined below.

Brevard County Profile

Brevard County runs approximately 72 miles in length from north to south and 22 miles wide east to west. The total land area is 1,556 sq. miles, with 1,015 sq. miles of land and 541 sq. miles of water. The County is bordered by Volusia County to the north, Seminole and Orange County to the northwest, Osceola County to the west, Indian River County to the south, and the Atlantic Ocean to the east. Brevard has a humid subtropical climate and only two primary seasons. The wet season that runs from May to late October, with the dry season from running from December to May. Brevard's large bodies of water have a tempering influence on the climate, reducing the temperature range, and contributing to high humidity. Hurricanes are defined within their own season, running from June through November. Brevard County has been significantly impacted by hurricanes in the past and bring their own unique risks due to the county's topography.

Brevard County's topography is dominated by four primary features; the St. John's River Valley, Indian River Lagoon, the barrier islands and the Atlantic Coastal Ridge. Approximately 60% of Brevard County lies within three primary flood-prone areas: the riverine floodplain of the St. Johns River and freshwater tributaries of the Indian River Lagoon system, the Indian River Lagoon, and the isolated areas which flood because of soil or hydrological conditions. These flood-prone areas provide much storage of flooding rainfall due to hurricanes and severe storms.

The St. Johns River Valley lies west of Interstate 95, is the longest river in Florida at 310 miles and one of the few rivers in North America that flows north. The St. Johns River basin is a critical resource as it supplies drinking water to surrounding areas through Lake Washington. To accommodate flooding rain, the St. Johns River Water Management District has constructed a semi-structural system of four water management areas, four marsh conservation areas and two marsh restoration areas covering approximately 166,500 acres in Indian River and Brevard counties. Under maximum storm conditions, the project is designed to hold 500,000 acre-feet of water — enough water to cover the 200,000-acre project with an average of 2.5 feet of water.

The Indian River is not simply a river, but an estuary and a lagoon. The 156-mile-long estuary is composed of three main bodies of water: the Banana River, the Indian River, and the Mosquito Lagoon. Saltwater and freshwater meet in the Lagoon and provide a habitat for the various species that require brackish water to thrive. The Indian River Lagoon is considered one of the most biologically diverse estuaries in North America. The United States Environmental Protection Agency designated the Indian River Lagoon an Estuary of National Significance. The Indian River is not tidal but is driven by the direction of the wind, and may flow north, south or remain stagnant. The Indian River is vulnerable to storm surge from hurricanes, as storms arriving from the east push surge up through the rivers and lagoons.

Brevard's barrier islands may be thought of as a river of sand, as the islands are continually shifting in response to variations in erosion rates, deposition, winds, ocean, and tidal currents. The islands perform an important function as their beaches and dunes protect the inland areas from the powerful forces of the Atlantic Ocean. Elevations range from sea level along the shore to 20 feet above sea level at the crest of the dune line; a few isolated spots on Merritt Island are as high as 33 feet above sea level. The Archie Carr National Wildlife Refuge on southern barrier islands is the most important sea turtle refuge

in North America. More Loggerhead turtles nest along the beaches of Brevard and Indian River Counties than anywhere else in the world. In addition, the Merritt Island National Wildlife Refuge is known internationally for its wildlife diversity.

The Atlantic Coastal Ridge is a geological feature of the entire length of inland Brevard County. It primarily centers on United States Highway 1 along the Indian River Lagoon. The outer perimeter of the Ridge helped form the Barrier Islands along the eastern coast of Brevard. The Atlantic Coastal Ridge has elevation ranges from 5 to 20 feet in its southernmost parts and varies from 1½ to 3 miles wide. It consists of parallel, elongated ridges and swales that run north to south over the length of the Brevard. The Atlantic Coastal Ridge provides shelter for animals living special habitats such as the scrub and hammock ecosystems. It also brings a large recreation benefit to Brevard County and its residents and visitors.

The Atlantic Continental Shelf sits immediately off of Brevard County's Atlantic Coast. Near Cape Canaveral, the shelf narrows and steepens as the Gulf Stream passes close to shore. Unlike Florida's wide and shallow Gulf Coast, the Atlantic Continental Shelf helps protect coastal areas from storm surge. This topography limits the overall inland reach of storm surge but allows larger waves to hit the coastline that contributes to recurring issues. These larger waves increase the potential for dune overwash and beach erosion during tropical cyclones and nor'easters.

Demographics

The 2023 US Census Community Survey estimates the population of Brevard County at 643,979 and is projected to continue to grow. As a coastal county, Brevard has a higher cost of living for residents. The cost of living continues to increase, as an example of residents who rent their homes, 54% are paying more than 30% of their income on housing and 1 in 4 residents paying over 50%. Brevard County's per capita income is $42,738. Over 76% of residents own their own homes with a median home value estimated at $355,455. In 2023, Brevard County had an estimated 303,990 total housing units. Most housing units are single family homes, 61,000 apartment units and 21,800 mobile/manufactured homes.

Special Populations

Brevard County has a variety of special populations that require additional considerations.

- **Access and Functional Needs**
  Brevard County boasts a healthy retirement population, with 25% of the residents being 65 years or older and of those, about a quarter of Brevard's senior residents live alone. Just over 16% of residents have disabilities, with 10.8% of total residents using specialized medical equipment
- **Low-Income Populations**
  An estimated 10.1% of Brevard County residents live below the poverty line. Of those 63,000 residents, 26% are under the age of 18, 53% are between 18 and 64, and the remaining 20% are over 65 years
- **"Snowbirds"**
  Each year, an unknown number of non-residents migrate to Brevard County for the winter months. Known as snowbirds, these temporary residents tend to be retired or remote workers from other states. While official numbers are difficult to pin down, thousands of seasonal travelers arrive in Brevard County each winter, providing a boost to the local economy

- **Non-English-Speaking Populations**
  English is spoken in approximately 88% of Brevard County's homes. Spanish is the second most used language at 8% of the population and the remaining 4% of the population speak English less than "very well"
- **Agriculture Populations**
  According to the 2022 United States Department of Agriculture Census, Brevard County has 584 farms accounting for 145,000 acres. Pastureland accounts for 88,404 acres and croplands account for 19,059, with the remaining acres mostly woodland. Top crops include sod, hay, and nursey stock crops. Brevard livestock consists of 23,000 cattle, over 3,000 chickens for eggs and over 1,000 goats, with smaller populations of chickens for meat, pigs, horses, sheep and turkeys
- **Incarcerated Populations**
  The Brevard County Jail Complex opened in 1986 with beds for 386 inmates. The Jail Complex consists of a Booking area, Housing areas, Infirmary, Kitchen, Laundry facility, Courtrooms, Visiting areas, Recreation areas, and office/support locations. In addition to the maximum and medium security main jail, there are four tent housing structures, an annex facility and a mental health/medical unit bringing the total rated capacity to 1,849 beds. Today, the Jail Complex routinely houses over 1,600 inmates
- **Persons Experiencing Homelessness**
  Each year, the Brevard Homeless Coalition conducts a Point-in-Time count to identify residents struggling with homelessness. The 2024 count found that residents experiencing homelessness increased to 1,071. Residents considered unsheltered homeless, individuals living on the streets, cars and outside, increased significantly to 779. Of the those identified as chronically homeless, 81% have lived in Brevard County for more than three years
- **Mass Migration**
  Due to Brevard County's location on Florida's central east coast, the county has a lower risk for large groups of migrants compared to the southern counties. Mass migration occurs infrequently in Brevard County

Critical Infrastructure

Brevard County's buildings, infrastructure, and critical facilities provide services for the entire population of the community. Critical facilities, such as hospitals, schools, and other infrastructure, are specific assets of the built environment that provide services that are essential for life, safety, and economic viability. They serve the public and maintain community lifelines that residents use every day. Critical infrastructure is vulnerable to the many hazards that occur within the county. Any interruption of those services would cause significant harm to the entire county and would pose a challenge to restore if impacted by a catastrophic incident.

Brevard County has identified over 2,000 critical facilities inside and outside of its borders that provide residents with critical services before, during, and after a disaster. These assets along with the residents, businesses, spaceport, and its environmental resources make Brevard unique. As required by Florida Administrative Rule 27P-22, the Hazard Mitigation Plan maintains a critical infrastructure list in the appendices. Due to the identification of vulnerabilities and exact locations of the infrastructure, the list is not publicly releasable, per Florida Statute §119.0725 (2024).

Hazard Profiles

Each profiled hazard will have the following information:

- **Description –** General information about the hazard
- **Extent –** How bad can the hazard get
- **Location –** Where it occurs and how impacts change through the planning area
- **Previous Occurrence –** How many times this has occurred in the county in the past five years and any significant occurrences
- **Probability –** How likely is this hazard to occur in the planning area in any given year. The probability is determined using past occurrences and how many times a year they occur. Climate change also affects the probability of natural hazards and is considered in the analysis
- **Impacts –** What are the impacts the county and its jurisdictions likely to see because of this hazard. Impacts can vary across the planning area for different hazards due to location, geography, and demographics
- **Vulnerability –** How susceptible is the planning area to the impacts from this hazard. Can or will this change due to development

Coastal Erosion

Coastal erosion is the gradual loss or displacement of land along coastlines due to natural forces such as waves, tides, currents, and wind, as well as human activities. It results in the retreat of shorelines, loss of beaches, and damage to coastal ecosystems and infrastructure. Factors like rising sea levels, frequent tropical cyclones, and human interventions (e.g., construction and dredging) can accelerate the process. Nor'easters during the fall and winter months can also increase coastal erosion rates as they impact wave height and frequency. The more intense wave action leads to increased sand loss and erosion of the beach.

Brevard County, with its long coastline, is susceptible to coastal erosion. Localized erosion can also occur away from the coastline along river and stream banks, canals and drainage ditches.

Extent

There is no single universal scale for rating the severity of coastal erosion, but various classification systems and methodologies are used to assess erosion intensity. Some commonly used approaches include:

- **Coastal Erosion Hazard Index** – Assesses erosion risk based on factors like shoreline change rates, wave action, storm impacts, and sea level rise
- **Shoreline Change Rate** – Measures how fast the coastline is retreating or advancing, often expressed in meters per year
- **Bruun Rule** – A theoretical model predicting shoreline retreat due to sea level rise
- United States Geological Survey Coastal Vulnerability Index – Rates the vulnerability of coastlines to erosion based on geological and physical factors such as wave height, slope, and tidal range
- **Florida Department of Environmental Protection** – Rates beaches as either Critically Eroded Beach or Non-Critically Eroded Beach. Critical erosion areas are segments of the shoreline where natural processes or human activity have caused or contributed to erosion and recession of the beach or dune system

The Florida Department of Environmental Protection has classified most of Brevard's beaches as critically eroded. This includes approximately 36.5 miles of coastline from Cape Canaveral to south of Melbourne Beach.

Location

In Brevard County, erosion events can occur on all coastal areas of the county, year-round. Jurisdictions susceptible to coastal erosion include beachfront areas like: Cape Canaveral, Cocoa Beach, Satellite Beach, Melbourne Beach, Indian Harbour Beach, Indialantic, and unincorporated Brevard (South Patrick Shores, Patrick Space Force Base, Canaveral National Seashore and the South Beaches); and Lagoon-front jurisdictions like: Titusville, Cocoa, Rockledge, Palm Shores, Melbourne, Malabar, Grant-Valkaria, and unincorporated Brevard (i.e. Scottsmoor, Mims, Merritt Island, Micco).

Previous Occurrence

The 2004 hurricane season caused significant beach erosion in Brevard County, prompting mitigation efforts to protect vulnerable coastal areas. In response, two dune maintenance projects were conducted in 2006 and 2007 in the Mid-Reach (Satellite Beach, Indian Harbour Beach, northern Indialantic) and South Beaches (South Melbourne Beach and southward) to repair damage from Hurricane Wilma and restore native vegetation. The 2005 Brevard County Shore Protection Project restored beaches from Cape Canaveral through Cocoa Beach and from Indialantic through Melbourne Beach using offshore

dredged sand. Additionally, the 2005 Emergency Dune Stabilization Project repaired dunes along the Mid-Reach and South Beaches.

Erosion Rates & Mitigation		
Area	**Pre-Mitigation Erosion Rate**	**Protection Efforts**
North Reach (Cape Canaveral–Cocoa Beach, 9.8 mi)	2.6 ft/year	Federal Shore Protection Project with Army Corps of Engineers
Mid-Reach (Satellite Beach–Indian Harbour Beach, 7.8 mi)	0.6 ft/year	Emergency Dune Stabilization Project
South Reach (Indialantic–Melbourne Beach, 3.8 mi)	1 ft/year	Federal Shore Protection Project
South Beaches (Spessard Holland Park–Sebastian Inlet, 13 mi)	1 ft/year (1972–2005)	Emergency Dune Stabilization Project

More recently, Hurricane Nicole in 2022 caused significant beach erosion as they impacted the county. Nicole was a subtropical area of low pressure expected to primarily threaten the beaches before intensifying into a hurricane. Nicole caused a lot of damage to barrier island communities from Sebastian Inlet up to Cape Canaveral. The county lost several feet of beach and many homes on the beachside of A1A were undermined to the point of being unsafe to occupy.

Every hurricane that impacted Brevard County between 2020 and the end of 2024 caused shoreline erosion for properties and infrastructure along the Indian River Lagoon. Historically, each of Brevard's maintained parks that have a shoreline on the lagoon suffer significant damage each time a storm impacts the area.

Probability

Due to natural coastal conditions, Brevard County's beaches are expected to continue eroding at similar rates, highlighting the ongoing need for shoreline protection and maintenance. Accounting for climate change, future erosion along the Brevard County coastline is highly likely, with events expected to occur every year.

Vulnerability and Impacts

A worst-case beach erosion event would result from impacts of storm surge from a hurricane or from nor'easters. Substantial loss of sand would undermine the foundations of beachfront buildings, including single family residences, condominiums, apartments, hotels, and commercial structures.

A 2025 property appraiser database search showed there are 10,014 parcels on the Atlantic Ocean in Brevard. Direct and indirect property losses could easily reach hundreds of millions of dollars. The beach front damage would also have prolonged economic impacts on the county's vital tourist industry. Infrastructure damage to roadways over the entirety of the barrier islands, the causeways, and Mather's Bridge would do considerable harm to the county and its residents. Utilities along the river and beaches including sewer, water, stormwater, and electric would also be damaged affecting recovery.

Natural processes move and shift the barrier island. Reports continue to show that coastal erosion will only increase as time progresses and will only worsen with climate change. Increasing development on the barrier islands, especially east of Highway A1A, is unlikely.

Disease Outbreak

A disease outbreak occurs when a contagious illness spreads rapidly within a population, exceeding normal levels of infection. Outbreaks can result from viruses, bacteria, or other pathogens and may be transmitted through person-to-person contact, contaminated food or water, vectors (such as mosquitoes), or airborne particles. Common examples include influenza, norovirus, COVID-19, and vector-borne diseases like West Nile virus.

Extent

The severity of a disease outbreak varies based on the pathogen, transmission rate, available medical response, and public health measures. Outbreaks can range from localized epidemics, where a disease spreads within a community or region, to global pandemics, where a disease spreads across multiple countries or continents, affecting large populations.

Location

Disease outbreaks can occur anywhere in the county, but densely populated urban areas, schools, nursing homes, and healthcare facilities are at higher risk due to close human contact. Rural areas may also be affected, particularly if access to healthcare is limited. Areas with standing water or poor sanitation are more vulnerable to vector-borne and waterborne illnesses. Impacts may vary based on population density, socioeconomic factors, and healthcare accessibility.

Previous Occurrence

In the past five years, the county has experienced multiple disease outbreaks, including seasonal flu surges, norovirus outbreaks in schools and nursing homes, and a rise in mosquito-borne illnesses such as West Nile virus. The COVID-19 pandemic was a significant occurrence, affecting all sectors of the county with high infection rates, hospitalizations, and prolonged disruptions to businesses and education.

Probability

The likelihood of a disease outbreak such as influenza and gastrointestinal viruses are an annual occurrence. A pandemic, such as COVID-19, has a one in a hundred-year probability.

Emerging diseases and new variants of existing pathogens increase the probability of future outbreaks. Climate change may contribute to higher risks by expanding the range of vector-borne diseases and altering transmission patterns. Public health measures, vaccination rates, and global travel patterns also influence the probability of outbreaks.

Vulnerability and Impacts

Disease outbreaks can have widespread health, economic, and social consequences. Epidemics, such as seasonal flu surges or foodborne illness outbreaks, typically have a more contained impact. Whereas pandemics, such as COVID-19, can lead to widespread illness, hospitalizations, and deaths. The county is likely to experience increased healthcare demand, workforce disruptions, school and business closures, and economic losses. Vulnerable populations, such as the elderly, immunocompromised individuals, and low-income communities, may face more severe health outcomes due to limited access to healthcare, chronic conditions, or crowded living conditions.

Future conditions could further influence the severity and frequency of disease outbreaks. Climate change may expand the range of vector-borne diseases by creating warmer, wetter conditions favorable to mosquitoes. Population growth could increase disease transmission rates due to higher density. Antibiotic resistance and vaccine hesitancy could also contribute to prolonged outbreaks and more severe impacts. The worst-case scenario includes overwhelmed healthcare facilities, labor shortages, school and business closures, and high mortality rates.

Drought

A drought is a prolonged period of dry weather that causes significant problems, such as crop damage and water shortages. The severity of a drought depends on how much moisture is lacking, how long it lasts, and how large the affected area is. There are four types of droughts:

- Meteorological drought – A lack of precipitation compared to normal levels
- Agricultural drought – When soil moisture is insufficient for crops
- Hydrological drought – When surface and groundwater supplies are below normal
- Socioeconomic drought – When water shortages impact people's daily lives

Brevard County has distinct dry and wet seasons. The dry season lasts from December through May, while the wet season runs from June through November. Droughts are more likely during the dry season and can increase the risk of wildfires.

Extent

Drought severity is measured using the US Drought Monitor Classification Scheme below:

U.S. Drought Monitor Classification Scheme		
Category	**Description**	**Possible Impacts**
D0	Abnormally Dry	Going into drought: short-term dryness slowing planting, growth of crops or pastures. Coming out of drought: some lingering water deficits; pastures or crops not fully recovered
D1	Moderate Drought	Some damage to crops, pastures; streams, reservoirs, or wells low, some water shortages developing or imminent; voluntary water-use restrictions requested
D2	Severe Drought	Crop or pasture losses likely; water shortages common; water restrictions imposed
D3	Extreme Drought	Major crop/pasture losses; widespread water shortages or restrictions
D4	Exceptional Drought	Exceptional and widespread crop/pasture losses; shortages of water in reservoirs, streams, and wells creating water emergencies

The Keetch-Byram Drought Index is also used to measure the intensity of a drought. It measures soil dryness on a scale ranging from 0, being maximum moisture, to 800, being the maximum drought that can be experienced in an area.

Location

All of Brevard County and its jurisdictions can be affected by drought conditions.

Previous Occurrence

The US Drought Monitor tracks and provides data about drought in the United States. The dry seasons from 2020 through 2025 saw Brevard County in at least D0 conditions for 72 weeks. Conditions peaked at D2 during the dry seasons of 2023 and 2024 with eight weeks of observed D2 conditions. Going back to 2000 Brevard County has experienced 314 weeks of at least D1 conditions. Brevard County last experienced D3 conditions in May 2017 and D4 conditions in 2001.

Probability

While climate change will increase the probability of a drought occurring in Brevard County, a level D3 drought is expected to occur at least once every 25 years.

Vulnerability and Impacts

Structures in Brevard County may not directly suffer from drought, but they are vulnerable to the consequences of drought, particularly through the increased risk of wildfires. As drought conditions worsen, the likelihood of fire outbreaks increases, posing a significant threat to property, infrastructure, and livelihoods.

Droughts affecting Brevard County can have serious consequences on agriculture, livestock, and water supplies. With 22% of Brevard County's land being used for agriculture, including cattle and horse farming, droughts that disrupt both the surficial and Floridan aquifers will also disrupt water access for these sectors. Additionally, droughts that impact other areas contributing to the Floridan Aquifer system can have cascading effects on water availability throughout the state, including Brevard County. The ongoing trend of urban sprawl and land use changes means more impervious surfaces, which can limit groundwater recharge and exacerbate water shortages.

Climate change can drive more frequent and intense droughts. This reduces available water supplies across the county. As the population grows, more people will rely on the same limited water resources, which will increase competition and strain. Higher demand combined with lower supply leads to rising water costs, making it harder for many households to afford basic needs. Low-income families, elderly residents, and those without reliable cooling face the greatest risks during water shortages.

Extreme Heat

Extreme heat is defined as temperatures that are approximately 10 degrees or more above the average high temperature for a region lasting for a prolonged period. Extreme heat occurs when a layer of high atmospheric pressure descends over an area and causes the air normally located high in our atmosphere to descend, compress, and increase in temperature leading to hazy and muggy air. These high-pressure systems can reside in an area for weeks as they are resistant to being moved by other weather systems and can inhibit wind and clouds, which normally mitigate the effect of the sun.

Methods of Measuring Extreme Heat		
Measurement	**Factors Considered**	**Purpose / Use**
Heat Index	Actual temperature and relative humidity	Estimates the "feels like" temperature; commonly used for public weather reporting
Wet Bulb Globe Temperature (WBGT)	Temperature, humidity, sun angle, cloud cover, wind	Provides a more detailed assessment of heat risk, especially for outdoor workers, athletes, and active populations

More information can be retrieved from the NWS Melbourne Weather Field Office.

Extent

The National Weather Service in Melbourne issues:

- A Heat Advisory
  - The heat index reaches 108° – 112°Fahrenheit
  - Temperatures are forecast to reach 98°Fahrenheit or above for two consecutive days
- An Extreme Heat Watch
  - During the first 48 hours when Heat Index values could reach 113°Fahrenheit or higher
- An Extreme Heat Warning (formerly an Excessive Heat Warning) if
  - Temperatures are expected to reach a heat index value of 113°Fahrenheit or higher

Location

All of Brevard County and its jurisdictions can experience this hazard.

Previous Occurrence

There was one Excessive Heat Warning in June of 2022 where the heat index reached 115° Fahrenheit in the Merritt Island National Wildlife Refuge.

Probability

Annually, Brevard County experiences hot weather that can cause harm. Extreme heat is likely to occur at least once in 25 years. As climate change progresses, this hazard will occur more often. Especially as global temperatures increase in the summer months. The accelerating frequency of heat advisories issued for Brevard County supports extreme heat as a growing threat.

Vulnerability and Impacts

Extreme heat has devastating impacts on vulnerable populations, including the elderly, children, those with medical conditions, and people experiencing homelessness. Heat waves, which can occur in summer as well as in late spring or early fall, may last for days or weeks. Extreme heat is a recurring issue in Brevard County, particularly in areas with large, paved surfaces. These heat islands absorb heat during the day and release it at night, keeping temperatures elevated. As the county continues to

develop, heat islands are likely to expand in areas experiencing the fastest growth, a trend that will be further exacerbated by rising temperatures due to climate change.

An increasing demand for electricity, particularly from air conditioning, will put additional stress on the power grid during extreme heat events. Higher energy use can lead to elevated electricity costs and power shortages or outages. These consequences will disproportionately affect vulnerable populations who may be unable to afford higher bills or lack access to reliable cooling, heightening health risks such as heat exhaustion, heat stroke, and other heat-related illnesses.

Flooding

Flooding is the covering or submerging of normally dry land with a large amount of water. Inland flooding is caused by heavy rainfall which can overwhelm rivers, canals, and drainage systems. Coastal flooding is primarily driven by storm surge, high tides, and wind action, affecting barrier islands and intercoastal shorelines.

Extent

Flooding is measured by inches or feet of inundation of water over a certain area for an extended amount of time. The best way to show how bad a flood could impact an area is by using its Federal Emergency Management Agency-designated flood zone. Brevard County has the following flood zones as designated by Federal Emergency Management Agency:

Special Flood Hazard Areas:

These areas have a 1% annual chance of flooding (100-year floodplain) and are subject to Federal Emergency Management Agency's floodplain management regulations.

- **Zone A** – High-risk areas where no detailed flood elevation studies have been conducted
- **Zone AE** – Areas with detailed flood studies that include Base Flood Elevations (BFE)
- **Zone AE Floodway –** The channel of a river or other watercourse
- **Zone AH** – Areas prone to shallow flooding (ponding) with depths between 1–3 feet
- **Zone AO** – Areas subject to sheet flow or shallow flooding (usually near sloping land)

Coastal High-Risk Zones:

These zones have additional risks due to storm surges and wave action.

- **Zone VE** – Coastal areas with a 1% annual chance of flooding, subject to wave action and storm surges with detailed flood studies and established Base Flood Elevations

Non-Special Flood Hazard Areas:

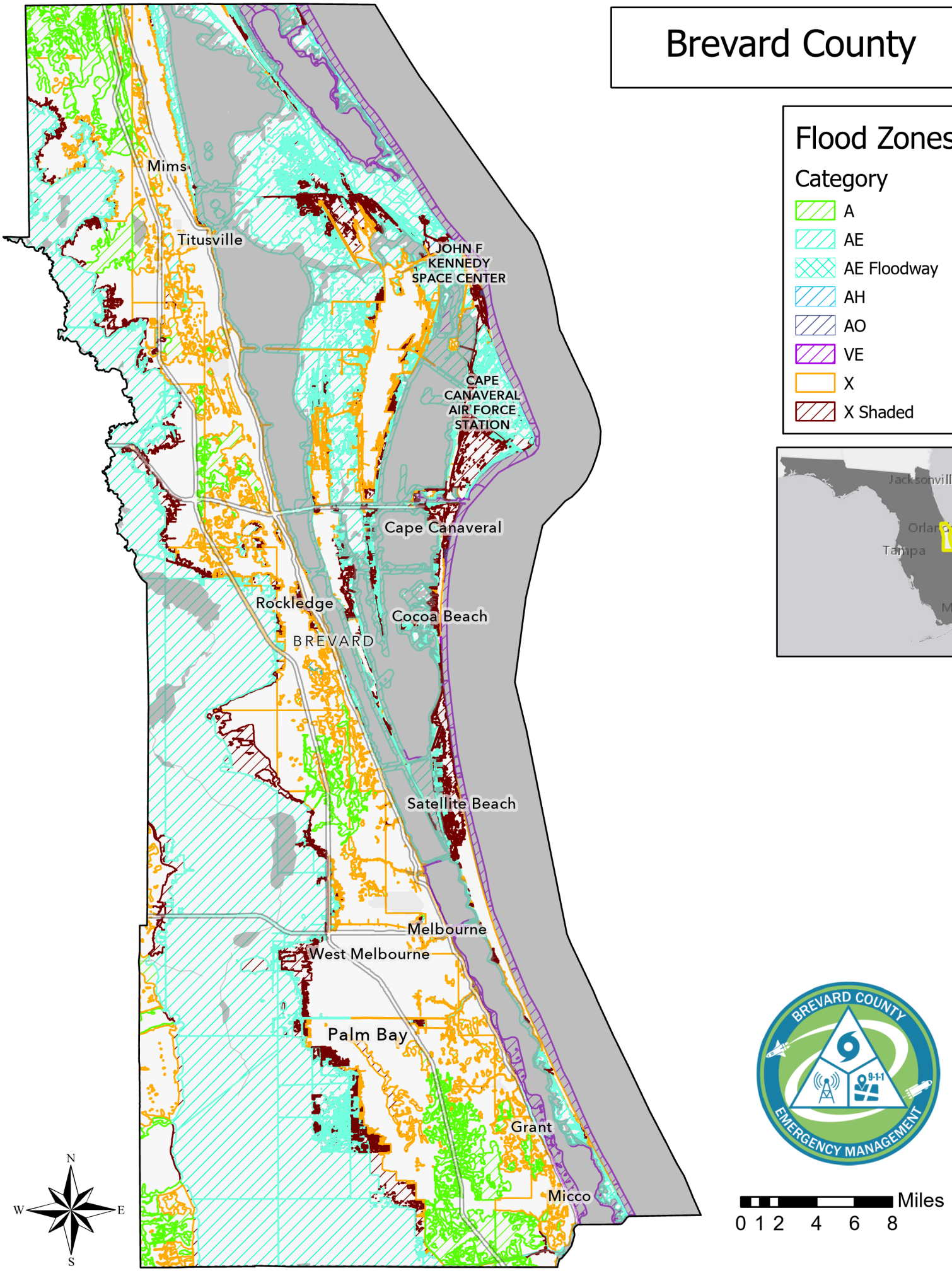
These areas are outside the 100-year floodplain but still have some flood risk.

- **Zone X (Shaded)** – Moderate risk areas with a 0.2% annual chance of flooding (500-year floodplain)
- **Zone X (Unshaded)** – Low-risk areas with minimal flood hazard

Location

Flooding can impact the entire county due to its topography. The barrier island and east of US Highway 1 can flood due to tidal and storm effects on the Atlantic Ocean, Indian River, Banana River, Mosquito Lagoon, Sykes Creek, and Newfound Harbor. Most of the land west of Interstate 95 makes up part of the St. John's River Valley floodplain and is susceptible to flooding.

Brevard County Public Works maintains a web-hosted flood zone map. The below map shows the areas vulnerable to flooding and their designated flood zone.


Brevard County
Flood Zones
Category
A
AE
AE Floodway
AH
AO
VE
X
X Shaded
Mims
Titusville
JOHN F KENNEDY SPACE CENTER
CAPE CANAVERAL AIR FORCE STATION
Cape Canaveral
Rockledge
Cocoa Beach
BREVARD
Satellite Beach
Melbourne
West Melbourne
Palm Bay
Grant
Micco
Jacksonville
Orlando
Tampa
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E
S
BREVARD COUNTY
EMERGENCY MANAGEMENT
9-1-1
Miles
0 1 2 4 6 8

Previous Occurrence

The county has experienced several severe weather events that have caused significant coastal and inland flooding.

Recent Flooding Incidents Since 2020			
Year	**Event**	**Rainfall**	**Impact**
2024	**Hurricane Milton**	6-8 in	Street and yard flooding, some water in buildings in south Brevard
2023	**November Heavy Rain**	10-14 in	Flooding, flash flooding, impassable roads, stalled vehicles in south Brevard
2023	**June Heavy Rain**	6-8 in	Flooding, flash flooding, impassable roads, stalled vehicles in south Brevard
2022	**Hurricane Ian**	10-15 in	Flooding, flash flooding, impassable roads, water entering homes in northern Brevard
2022	**September Storms**	4-6 in	Flooding, flash flooding, in northern Brevard
2021	**November Coastal Flooding**	N/A	Coastal flooding, minor to moderate beach erosion, water approaching roads
2020	**September Coastal Flooding**	N/A	Coastal flooding, minor to moderate beach erosion on the north beaches, moderate to severe beach erosion on the south beaches, several county-owned dune crossovers damaged

Historic Significant Flooding Incidents			
Year	**Event**	**Rainfall (in)**	**Impact**
2017	**Hurricane Irma**	10-14 in	Widespread flooding; water in at least 200 homes, a majority in Cocoa; St. Johns River reached Major Flood Stage at Astor.
2017	**Surface Boundary Storm**	6-11 in	Flooding, flash flooding, impassable roads, stalled vehicles, water entering homes in several areas
2016	**Tropical Storm Colin**	4-6 in	Roadway flooding, roadway closures, stranded vehicles in Palm Bay and Malabar
2012	**Hurricane Sandy**	N/A	Coastal flooding, beach erosion, damage to homes and crossovers on the barrier islands
2008	**Tropical Storm Fay**	20-36 in	Widespread flooding; water in homes especially in Lamplighter Village and west Cocoa
2005	**Hurricane Wilma**	10-13 in	200 homes flooded in Cocoa
1999	**Thunderstorms**	3-8 in	Flooded roadways, 49 homes received minor flooding

Probability

Brevard County can expect to see a flooding incident where water is in streets and yards annually. Flooding incidents where water enters homes have a probability of occurrence of once every two years.

Vulnerability and Impacts

Due to improvements in stormwater systems and other various mitigation actions, many of the recent flooding events have resulted in light to moderate impacts on infrastructure. Stormwater systems now move water more efficiently. New residential development and transportation designs ensure that most water remains on the roads or in yards. This has affected impacts on most structures in the county, especially homes and businesses. However, at a certain point, no stormwater system can handle the volume of rain that it needs to move. This will cause the system to be overrun until the rain stops and the drains can catchup with the runoff.

Climate change is expected to significantly affect inland flooding in Brevard County. More frequent and intense rainfall from extreme weather events will increase the likelihood of flash flooding and overwhelm stormwater systems. At the same time, if climate change drives longer periods of drought, soils will become drier and less capable of absorbing water when heavy rains occur. This reduced absorption leads to higher runoff volumes, placing additional strain on drainage infrastructure and increasing the potential for localized street flooding, property damage, and impacts to critical facilities. These combined factors mean that, regardless of whether the region experiences wetter or drier conditions, the overall risk of inland flooding will continue to rise.

Coastal flooding will also become a growing concern as sea levels rise due to climate change. Higher sea levels increase the likelihood of both tidal and storm-driven flooding, allowing the ocean to encroach farther inland. Structures immediately across the dune line face heightened risks. The west side of the barrier island has limited protection from sand dune protections and coastal flooding impacts could be even larger. Over time, rising seas will also increase the frequency of nuisance flooding during high tides and storm events, threatening homes, infrastructure, roadways, and utilities in low-lying coastal areas.

A worst-case flooding situation would probably result from prolonged, heavy rainfall that would cause river and stream flooding, as well as localized flooding where storm drainage capacities were inadequate for the storm event. Vulnerable populations are those in flood zones including isolated low-lying areas, flow ways for streams and creeks, seepage hill bases, wetlands, and coastal areas. Land development in the areas most susceptible to flooding, without corresponding mitigation actions, will increase the risks for the people who live there. Any structure located within a floodplain and/or in areas subject to poor drainage would be vulnerable to damage or disruption from flooding.

Some of these areas include:

- North Merritt Island between the Kennedy Space Center to the north and east, State Road 3 to the west, and Hall Road to the south
- Space Coast Gardens
- Melrose Manor and Shakespeare Park in the Cocoa area
- Silver Pines in the Rockledge area
- Lamplighter Village in south central Brevard
- Eau Gallie Road west of Interstate 95
- Harlock Road adjacent to and to the east of Interstate 95
- The upper basin of Turkey Creek
- Sebastian Creek
- Fellsmere Grade Road

- Little Hollywood and Deer Run in south Brevard

National Flood Insurance Program Participation

The National Flood Insurance Program allows property owners in the 100-year flood zone to acquire federal flood insurance policies. All 16 municipalities and the Canaveral Port Authority participate in the National Flood Insurance Program.

The table below describes the current jurisdictional participation in the National Flood Insurance Program.

Brevard County National Flood Insurance Program Statistics				
Community Name	**Policies in Force**	**Total Coverage**	**Total Written Premium plus Federal Policy Fee**	**Total Annual Payment**
Brevard County	20,492	$ 6,058,210,200	$ 13,546,913	$ 16,744,918
Cape Canaveral	3,002	$ 663,836,000	$ 1,480,559	$ 1,844,887
Canaveral Port Authority	33	$ 19,254,000	$ 135,080	$ 167,369
Cocoa Beach	6,376	$ 1,474,227,000	$ 3,504,948	$ 4,307,494
Cocoa	504	$ 141,551,000	$ 276,233	$ 347,216
Grant-Valkaria	612	$ 196,375,000	$ 425,221	$ 523,356
Indialantic	597	$ 180,271,000	$ 478,461	$ 591,278
Indian Harbour Beach	1,397	$ 413,683,000	$ 969,992	$ 1,200,479
Malabar	207	$ 68,691,000	$ 126,507	$ 158,333
Melbourne Beach	588	$ 181,908,000	$ 482,580	$ 593,657
Melbourne	3,153	$ 993,787,200	$ 2,153,886	$ 2,695,022
Melbourne Village	38	$ 12,416,000	$ 27,468	$ 34,165
Palm Bay	2,838	$ 885,594,000	$ 1,443,735	$ 1,810,773
Palm Shores	40	$ 13,104,000	$ 21,722	$ 26,970
Rockledge	883	$ 280,750,000	$ 552,958	$ 684,257
Satellite Beach	1,934	$ 578,111,000	$ 1,339,054	$ 1,638,791
Titusville	1,134	$ 343,021,000	$ 661,426	$ 823,724
West Melbourne	1,059	$ 352,918,000	$ 561,292	$ 696,960

Each jurisdiction participating in the National Flood Insurance Program complies with all current regulations including:

- Adopting the National Flood Insurance Program minimum floodplain management criteria via local regulation
- Adopting the latest effective Flood Insurance Rate Map, if applicable
- Implementing and enforcing the local floodplain management regulations to regulate and permit development in Special Flood Hazard Areas
- Appointing a designee or agency to implement the addressed commitments and requirements of the National Flood Insurance Program

The participating jurisdictions also have policies regarding the monitoring and implementation of substantial damage and substantial improvements. After an event, the county and other participating jurisdictions would follow their specific substantial damage policies. These policies can be found in Appendix F for Brevard County and the jurisdictions.

The following table shows what each jurisdiction has appointed as their floodplain administrator per ordinance.

Participating Jurisdiction	Designated Floodplain Administrator Title
Brevard County	Floodplain Administrator
Cape Canaveral	Building Official
Canaveral Port Authority	Chief Building Official
Cocoa	Floodplain Administrator
Cocoa Beach	Building Official / Development Services Director
Grant-Valkaria	Town Administrator
Indian Harbour Beach	Building Official / Public Works Director
Indialantic	Building Official
Malabar	Town Administrator or Designee
Melbourne	Building Official
Melbourne Beach	Town Building Official
Melbourne Village	Town Superintendent
Palm Bay	Floodplain Administrator
Palm Shores	Building Official
Rockledge	Building Official
Satellite Beach	Chief Building Official
Titusville	Community Development Engineer
West Melbourne	Building Official

Brevard County and many of its jurisdictions participate in the National Flood Insurance Program and the Community Rating System to assist homeowners and businesses with decisions about property vulnerability and flood insurance. Participation in the Community Rating System qualifies residents for reduced rates on flood insurance which vary depending on the activities the jurisdiction performs to reduce its flood risk. The below table summarizes Brevard County and jurisdictional participation in the Community Rating Season.

Brevard County Community Rating System Participation					
Community Name	**Participant**	**Original Effective Date**	**Current Effective Date**	**CRS Class**	**Discount**
Brevard County	Yes	10/01/1991	10/01/2024	8	10%
Cape Canaveral	Yes	10/01/1993	10/01/2019	8	10%
Cocoa Beach	Yes	05/01/2018	04/01/2025	9	5%
Cocoa	Yes	04/01/2023	04/01/2023	9	5%
Grant-Valkaria	No	N/A	N/A	N/A	N/A
Indialantic	No	N/A	N/A	N/A	N/A
Indian Harbour Beach	No	N/A	N/A	N/A	N/A
Malabar	No	N/A	N/A	N/A	N/A
Melbourne Beach	Yes	05/01/2016	05/01/2016	8	10%
Melbourne	Yes	10/01/1993	05/01/2019	8	10%
Melbourne Village	No	N/A	N/A	N/A	N/A
Palm Bay	Yes	10/01/1993	05/01/2019	7	15%
Palm Shores	No	N/A	N/A	N/A	N/A
Rockledge	Yes	10/01/1991	10/01/2021	9	5%
Satellite Beach	No	10/01/1992	10/01/2017	10	0%
Titusville	Yes	10/01/1992	05/01/2011	7	15%
West Melbourne	No	N/A	N/A	N/A	N/A

Brevard and each of its municipalities have adopted and continue to enforce floodplain management requirements in accordance with current National Flood Insurance Program standards including regulating new construction in Special Flood Hazard Areas by:

- Enforcing floodplain management ordinances which regulate new development and substantial improvements in the special flood hazard areas.
- Informing the community by news releases and open public meetings
- Providing community outreach
- Providing information via county public TV
- Maintaining elevation certificates on file for all new construction in the Special Flood Hazard Area or for substantial improvements to properties in the Special Flood Hazard Area
- Using best available flood map data for issuing construction permits
- Providing public education seminars
- Providing updated mapping to each municipality
- Maintaining public records and make them available for review.
- Engaging in community outreach
- Utilizing and retain news releases and county public TV broadcasts
- Maintaining records pertaining to Letters of Map Amendments and Letters of Map Revisions
- Providing information related to flood hazards, flood maps, and National Flood Insurance Program information to the public upon request.
- Continuing community outreach efforts for compliance with the Community Rating System
- Integrating new National Flood Insurance Program information and mapping into already existing strong community presentations.

- Continuing to promote flood insurance to property owners.
- Increasing and continue outreach presentations to community and homeowners' associations
- Continuing to update the public via
  - Community outreach
  - Internet
  - Social media
  - News releases
  - County public TV
- Continuing to identify/acquire land in the Special Flood Hazard Area open space/preservation.
- Promoting hazard flood mitigation to the public.
- Providing copies of the Hazard Mitigation Plan upon written request
- Integrating new flood awareness and mitigation information into outreach presentations
- Continuing drainage maintenance and drainage system improvement projects.
- Encouraging more drainage projects through-out the county in all Hazard Mitigation Plan meetings, especially nature-based solutions
- Continuing floodplain management activities and explore opportunities for possible Community Rating System class enhancement
- Adopting and enforcing floodplain management plans
- Providing continued education and best practices to all municipalities
- Providing a robust community assistance program
- Providing continued outreach, best practices to municipalities that are not part of the Community Rating System
- Documenting each municipality not a participant in the Community Rating System and continue providing them with best practices
- Ensuring that municipalities not participating in the Community Rating System are members of the Hazard Mitigation Plan working group, allowing them still to receive mitigation information
- Maintaining flood hazard publications in the libraries

Repetitive Loss and Severe Repetitive Loss Properties

A Repetitive Loss Property is defined by the National Flood Insurance Program as a property that is covered under a National Flood Insurance Program flood insurance policy and that has had two or more flood insurance claims of more than $1,000 paid within any 10-year period since 1978.

A Severe Repetitive Loss Property is defined as a residential property that is covered under a National Flood Insurance Program flood insurance policy and that:

- Has at least four National Flood Insurance Program claim payments (including building and contents) over $5,000 each and the cumulative amount of such claims payments exceeds $20,000

  or

- For which at least two separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. At least two of the above referenced claims must have occurred within any 10-year period and must be greater than 10 days apart

The following tables show the number and type of repetitive loss and severe repetitive loss structures for all jurisdictions participating the National Flood Insurance Program.

Repetitive Loss Properties by Jurisdiction and Building Use					
Jurisdiction	**Single Family**	**Multi-Family, 2-4 units**	**Other Residential**	**Business, Non-Residential**	**Other Non-Residential**
Brevard County	65	2	2	1	1
Cape Canaveral	3	1	1	0	1
Cocoa Beach	6	0	0	0	2
Cocoa	8	0	0	0	0
Grant-Valkaria	6	2	0	0	0
Indialantic	17	0	0	0	0
Indian Harbour Beach	3	0	0	0	0
Malabar	5	0	0	0	0
Melbourne	17	0	0	0	1
Melbourne Beach	12	2	0	0	0
Melbourne	60	0	4	0	1
Palm Bay	16	0	0	0	0
Rockledge	3	0	0	0	0
Satellite Beach	12	0	1	0	0
Titusville	10	0	0	0	0
West Melbourne	12	0	0	0	0
Totals	**255**	**7**	**8**	**1**	**6**

Severe Repetitive Loss Properties by Jurisdiction and Building Use					
Jurisdiction	Single Family	Multi-Family, 2-4 units	Other Residential	Business, Non-Residential	Other Non-Residential
Brevard County	3	0	0	0	0
Cape Canaveral	0	0	0	0	0
Cocoa Beach	1	0	0	0	1
Cocoa	0	0	0	0	0
Grant-Valkaria	1	0	0	0	0
Indialantic	1	0	0	0	0
Indian Harbour Beach	0	0	0	0	0
Malabar	0	0	0	0	0
Melbourne	1	0	0	0	0
Melbourne Beach	0	0	0	0	0
Melbourne	4	0	1	0	1
Palm Bay	3	0	0	0	0
Rockledge	0	0	0	0	0
Satellite Beach	0	0	0	0	0
Titusville	0	0	0	0	0
West Melbourne	0	0	0	0	0
Totals	**14**	**0**	**1**	**0**	**2**

Sea Level Rise

Sea level rise is the long-term increase in the average level of the world's oceans due to factors such as melting glaciers and ice sheets, thermal expansion of seawater as it warms, and changes in land water storage. It is primarily driven by climate change and poses risks such as coastal erosion, flooding, and habitat loss for coastal communities and ecosystems. The evidence is clear that a trend is occurring, and sea levels have been rising for the better part of the 20th century and into the 21st century.

Extent

There is no universal scale for measuring sea level rise, but the Global Mean Sea Level (GMSL) is commonly used. It measures the average global sea level relative to a reference point over time, often reported in millimeters or centimeters. This metric combines data from tide gauges and satellite altimetry. Due to the nature of the hazard, the onset of Sea Level Rise is slow, about .23 inches per year.

Location

Brevard County and all its jurisdictions will see effects from sea level rise. Areas closest to the lagoon and Atlantic Ocean would be the most vulnerable to sea level rise. The City of Satellite Beach's 2019 study identified the west side of the barrier island, including the Banana River, Grand Canal, and its finger canals, as particularly at risk, with future impacts expected to reach areas around South Patrick Drive. Similarly, the City of Cape Canaveral's Sea Level Rise study, conducted in 2017, also highlighted vulnerable areas, particularly around the Port and beachfront properties. This study indicated that by 2100, certain regions of Cape Canaveral could experience inundation, significantly affecting infrastructure and local ecosystems.

Previous Occurrence

Due to the nature of the hazard, the onset of Sea Level Rise is slow. It is difficult to pinpoint exact occurrences of this hazard.

Probability

Future sea level rise in Brevard County is considered likely, with an occurrence estimated at a 500-year or less interval. However, the slow pace and long timeframe make it challenging to predict an exact probability.

Vulnerability and Impacts

The greatest impacts of sea level rise include storm surge and coastal flooding. Additionally, changes in sea level rise and climate patterns can affect atmospheric and hydrological conditions, influencing other hazards like inland flooding, drought, and wildfires. Approximately 18,998 properties along the Indian River Lagoon and 10,014 oceanfront parcels are vulnerable to these changes, especially those within 100-200 feet of the high-water mark.

In 2018, the Brevard County Transportation Planning Organization received a Sea Level Rise Vulnerability Assessment from the East Central Florida Regional Planning Council. This assessment analyzed the impact of sea level rise on transportation infrastructure such as roads, railroads, and airports. By 2100, up to 12.2% of the county may be impacted, with a 318% increase in inundated areas expected between 2040 and 2070. Vulnerable areas include the Merritt Island National Wildlife Refuge, NASA/Kennedy Space Center, and Port Canaveral.

The worst-case scenario for Brevard County would involve sea level rise reaching the higher end of projections, causing damage like coastal erosion, saltwater intrusion, and widespread flooding. The hardest-hit areas would include both sides of the barrier islands including low-lying parts of Merritt Island and properties closest to the lagoon or the ocean.

Severe Thunderstorms

Severe thunderstorms are meteorological phenomena that develop when warm, moist air rises rapidly into cooler atmospheric layers, creating instability. These storms are characterized by strong winds, heavy rainfall, lightning, and sometimes hail or tornados. They play a crucial role in Earth's climate system by redistributing heat and moisture, though they can produce localized impacts such as flooding and wind damage.

Extent

Thunderstorms are classified as severe if they cause any one or more of the following:

- Hail 1-inch or greater
- Winds gusting more than 58 mph
- A tornado

Location

The entire county and its jurisdictions are at risk from severe thunderstorms and their effects.

Previous Occurrence

The National Climactic Data Center has data for many significant storms between 2020 and the end of 2024.

During the planning period there were:

- 39 thunderstorms with winds greater than 58 mph
- 19 that caused hail 1-inch or larger
- 7 that caused a tornado

This does not represent every thunderstorm the county and its jurisdictions experienced in that period. The National Climactic Data Center data is based on reports sent to the National Weather Service by trained spotters, emergency managers, other meteorologists, and the public.

Probability

In Brevard County, where thunderstorms are frequent, an average of 70-80 thunderstorm days occur each year. Severe thunderstorms have a greater than once annually probability of occurrence. In the last five years, almost 40 storms were classified as severe. As climate change progresses, the frequency and severity of these storms will also increase.

Vulnerability and Impacts

Severe thunderstorms can cause damage to structures, disruption of utilities (mainly electrical), and surface/air transportation problems. While all populations can be impacted by thunderstorms, individuals at outdoor recreational events, living in mobile and manufactured homes, and experiencing homelessness are at the highest risk. Changes in land use, development, and population could affect vulnerability throughout the county.

The worst-case scenario for a severe thunderstorm in Brevard County involves a large frontal system that produces numerous storms as it moves across the area. Outdoor lightning strikes could cause injuries or fatalities, though not on a large scale. Structures without lightning protection are vulnerable, especially tall buildings, communication towers, and exposed locations near water. Structures hit by lightning could experience varying degrees of damage, from minor impacts to total loss if fires occur. Strikes to vegetated areas could also trigger wildfires, potentially damaging property and prompting evacuations. Hail, high winds, and possible tornados would cause further structural damage where the strongest cells set up, especially where the front meets the sea breeze.

Severe Winter Storms

A severe winter storm is defined as a hazardous weather event involving extreme cold temperatures, freezing rain, sleet, and/or strong winds that pose significant threats to public safety, infrastructure, transportation systems, and local economies. These storms can result in hazardous travel conditions, utility disruptions, increased risk of accidents, damage to buildings and critical infrastructure, agricultural losses, and heightened health risks, particularly for vulnerable populations.

Extent

Winter storms are often assessed based on various factors, including temperature, snow accumulation, wind speeds, and the impact on infrastructure, transportation, and public safety.

National Weather Service Cold Weather Products	
Product	**Description**
Extreme Cold Watch	Issued when extremely dangerous cold conditions or wind chill values are expected or occurring
Extreme Cold Warning	issued when extremely dangerous cold conditions or wind chill values are possible, but the occurrence, location, and/or timing is still uncertain

Location

All of Brevard County and its jurisdictions could experience impacts from a severe winter storm.

Previous Occurrence

There have been no instances of a severe winter storm since 2010. December 25, 2022, did have observed sleet in a couple locations, but no damages were recorded.

Probability

The probability of a severe winter storm in Brevard County is less than once in a 500-year period. The probability of this hazard will likely continue to decrease as climate change progresses. While severe winter storms are rare in Brevard County due to its subtropical climate, historical events have demonstrated that even brief periods of freezing temperatures and ice accumulation can cause substantial impacts.

Vulnerability and Impacts

The locations most vulnerable to severe winter weather in Brevard County would be agricultural lands. According to the United States Department of Agriculture, Brevard County is home to over 145,000 acres of farmland. Of that, over 19,000 acres are cropland. Most of the agricultural land in on the mainland west of Interstate 95. If temperatures reach freezing levels for extended periods of time, crop or landscape damage may occur. Business closures and significant damages to the county's agricultural industries would result in substantial economic damages.

Additionally, consumer demand of electricity during periods of extreme cold weather may require the electric utility to take actions to prevent damage to power infrastructure. This scenario occurred in Texas in 2021 when an extended bout of cold forced the power utility to enact rolling black outs and brown outs to preserve its infrastructure. People experiencing homelessness are particularly vulnerable to severe winter weather. As the county grows, these effects could impact more people and developed areas.

Space Weather and Geomagnetic Storms

Space weather refers to the conditions in space driven by solar activity, which can influence technologies, infrastructure, and communications on Earth. Coronal mass ejections are massive eruptions of plasma, radiation, and other particles from the Sun's atmosphere that travel through space. The ejection's speed, composition, and trajectory all impact the potential severity of space weather. While the Earth's magnetic field provides significant protection from most solar events, strong coronal mass ejections can still disrupt the magnetosphere. This disturbance can cause geomagnetic storms. These storms cause auroras, in the most severe cases, impacts to communications, navigation, and power infrastructure.

Extent

Space Weather Intensity Scales			
Level	**G-Scale Rating**	**Kp Index Range**	**Effects on Earth**
Minor	G1	Kp = 5	Weak power grid fluctuations, minor impact on satellite operations, auroras visible at high latitudes (e.g., northern U.S.)
Moderate	G2	Kp = 6	Possible power grid voltage alarms, some satellite orientation issues, auroras visible at mid-latitudes (e.g., northern U.S. states)
Strong	G3	Kp = 7	Some power grid irregularities, intermittent satellite navigation and radio issues, auroras visible in lower latitudes (e.g., central U.S.)
Severe	G4	Kp = 8	Widespread voltage control issues in power systems, satellite disruptions, GPS degradation, auroras visible in southern U.S. states
Extreme	G5	Kp = 9	Power grid failures, major satellite and communication blackouts, auroras visible near the equator

Location

Brevard County and its jurisdictions would observe similar impacts and are at equal risk of space weather.

Previous Occurrence

Space weather occurs frequently but the impacts are seldom felt on Earth. This hazard has not impacted Brevard County between 2020 and 2024.

Probability

This hazard has a probability of occurrence of greater than once in 500 years.

Vulnerability and Impacts

Any system dependent electromagnetism would see impacts from a geomagnetic storm. Impacts include malfunction or permanent damage to power distribution grids, navigation systems, and telecommunication systems. Populations and critical infrastructure largely at risk for this hazard. A severe geomagnetic storm could take years to recover.

For more information on space weather, visit the Florida Division of Emergency Management's website: http://www.floridadisaster.org/EMTOOLS/spacewx/index.htm

Tornado

A tornado is a violently rotating column of air, descending from a cumuliform cloud or underneath a cumuliform cloud, and often, but not always, is visible as a funnel cloud. Tornados also form on the leading edge of hurricanes and have the potential to cause more destruction.

Extent

Tornado intensity is measured by how much it damages or destroys while on the ground. Due to the characteristics of tornados, measuring their strength in real time is near impossible. After a tornado impacts an area, the local National Weather Service office must survey and categorize the damage. The levels of damage help meteorologists estimate windspeeds. After the storm survey, meteorologists rate the tornado on the Enhanced Fujita Scale, found below:

EF-Scale:	Typical Damage:
EF-5 (>200 mph winds)	Incredible. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly more than 100 m; trees debarked; incredible phenomena will occur.
EF-4 (166-200 mph winds)	Devastating. Well-constructed houses leveled; structures with weak foundations blown away some distance; cars thrown, and large missiles generated.
EF-3 (136-165 mph winds)	Severe. Roofs and some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars lifted off the ground and thrown.
EF-2 (111-135 mph winds)	Strong. Roofs torn off frame houses; mobile homes demolished; boxcars overturned; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF-1 (86-110 mph winds)	Weak. Moderate damage. Peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos blown off roads.
EF-0 (65-85 mph winds)	Gale. Some damage to chimneys; branches broken off trees; shallow-rooted trees pushed over; sign boards damaged.
Source: National Weather Service, Fujita Tornado Damage Scale	

Location

All of Brevard County and its jurisdictions can see impacts from tornados. Unincorporated Brevard County has a statistically larger risk of occurrence due to the amount of land area.

Previous Occurrence

Brevard County and Florida have a lot of experience with tornados. Florida consistently has a similar or greater number of tornados than any of the Tornado Alley states out west. Brevard County is in the top five counties in the state for number of tornado occurrences. The worst tornado experienced to date within the boundaries of Brevard County was an F-4 tornado in 1966. The following tables summarize the previous occurrences of tornados in Brevard County.

Recent Tornado Incidents Since 2020			
Date	**Rating**	**Location**	**Details**
2024	EF-1	Cocoa Beach – Merritt Island	Caused by Hurricane Milton; damaged roofs of homes and businesses including a bank
2024	EF-0	Melbourne	Light home damage; downed power poles; uprooted trees; damaged hangars at Melbourne Airport
2023	EF-1	South Patrick Shores	35 homes with minor to major damage; trees uprooted; downed power poles
2023	EF-0	Micco	25 to 30 homes with at least minor damage; roof and carport damage; tree damage; damaged boats in a marina
2022	EF-0	East Brevard, along United States Highway 192	Caused by Hurricane Ian; no structure damage; damaged trees
2021	EF-0	North Merritt Island	No structure damage due to tornado; damaged trees
2020	EF-0	Central Merritt Island	Short track tornado; damaged a porch and moved it to the front yard; minor shingle damage

Historic Significant Tornado Incidents			
Year	**Rating**	**Location**	**Details**
2017	EF-0 to EF-2	Brevard County, FL	8 of 10 tornados in the East Central Florida National Weather Service Forecast Office's area during Hurricane Irma; damage varied.
2014	EF-0	Titusville, FL	Roof damage to 3 homes, tree and fence damage.
2013	EF-0	Cocoa, FL	Minor roof, power line, and tree damage; became waterspout in Indian River.
2013	EF-0	Viera/Rockledge, FL	Roof, window, and pool screen damage in Charolais Estates & Colfax Landing.
2012	Unrated	North Okeechobee to Brevard County	Associated with Tropical Storm Debby; observed but little damage.
2010	EF-0	Brevard County, FL	Minor damage, power lines severed.
2010	EF-0	Brevard County, FL	Minor damage to commercial/residential areas.
2008	EF-1	Brevard County, FL	Related to Tropical Storm Fay; 2 injuries, 52 homes damaged.
1966	F-4	Largo to Merritt Island, FL	One of only two F-4 tornados in Florida; 11 deaths, extensive damage.
1966	F-3	Near Sunshine Skyway Bridge, FL to Cocoa Beach, FL	Paralleled F-4 path; $50–100K in damages; 140 injuries, mostly in Brevard.

Probability

Tornados have a once per year probability of occurrence. Due to the many conditions that determine the strength and track of a tornado, it is impossible to predict areas that may receive more tornados or the intensity of any tornado that touches down.

Vulnerability and Impacts

Tornado impacts are usually confined to the tornado's track, but damage within that area can vary greatly depending on multiple factors. People living in older homes, mobile or manufactured housing, or experiencing homelessness face greater risks because these structures often lack modern wind protections. Climate change may increase the frequency and intensity of severe weather, including tornados. As the county's population grows and development expands, the population's exposure will increase. The mitigating factors are newer homes built to better standards and the limited area impacted by a tornado.

A worst-case scenario for Brevard County would involve multiple tornados moving across areas with high concentrations of mobile and manufactured homes. Barefoot Bay, which contains one of the county's largest clusters of these homes and a significant population over age 55, would be particularly vulnerable. Older and mobile/manufactured homes are especially susceptible to severe damage or destruction from tornado-strength winds. Widespread structural losses in Barefoot Bay could displace a large portion of its residents, strain shelters, and overwhelm emergency response resources. Power outages, blocked roadways, and disruptions to critical services such as medical care and communications would further complicate recovery efforts, particularly for older adults and individuals with mobility or health challenges.

Tropical Cyclones

National Oceanic and Atmospheric Administration defines tropical cyclones as warm-core low pressure systems, without any front attached, that develop over the tropical or subtropical waters and have an organized circulation. Tropical cyclones bring multiple hazards that can stretch over 100 miles from the center of the storm. A direct hit is not necessary to feel the effects from a storm. Multiple hurricanes have impacted the county during the 2020 – 2025 planning period.

Tropical cyclones describe a wide variety of weather phenomena in the tropical and sub-tropical waters of the Atlantic and the Pacific Oceans. The following are some types of tropical cyclones that form:

- **Subtropical Cyclone** – A non-frontal low-pressure system that has characteristics of both tropical and extratropical cyclones. Subtropical cyclones originate over tropical or subtropical waters and have a closed circulation about a well-defined center. In comparison to tropical cyclones, the maximum winds occur relatively far from the center (greater than 60 nautical miles) and have a less symmetric wind field and distribution of convection
- **Potential Tropical Cyclone** – A term used in National Weather Service advisory products to describe a disturbance that is not yet a tropical cyclone, but which poses the threat of bringing tropical storm or hurricane conditions to land areas within 72 hours
- **Tropical Depression** – A tropical cyclone that has maximum sustained surface winds (one-minute average) of 38 mph (33 knots) or less
- **Tropical Storm** – A tropical cyclone that has maximum sustained surface winds ranging from 39-73 mph (34 to 63 knots)
- **Hurricane** – A hurricane is a tropical cyclone that has maximum sustained surface winds of 74 mph or greater (64 knots or greater)
- **Major Hurricane** – A hurricane that is classified as at least a Category 3; sustained winds of at least 111 mph (at least 96 knots)

Tropical cyclones have been recorded in every month of the year and can develop any time if the conditions are right. The Atlantic Hurricane Season occurs annually between June 1 to November 30 and represents the statistical high when tropical cyclones develop in the Atlantic Basin. Development does not necessarily mean landfall. A tropical cyclone's track and intensity mainly depend on steering currents, wind shear, and water temperature.

The intensity and track of the storm determine the hazards and impacts Brevard County can expect to experience including:

- High winds
- Storm surge
- Coastal and inland flooding
- Heavy rainfall
- Tornados
- Coastal erosion

This hazard profile includes high winds and storm surge as accompanying hazards of a tropical cyclone.

High winds occur when there are significant differences in air pressure, causing air to move rapidly from high-pressure areas to low-pressure areas. In hurricanes, extremely low pressure at the storm's center creates a strong pressure gradient, drawing air inward. The Coriolis effect then curves these winds, forming the storm's spin and concentrating the highest winds around the eyewall. Warm ocean water and released heat provides more fuel for the system. Outside of tropical systems, strong winds are typically caused by cold fronts, low-pressure systems, and jet stream activity, where steep pressure differences drive gusty conditions.

By their nature, tropical cyclones impact the water beneath them. Storm surge is one of the results of those impacts. Many factors impact the maximum amount of storm surge including tropical cyclone

intensity, forward speed, the radius of maximum winds, angle of approach, and characteristics of the coastline. Storm surge and related terms are defined below.

- **Storm Surge** – the abnormal rise of water level over and above the normal astronomical tide, expressed as the height above predicted or expected tide levels. It is measured as a deviation from normal levels, and not attached to a tidal datum
- **Storm Tide** – the water level due to the normal tide and storm surge and is related to a tidal datum
- **Wave Action –** Wind-driven waves on top of storm surge
- **Inundation** – the height of water above normally dry ground as established by the Mean Higher-High Water line
- **Depth** – the height of water over ground level established by a vertical datum, such as the North American Vertical Datum (NAVD88)

More information about Storm Surge and its impacts are available from the National Hurricane Center.

Extent

A tropical cyclone's intensity is categorized by its windspeed on the Saffir-Simpson Hurricane Wind Scale. Meteorologists can also use the Dvorak Technique to estimate tropical cyclone intensity using infrared and visible satellite imagery in the absence of aircraft-gathered data. It has shown a relationship between pressure, measured in millibars, and cyclone intensity.

Category	Wind Speed and Pressure	Type of Damage
Five (Major Hurricane)	≥157 mph ≥137 knots <921 mb	Catastrophic Damage: Most framed homes destroyed, complete roof and wall collapse, widespread tree and power pole failures, area uninhabitable for weeks or months
Four (Major Hurricane)	130–156 mph 113-136 knots <948 mb	Catastrophic Damage: Severe structural damage to framed homes, widespread tree and power pole failures, prolonged power outages, area uninhabitable for weeks or months
Three (Major Hurricane)	111–129 mph 96-112 knots <960mb	Devastating Damage: Major roof damage to homes, many trees uprooted, blocked roads, electricity and water outages for days to weeks
Two (Hurricane)	96–110 mph 83-95 knots <970mb	Extensive Damage: Major roof and siding damage, trees uprooted, widespread power outages for days to weeks
One (Hurricane)	74–95 mph 62-82 knots <987mb	Moderate Damage: Roof, shingle, and siding damage, tree branches snap, power outages lasting several days
Tropical Storm	39–73 mph 35–63 knots <1005mb	Light Damage: Strong winds may cause damage but less severe than a Category 1 hurricane
Tropical Depression	<38 mph <34 knots <1009mb	Minimal Damage: Though strong winds and gusts are still possible
Source: National Hurricane Center, National Oceanic and Atmospheric Administration		

Location

Brevard County and its jurisdictions are particularly susceptible to tropical cyclones. Tropical cyclones affect large areas outside of their forecast track. These storms can span hundreds of miles across and can impact entire states for days. When and where the cyclone makes landfall will change the impacts to Brevard County.

Previous Occurrence

Almost 200 tropical cyclones have passed within 100 miles of Brevard County since records began in the 19th century.

Brevard County Impacting Tropical Cyclones Since 2020				
Year	**Storm**	**Peak Sustained Winds (mph)**	**Rainfall (in)**	**Storm Surge (ft)***
2024	**Milton**	43	8	3-5
2024	**Helene**	36	1.5	1-2
2024	**Debby**	35	2.5	N/A
2023	**Idalia**	32	2	1-2
2022	**Ian**	46	15	2-3
2022	**Nicole**	53	3.7	3-4

**Storm Surge is measured in feet above the Mean High High Water (MHHW) point*

Historically Significant Tropical Cyclones		
Year	**Storm**	**Impacts**
2019	**Dorian**	Coastal Erosion
2017	**Irma**	Flooding, High Winds
2016	**Matthew**	High Winds, Coastal Erosion, Storm Surge
2012	**Sandy**	Coastal Erosion, Storm Surge
2008	**Fay**	Record Setting Flooding Rain
2004	**Jeanne**	Flooding, High Winds, Storm Surge
2004	**Frances**	Flooding, High Winds, Storm Surge

A record of every storm that has passed within 100 miles of Brevard County is available from National Oceanic and Atmospheric Administration's Office of Coastal Management's Digital Coast.

Probability

Brevard County can expect to experience impacts from tropical cyclones annually. Climate change has increased tropical cyclone frequency as ocean surface temperatures climb. Climate change will likely cause more frequent and stronger storms.

Vulnerability and Impacts

A tropical cyclone will impact all the homes, businesses, and infrastructure throughout the county. High winds would cause debris, widespread damage to buildings and infrastructure, and injuries or death to people. Coastal and inland flooding would inundate structures, severely damaging critical infrastructure and buildings.

Climate change and population growth have caused the county's vulnerability to increase. The additional people and accompanying development have taxed local infrastructure as it attempts to keep

up with the demand. Vulnerable communities include the populations noted in the asset inventory as they have less resources to cope with the pre, during, and post storm impacts.

Homes, businesses, and critical infrastructure closest to the ocean or the river will see more impacts from more frequent and stronger tropical cyclones. The amount of relatively low-risk land has also steadily decreased as more single-family and other low-density zoning has developed on the mainland side of the county. While newer structures are less vulnerable to the high winds, they can still sustain damage and remain susceptible to flooding. Mobile homes and many structures erected prior to building code changes face higher vulnerability to the strong winds associated with a tropical cyclone.

Tsunami

A tsunami is a series of large ocean waves caused by sudden and powerful disturbances in or near large bodies of water, such as earthquakes, volcanic eruptions, or underwater landslides. When these waves approach shallow coastal areas, they can increase in height and cause significant flooding, property damage, and loss of life. The North American, South American, and the Caribbean tectonic plates converge in the Puerto Rico Trench. A seismic event there could cause a tsunami to impact Brevard County. As well, an undersea landslide from the Azores/Gibraltar Fracture Zone near Portugal, could also cause a tsunami that can impact Brevard.

Extent

Tsunami inundation zones show the areas at risk of flooding based on predicted wave heights and local coastal conditions. Factors such as elevation, shoreline shape, and distance from the coast influence how far tsunami waters may reach. The National Oceanic and Atmospheric Administration has inundation models and maps that can help forecast where the impacts would be the worst.

Location

Jurisdictions within the tsunami danger zone include Cape Canaveral, Cocoa Beach, Satellite Beach, Melbourne Beach, Indian Harbour Beach, Indialantic, and Unincorporated Brevard. Port Canaveral would observe the most severe impacts due to the currents associated with a tsunami and the layout of the Port.

Previous Occurrence

There has not been a tsunami that has impacted Brevard County.

Probability

Because of the rarity of this type of event, it is not expected to occur more than once in 500 years.

Vulnerability and Impacts

Due to its location, Brevard County is vulnerable to tsunami activity. Brevard County has 72 miles of susceptible shoreline. The Tsunami Hazard Zone in Brevard County extends up to 300 feet inland. According to the National Weather Service, an estimated 24,741 businesses and residences within the Tsunami Hazard Zone. Approximately 12,000 residents live in this area along with a daily average of 10,000 beach visitors. Those visitors typically concentrate around crossovers and well-known parks, such as Jetty Park in Cape Canaveral, the Cocoa Beach Pier and Lori Wilson Park in Cocoa Beach. No change in risk is expected as the county grows.

Should a tsunami affect Brevard County, Port Canaveral would see outsized impacts from the currents pushing into the channel and harbor. These currents could push anchored cruise ships and damage the Port including the piers. Residents and tourists would have to evacuate the beach to just west of Highway A1A. If that evacuation is not possible, residents and visitors would need to move to the second floor of a well-constructed building.

Wildfire

A wildland fire originating from an unplanned ignition or unauthorized and accidental human caused fires. Late winter and spring are prime periods for wildfires, fueled by strong winds and a lack of rainfall. The major causes of wildfires are lightning and human negligence.

While wildfires are destructive, they are a part of the natural cycle of renewal. Fires cleanse the land of old trees and brush to make room for new growth to emerge. The ash left behind by the fire helps to fertilize the land offering more encouragement for new growth. Brevard County's natural habitats, including the scrub and the hammock, depend on this cycle to recharge.

Extent

Fires are mostly classified by how much land they burn, in acres, and how intense they burn. Below is a scale showing the different intensities of wildfires.

- **Low-Intensity Fires** – Burn at lower temperatures, mainly clearing underbrush without damaging mature trees.
- **Moderate-Intensity Fires** – More intense, causing some tree mortality but leaving patches of unburned areas.
- **High-Intensity Fires** – Consume large areas quickly, destroying vegetation and structures, often leading to post-fire hazards like erosion and landslides.

Location

All of the county and its jurisdictions are susceptible from the impacts from wildfire. The most at-risk areas are closest to existing scrub and hammock habitats. These areas include developments in or around:

- West of Interstate 95
- Lake Washington
- Newly developed sections of the Town of Malabar and Town of Grant Valkaria
- Micco
- North Merritt Island
- North and west Cocoa
- Lake Poinsett
- Canaveral Groves

Previous Occurrence

Recent Wildfire Incidents Since 2020		
Year	**Fire Name/Event**	**Acres Burned**
2024	Duda	270
2024	Buffer	60
2024	Annex	176
2023	Laughing Gull	140
2023	5 Block	150
2023	Plantation	150
2023	Providence Rd	400
2023	Centerlane	130
2022	Iris	138
2022	Micco Road	65
2021	Otter Slide	1451
2021	Moccasin	580
2021	Deer Run	75
2020	Three Forks	75
2020	Three Forks Marsh Fire	570

Historic Significant Wildfire Incidents		
Year	**Fire Name/Event**	**Acres Burned**
2018	Micco Scrub Fire (Palm Bay)	600
2017	Three Forks #8 Fire	6,282
2017	Tucker Fire	4,500
2017	Midway 1 Fire (Titusville)	325
2016	Fleming Grant Fire	95
2016	Quincy Fire (Palm Bay)	45
2016	Twin Fire (Titusville)	1,300
2016	Smoke House Fire (Mims)	301
2016	Silver Gate Fire (Titusville)	275
2016	Tram Fire (Mims)	222
2011	Iron Horse Fire	17,500
2008	Mother's Day Fires	10,000+
1998	Summer Wildfires	150,000

Probability

Low-intensity wildfires are expected to occur annually in Brevard County. Fires causing widespread property damage and necessitating evacuations occur less frequently. These moderate-intensity and high-intensity fires can occur with a once in 25-year frequency.

Vulnerability and Impacts

The highest risk areas are those where new development borders natural habitats like the scrub and hammocks. These fires burn as a part of the natural cycle and may consume those structures closest to

the wildland-urban interface. Fires in those habitats can spread rapidly and will encounter structures quicker as development expands in the county. Depending on the scale of the fire, impacts may include the loss of homes and businesses where the fire was the most intense.

Climate change will continue to make more extreme impacts more likely. The dry periods are extending in length as average temperatures increase. More frequent and more intense tropical cyclones leave a growing amount debris behind. As that debris dries out, it becomes a critical fuel source and will strengthen a fire. Intense fires will be harder to control and extinguish. More intense fires, in addition to the development of natural habitats, will put wider populations and structures at risk.

Bulk Fuel / Oil Spill Incident

A bulk fuel or oil spill incident occurs when a large quantity of petroleum-based products, such as gasoline, diesel, jet fuel, or crude oil, is accidentally released into the environment. These spills can occur due to transportation accidents involving tanker trucks, railcars, or ships, pipeline ruptures, storage tank failures, or industrial mishandling. Port Canaveral serves as a primary fuel intake and transportation hub which impacts the risk of a fuel or oil spill.

Extent

The severity of a bulk fuel or oil spill depends on the type and volume of the release, the location of the incident, and the environmental sensitivity of surrounding areas.

Bulk Fuel / Oil Groups and Their Characteristics			
Group	**Examples**	**Volatility & Residue**	**Environmental & Cleanup Impacts**
1 – Non-Persistent Light Oils	Gasoline, Condensate	Highly volatile; evaporates within 1–2 days; leaves little to no residue.	Highly toxic soluble compounds; localized but severe impacts; cleanup can be dangerous due to flammability and fumes.
2 – Persistent Light Oils	Diesel, No. 2 Fuel Oil, Light Crudes	Moderately volatile; up to 1/3 residue remains after a few days.	Moderately toxic; can cause long-term contamination in intertidal areas; cleanup is generally effective.
3 – Medium Oils	Most Crude Oils, IFO 180	About 1/3 evaporates within 24 hours.	Can heavily contaminate intertidal zones; strong impacts on birds and mammals; quick cleanup is necessary for best results.
4 – Heavy Oils	Heavy Crude Oils, No. 6 Fuel Oil, Bunker C	Little to no evaporation or dissolution.	Severe and long-lasting contamination; heavy impacts on wildlife; sediments remain polluted; cleanup is very difficult.
5 – Sinking Oils	Slurry Oils, Residual Oils	Does not evaporate or dissolve; can sink below the surface.	Behaves like heavy oils on shorelines but sinks offshore; damages bottom-dwelling organisms; removal often requires dredging.

Location

The highest-risk locations in Brevard County are in and around high-volume transportation routes such as Port Canaveral, the Florida East Coast Railway, pipeline corridors, and roadways such as Interstate 95, U.S. Highway 1, and State Road 528. Storage and transfer facilities are also primary points of concern for spills.

Previous Occurrences

In the past five years, Brevard County has experienced minor fuel spills related to transportation and storage, primarily at Port Canaveral and along roadway corridors. These incidents were contained quickly and resulted in minimal environmental damage.

Probability

The probability of a major bulk fuel or oil spill in Brevard County is considered unlikely with a one in 100-year probability of occurrence. This is due to the controls placed on the movement of petroleum products.

Impacts and Vulnerability

A bulk fuel or oil spill in Brevard County would have severe environmental, economic, and public health impacts. Smaller spills may be quickly contained with limited long-term consequences, while larger incidents can result in fires, explosions, and significant environmental contamination. A large-scale oil spill into the Indian River Lagoon, Banana River, or the Atlantic Ocean could lead to extensive ecological damage, affecting wildlife, marine habitats, and local fisheries. Any spill could impact tourism, cruise ship operations, and fuel distribution, causing economic losses. At Port Canaveral, a major incident could significantly disrupt operations. This disruption could create widespread economic losses across the region. As Brevard County continues to experience growth in both population and industrial activity, its vulnerability to large-scale spills could increase. The United States Coast Guard Sector Jacksonville maintains an Area Contingency Plan for the Northeast and East Central Florida regions. The Area Contingency Plan guides the response to an oil spill in any of the region's waters. The full plan can be accessed at the Sector Jacksonville website.

Civil Unrest

Civil unrest consists of demonstrations, protests, or riots that disrupt public order and may involve property damage or violence. Triggers include political polarization, social justice events, or contentious incidents.

Extent

Severity ranges from minimal disruption to extended disturbances requiring mutual aid and protective actions for nearby facilities.

Location

Civil unrest is likely to occur in high-visibility venues or transportation corridors where the involved people can get the most visibility.

Previous Occurrences

There have been no significant incidents of civil unrest in Brevard County in the last 50 years.

Probability

A large-scale civil unrest incident, that results in property damage or injuries, is unlikely with a one in 25-year probability of occurrence. This can vary with national and regional events, election cycles, and social media mobilization.

Impacts and Vulnerability

Impacts can include injuries, property damage, traffic disruption, and business closures. Vulnerability concentrates in high-traffic areas that host large events and will primarily affect those attending the events.

Communications Failure

Communications failure refers to the partial or complete disruption of critical communication systems, including landlines, cellular networks, internet services, and radio systems. These failures can result from infrastructure damage, equipment malfunctions, severe weather, or cascading power outages.

Extent

The extent of a communications failure depends on the type, cause, and duration of the outage. Localized failures may affect individual cell towers or small areas, while countywide disruptions can occur when major network infrastructures fail.

Location

Communications failures can affect anywhere in Brevard County.

Previous Occurrences

Brevard has mainly experienced hurricane-related outages or intermittent cellular disruptions.

Probability

Widespread communications failures have a one in 25-year probability of occurrence.

Impacts and Vulnerability

Communications failures can delay 911 calls, hinder coordination among first responders, and block residents from basic communications. Vulnerable populations face disproportionate risks during prolonged outages. Critical infrastructure is especially reliant on uninterrupted communications. Many agencies maintain redundant systems like satellite phones and public safety radios.

Cyber Attacks

A cyber attack is a deliberate and malicious attempt to breach, disrupt, damage, or gain unauthorized access to computer systems, networks, or data. Cyber attacks can target individuals, organizations, or government institutions. They are typically carried out using malware, ransomware, phishing, or denial-of-service attacks.

Extent

The severity of a cyber attack depends on the type of attack, targeted system, and duration of disruption. Impacts can range from localized system failures and data breaches to widespread operational disruption. Minor attacks may only affect a single department or facility. Sophisticated attacks could compromise multiple systems simultaneously, affecting residents, businesses, and critical infrastructure throughout Brevard County.

Location

Cyber attacks are not geographically constrained but primarily affect locations with networked digital systems. Any facility that relies on digital connectivity is potentially vulnerable.

Previous Occurrences

While Brevard County has not experienced any publicly reported major cyber attacks on critical infrastructure in the past five years, ransomware and other attacks have affected local governments elsewhere in Florida.

Probability

Given persistent threat activity and growing digital dependence, cyber attacks have a one in 25-year probability of occurrence. The probability of a large-scale cyber attack is smaller with a one in 100-year probability of occurrence.

Impacts and Vulnerability

A successful cyber attack in Brevard County could have significant operational, economic, and social consequences. Interruptions in utility and energy systems could affect power delivery, water management, and other essential services, with cascading impacts on homes, businesses, and public facilities. Economic impacts could include financial losses from system downtime, ransomware payments, recovery efforts, and operational delays. Vulnerability is increased by a growing reliance on networked systems, interdependencies between public and private Information Technology infrastructure, and limited Information Technology staffing or resources. While proactive cybersecurity measures reduce risk, constantly evolving threats keep Brevard County vulnerable to cyber attacks.

Dam/Levee Failure

A dam or levee failure occurs when a structure intended to impound or control water is overtopped, breached, or otherwise compromised. While Brevard County has no large federal dams, it has approximately 30 miles of levees in the upper basin of the St. Johns River that protect agricultural lands, residential parcels in west Palm Bay, a high school, and a subdivision in southern unincorporated Brevard. There is also a St Johns River Water Management District maintained weir on Lake Washington that is critical to managing lake levels for the City of Melbourne's water supply.

Extent

Severity ranges from minor erosion and localized overtopping to rapid, uncontrolled releases causing downstream inundation. Consequences can include swift, deep flooding, transportation disruption, damage to utilities, and secondary environmental impacts depending on release volume and velocity.

Location

Risk is concentrated along the St. Johns River upper basin levee system and downstream low-lying communities, as well as areas relying on the Lake Washington weir. Impacts vary by elevation, proximity to levees, and distance from controlled water bodies across the planning area.

Previous Occurrences

No catastrophic failures have occurred. In 2023, a breach caused by boats crossing over the bordering marsh on the Lake Washington Weir was repaired by the St Johns River Water Management District. Inspections by the St. Johns River Water Management District and the U.S. Army Corps of Engineers have ensured the federal and Water Management District structures in good working order.

Probability

Given regular inspection, maintenance, and operational controls, the probability of a damaging levee or weir failure is very unlikely in any given year; a one in 500 years probability of occurrence.

Impacts and Vulnerability

A failure could produce sudden flooding, damage public and private property, and interrupt transportation and utilities. The City of Melbourne's potable water supply could be affected if the Lake Washington weir failed. Vulnerability increases where development approaches closest to the water control structures. The effects of climate change, such as more frequent and intense rainfall events, could exacerbate riverine flooding risks and heighten the chances of a structural failure.

Hazardous Materials Release

A hazardous materials release occurs when dangerous substances, such as chemicals, fuels, or gases, are accidentally or intentionally discharged into the environment. Hazardous materials are stored, used, and transported throughout Brevard County, with bulk storage sites, industrial facilities, transportation networks, and pipelines contributing to potential risks. In addition to storage facilities, rail, highway, and maritime transport routes increase the potential for incidents, particularly near densely populated areas.

Extent

The severity of a hazardous materials release depends on several factors, including the type of substance released, location of the incident, weather conditions, and population density. Minor spills may be quickly contained, while large-scale releases could require mass evacuations, extended shelter-in-place orders, and long-term remediation. A pipeline explosion could have multiple impacts and possible cascading effects on infrastructure and energy supply.

Location

Hazardous materials are present throughout Brevard County in both fixed facilities and along major transportation routes. Storage facilities exist in industrial areas, including those supporting the space industry. Major roadways such as Interstate 95, U.S. Highway 1, and State Road 528, as well as Florida East Coast Railway corridors and Port Canaveral, are significant transport routes where releases could occur. Brevard County also has over 170 miles of natural gas pipelines that traverse populated regions, including Palm Bay, Melbourne, Titusville, and unincorporated areas which carry natural gas primarily for energy providers like Florida Gas.

Previous Occurrences

In the past five years, Brevard has experienced minor spills and transport-related incidents contained by facility or carrier response with limited off-site impacts. No countywide catastrophic release has been recorded. However, rail traffic and industrial activity contribute to a steady background risk.

Probability

Probability of a significant, uncontrolled release is unlikely with a one in 100-year occurrence. Minor releases are a greater than annual occurrence due to HAZMAT transport, fixed facilities, and pipeline mileage.

Impacts and Vulnerability

Significant releases could overwhelm local response and healthcare capacity, necessitate regional mutual aid, and cause long-term contamination of soil and waterways. Populations near industrial sites, rail crossings, and pipelines are more exposed, as are critical facilities along transport routes. Impacts are influenced by the characteristics of the released material and the surrounding area.

Radiological Release

A radiological release occurs when radioactive materials are accidentally or intentionally released into the environment, posing risks to human health, property, and the ecosystem. These materials may originate from nuclear power facilities, military operations, transportation incidents, or aerospace launches. In Brevard County, potential sources of radiological hazards include:

1 - The St. Lucie Nuclear Power Plant in St. Lucie County
   - Brevard's southern part of the county falls within the 50-mile Plume Ingestion Pathway, where contaminated foodstuffs could be restricted

2 - A Space Launch with a Radiological Source
   - A space vehicle with a radiological source for power launches from Kennedy Space Center or Cape Canaveral Space Force Station
   - Launches with radiological sources are rare and follow extensive multi-year planning and safety review processes
   - The effects of an anomaly on Brevard County depend on many factors including the source, the weather, and the time into flight of the anomaly

3 - Port Canaveral Trident Pier
   - Port Canaveral occasionally hosts a United States Navy nuclear submarine

Extent

The severity of a radiological release depends on the type of radioactive material, quantity released, duration of exposure, and proximity to populated areas or sensitive environments. The most severe damage to Brevard would be economic due to losses of residents, businesses, agriculture, and tourism.

Location

Southern Brevard is within the ingestion pathway for St. Lucie. Areas closest to Kennedy Space Center and Cape Canaveral Space Force Base launch facilities are also vulnerable from launches with radiological payloads. However, the entire county would feel the economic impacts from such a release.

Previous Occurrences

No radiological releases have affected Brevard County.

Probability

Overall, this hazard is very unlikely with a one in 500-year probability of occurrence. This is due to stringent federal regulations and engineering controls.

Impacts and Vulnerability

Any impacts would be determined by unique circumstances surrounding a release. A radiological release from any source could require individuals within the plume to shelter-in-place. Residents with gardens or in agriculture may also need to safely dispose of their current crops to avoid food contamination. Environmental impacts could include contamination of soil and wetlands. Populations living near Port Canaveral, Kennedy Space Center, and major transportation corridors face elevated exposure risks, especially those who are elderly, medically vulnerable, or without personal transportation in the event of an evacuation. Brevard's growing population may increase overall vulnerability in the future.

Space Launch Anomalies

A space launch anomaly occurs when a launch vehicle deviates from its intended trajectory or experiences a failure during ascent or landing. This often results in the partial or complete loss of the launch vehicle. Anomalies may be caused by mechanical failure, software errors, weather conditions, or fuel system malfunctions. Launch vehicle anomalies can cause debris fields because of the speed and altitude at which the anomaly occurs. The size of individual pieces of debris can range from a couple inches to several feet. The fuel used by the launch vehicles can also pose a toxic risk depending on the amount and type of fuel. Hypergolic fuels such as hydrazine are highly potent oxidizers that can cause severe harm to humans if exposed to a small amount for any period. The use of hypergolic fuels has decreased over time, but they are still used in some launch vehicles. Distance focusing overpressure (DFO) is a specific type of shockwave from the explosion of a launch vehicle that only occurs under certain meteorological conditions. This phenomenon can cause broken windows far from the initial location of the anomaly.

Brevard County is home to Kennedy Space Center and Cape Canaveral Space Force Station. These launch facilities support increasingly frequent commercial, military, and government space launches. While launch vehicles can carry large amounts of rocket fuel, including hazardous propellants, improved safety protocols have limited any off-site impacts.

Extent

The severity of a space launch anomaly depends on vehicle size, fuel type, trajectory, and location of failure. Consequences can range from minor equipment loss and limited debris to widespread debris fields and potential impacts to facilities immediately surrounding Kennedy Space Center or Cape Canaveral Space Force Station.

Location

Space launch anomalies can affect launch pads, adjacent facilities, or waterways within the path of the launch vehicle. Virtually all debris from an anomaly will remain within the perimeter of Kennedy Space Center and Cape Canaveral Space Force Station or in the Atlantic Ocean. The exact debris field depends on the altitude and trajectory at the time of failure.

Previous Occurrences

On January 27, 1967, a launch pad anomaly caused Astronauts Virgil Grissom, Edward White and Roger Chaffee to lose their lives during a pre-flight check. On January 28, 1986, Space Shuttle Challenger experienced a catastrophic anomaly 86 seconds into flight that resulted in the death of all astronauts aboard. On February 1, 2003, Space Shuttle Columbia experienced a catastrophic anomaly on reentry also resulting in the death of all astronauts aboard. Though Columbia broke apart over the continental United States, no injuries on the ground were reported. Recent anomalies caused by the SpaceX Falcon 9 and Falcon Heavy testing, only resulted in vehicle loss and debris but no injuries.

Probability

Launch anomalies remain unlikely with a one in 25-year probability of occurrence. Anomalies that affect the county outside of the perimeter of Kennedy Space Center or Cape Canaveral Space Force Station are even more unlikely with a one in 100-year probability of occurrence. Larger launch platforms such as Artemis, Starship, and New Glenn could cause the probability of offsite impacts to increase as their programs grow.

Impacts and Vulnerability

Depending on the launch vehicle and other factors, the impacts of an anomaly could be severe but are very unlikely to reach outside the perimeter of Kennedy Space Center or Cape Canaveral Space Force Station. As the launch vehicles grow and active launch pads move south on Cape Canaveral Space Force Station, Port Canaveral and its various customers could potentially be impacted by an anomaly occurring. Burgeoning cruise traffic and greater launch frequencies are increasing the chance of a maritime impact from an anomaly.

The most severe impacts that would be felt in Brevard are economic. If an anomaly causes a program cancellation, Brevard could experience economic impacts similar to the aftermath of the Challenger Disaster in 1986. Following the Challenger explosion, people working for and around the Space Shuttle Program were out of work and migrated out of the area. A lot of high-paying jobs were lost and led to a large migration out of the area. A similar impact occurred when the Space Shuttle Program was ended in 2011. As launch providers expand, the economic impacts would affect the entire county as employees become more dispersed and reinforce the need for a diverse, countywide economic base.

Terrorism

Terrorism is the use of violence, intimidation, or threats to achieve political, religious, or ideological objectives. Biological attacks could involve the release of viruses, bacteria, or toxins such as anthrax, smallpox, or ricin, while chemical attacks could involve nerve agents, mustard gas, or chlorine. Attacks can be carried out by domestic groups, international organizations, or lone actors. Potential targets may include people, facilities, infrastructure, transportation systems, or information networks.

Extent

The severity of a terrorist incident depends on the attack method, scale, and target. Consequences can range from localized injuries or fatalities to widespread disruption and environmental contamination. An attack could damage infrastructure and result in mass casualties. Biological or chemical releases could cause immediate health effects or long-term illness.

Location

High-risk areas in Brevard County include Port Canaveral, Kennedy Space Center, Patrick Space Force Base, Cape Canaveral Space Force Station, tourism districts, and transportation infrastructure. Rural areas of Brevard are generally less likely targets.

Previous Occurrences

Brevard County has not experienced a confirmed terrorist attack.

Probability

An organized and wide impacting terrorist attack is very unlikely with a one in 500-year probability of occurrence. However, the probability could change due to shifting political, religious, and ideological landscapes.

Impacts and Vulnerability

A terrorist incident in Brevard County, including biological or chemical attacks, could result in significant impacts. Residents and visitors in affected areas would be at greatest risk. Exposure to biological or chemical agents could result in serious injuries and long-term health effects. Critical infrastructure could be damaged or disrupted. Psychological impacts could also be widespread. The tourism industry would also see impacts with less individuals wanting to travel to Brevard. Environmental contamination could harm ecosystems, wildlife, and natural resources.

Transportation Incidents

Transportation incidents occur when failures or accidents within a transportation system result in injuries, fatalities, property damage, or environmental impacts. These incidents can involve roadways, railways, airports, seaports, or other transit infrastructure, and may be caused by operator error, equipment malfunction, natural hazards, hazardous cargo, or intentional acts. In Brevard County, critical transportation infrastructure includes Interstate 95, major rail lines such as Florida East Coast Railway, Port Canaveral, Patrick Space Force Base, and multiple airports, including Melbourne International Airport.

Extent

The severity of a transportation incident varies widely, from minor collisions with limited injuries to large-scale accidents. Highway accidents can involve multiple vehicles and produce fatalities or serious injuries. Rail incidents, especially those involving hazardous cargo, can cause fires, explosions, or toxic releases affecting surrounding populations. Aircraft accidents can lead to loss of life, property damage, and debris contamination over wide areas. Port incidents may involve hazardous material spills, fuel leaks, or ship collisions, causing environmental degradation and economic disruption.

Location

With major roadways, railroad tracks with 146 at-grade crossings, Port Canaveral, and airports, all of Brevard County is susceptible to impacts from a transportation incident. Rail incidents often occur at grade crossings or along freight corridors. Port Canaveral is a hub for cruise and cargo operations, fuel intake, and military shipping, making it sensitive to large-scale incidents. Airports present risks both on the ground and in the airspace surrounding the facility, particularly during takeoff and landing operations.

Previous Occurrences

In the past five years, Brevard has seen hundreds of vehicle crashes on Interstate 95 and increased grade-crossing incidents linked to higher rail traffic. There have been a handful of incidents at the airports and Port Canaveral with highly localized impacts.

Probability

Less complex, smaller incidents occur multiple times per year and are practically guaranteed to occur. The complex, higher impact events have a one in 25-year probability of occurrence.

Impacts and Vulnerability

Impacts include fatalities, injuries, hazardous materials exposure, delays to evacuation traffic, and economic loss from disrupted logistics and tourism. Vulnerability is higher along busier routes, dense tourist zones, and near fuel and cargo facilities.

The Local Mitigation Strategy

The Local Mitigation Strategy represents the operational portion the Hazard Mitigation Plan. The Steering Committee is the mechanism through which Brevard identifies and completes mitigation projects.

Mitigation Capabilities

Capabilities to complete mitigation activities include funding, regulatory tools, and public outreach. Each jurisdiction updates information about its current capabilities to the Steering Committee during meetings as needed. Brevard County and its jurisdictions are responsible for reviewing their capabilities to identify and address capability gaps. Then, they will identify mitigation projects to close the capability gaps. These new projects can include construction, finding a new funding source, or updating regulations. A current list of capabilities by jurisdiction can be found in Appendix F.

Funding Sources for Hazard Mitigation

Funding Level	Sources
Federal	Hazard Mitigation Grant Program (HMGP)
	Hazard Mitigation Grant Program (HMGP) Post-Fire
	Flood Mitigation Assistance (FMA) Grant Program
	Community Development Block Grant – Disaster Recovery (CDBG-DR)
	Community Development Block Grant – Mitigation (CDBG-MIT)
State	Florida Hurricane Catastrophe Fund
	Hurricane Loss Mitigation Program (HLMP)
	Resilient Florida Grant Program
	Rebuild Florida Program
	Elevate Florida Program
Local	Local Budget/Capital Improvement Plans
	Stormwater Tax Assessment
	In-Kind Services

The Steering Committee

The Steering Committee is the representative structure that coordinates mitigation activities in Brevard County. The Steering Committee handles business according to the Bylaws. Special committees like the Initiative Scoring Sub-Committee focus on reviewing and prioritizing projects. The Steering Committee has representation from the Brevard County Board of County Commissioners, Brevard Public Schools, Brevard County Sheriff's Office, each of Brevard County's 16 municipalities, the Canaveral Port Authority, the St. Johns River Water Management District, local hospital systems, and private industry partners. A list of the members of the Steering Committee is in Appendix B.

Bylaws

The Steering Committee follows a set of bylaws that guide how the group operates. These bylaws lay out the structure of the Committee, how members are chosen, and how decisions are made. The Bylaws make sure every participating municipality, organization, and community partner knows their role, how

to stay involved, and how to bring projects forward for consideration. The Bylaws provide a clear set of rules so the Steering Committee can operate fairly and efficiently. A copy of the bylaws is in Appendix E.

Meetings

The Steering Committee meets quarterly to discuss current mitigation issues. Meetings can be held in-person or virtually and serve as an opportunity for Steering Committee members to get together and provide updates on their progress implementing mitigation projects. Mitigation projects can be proposed and incorporated into the plan at any regular meeting. Special meetings can be held to go over single topics such as hazard reviews, development updates, or the project list.

Goals

The Steering Committee defined a new system to clarify the differences between goals and projects.

- **Goals** – Overarching long-term targets; provide direction for the strategy
- **Projects** – Any mitigation actions taken or planned to reduce risk and work toward one or more of the goals

The Steering Committee sets the goals of the Local Mitigation Strategy to reflect changes in Brevard County and its jurisdictions. The following goals reflect lessons learned and provide a flexible framework for the future.

1. Implement measures to reduce the vulnerability of critical infrastructure to all types of hazards
2. Encourage updates to local building codes and zoning regulations to reduce risk
3. Increase power redundancy for critical infrastructure by installing backup power systems
4. Increase awareness of federal and non-federal programs and funding sources to enhance mitigation efforts
5. Use public education, outreach campaigns, and innovative tools to improve community understanding of hazard risks and mitigation strategies

Projects

A structured and transparent process for identifying, prioritizing, and implementing mitigation projects is essential for Brevard's mitigation strategy. Each project incorporated into the Hazard Mitigation Plan has the goal of reducing risk of at least one of the identified hazards with at least one jurisdiction seeing the benefits of the project. Members can update the Steering Committee on their progress of project implementation at every meeting of the Steering Committee.

Project Proposal, Scoring, and Prioritization Procedure

The Applicant

1. Requests and complete a Project Proposal Form
2. Returns the completed Project Proposal Form to Brevard County Emergency Management staff at least 72 hours prior to the next Steering Committee Meeting to be added to the agenda
3. Brevard County Emergency Management Staff will review the proposal for similarity to any previously approved projects and advise the applicant
4. Presents the proposed project to the Steering Committee for approval

The Steering Committee

1. Review any Project Proposals ahead of the next Steering Committee meeting
2. Consider the proposal form and applicant presentation of the project
3. Provide applicable feedback to the applicant about their proposal
4. Hold a vote to add the proposed project to the Project List

The Project Scoring Committee

1. A meeting of the Project Scoring Committee will be held in accordance with the By-Laws
2. The Committee will score the project proposals using the first five scoring criteria on the Hazard Mitigation Plan Project Scoring and Prioritization Sheet as shown in Figure 1
3. The projects will be prioritized in descending order based on their score
4. The scoring sheets and prioritized project list will be sent to the Steering Committee and project applicants for review

Special Procedures

Per Florida Administrative Code Rule 27P-22, some funding opportunities require interested applicants to seek approval from their Local Mitigation Strategy Working Group to apply for funding. Any approved applications must be prioritized by the Steering Committee. An approval and priority of funding letter will be signed by the Chair or Vice-Chair and sent to the Florida Division of Emergency Management and each of the applicants. The following procedure will be used to score and prioritize new and previously approved projects to seek funding from these funding opportunities.

1. Brevard County Emergency Management Staff will send information regarding the funding opportunity to the Steering Committee
2. The Chair or Vice-Chair may request a special meeting of the Steering Committee to approve and prioritize projects for funding
3. Entities must submit their new or previously approved projects to Brevard County Emergency Management Staff at least 72 hours before the special meeting for inclusion on the agenda
4. The applicants will present their project proposals to the Steering Committee for approval
5. The Steering Committee will vote to approve new projects to the project list first
6. A separate vote will be held to approve the applicants to seek funding
7. After the special meeting, the Project Scoring Committee will meet to score new projects and prioritize all approved projects
8. All projects will be scored and prioritized using all seven scoring criteria on the Project Scoring and Prioritization Worksheet
9. The final scoring and prioritization will be sent to the applicants as well as the Chair and Vice-Chair
10. The Chair or Vice-Chair, in the absence of the Chair, will sign and send a letter of approval to all approved applicants and attach the final prioritization order to the letter

The applicants may then submit their application for funding to the funding agency as outlined in the funding opportunity.

The Prioritized Project List

The Steering Committee uses a prioritized project list to organize and stage projects ready for implementation. This is also how the Steering Committee and Brevard County Emergency Management tracks the progress of mitigation projects being conducted within the county. The Project List categorizes projects as follows:

- **New**: The project was proposed and accepted in the current year
- **In-progress**: Funding has been secured, and the project is moving forward
- **Updated**: The project's scope or cost changed and was updated with committee approval
- **Complete**: The agency has finished the project, showing progress
- **Deferred**: The project remains valid but is postponed due to current priorities or funding constraints
- **Cancelled**: The project is cancelled and no longer being pursued by the jurisdiction

PROJECT TITLE						
Scoring Criteria	**10**	**8**	**5**	**3**	**0**	**Score**
Consistency with LMS Goals	Consistent with multiple goals or objectives		Consistent with one goal or objective		Not consistent with any goals or objectives	
Environmental Impacts	Largely benefits the surrounding ecosystems, natural resources, air quality, or water quality long-term (over 50 years)	Benefits the surrounding ecosystems, natural resources, air quality, or water quality short-term (10-49 years)	No environmental impact is made	Minimal, low-impact damage to ecosystems, natural resources, air quality, or water quality	Causes damage to surrounding ecosystems, natural resources, air quality, or water quality	
Social Equity	Has multiple positive effects on people or positively affects an area of Low SVI or a CDRZ	Positively impacts some people or areas	Does not displace or negatively affect any people	Negatively impacts very few people	Negatively impacts many people	
Population Impacted	At least 90% of Brevard County's population will see a benefit	At least 65% of Brevard County's population will see a benefit	At least 35% of Brevard County's population will see a benefit	At least 5% of Brevard County's population will see a benefit	Less than 5% of Brevard County's population will see a benefit	
Hazard Probability	Once a year or more	Once every 25 years	Once every 50 years	Once every 100 years	Once every 500 years	
Meeting Attendance	Attended four meetings in the past calendar year		Attended two meetings in the past calendar year		Attended no meetings in the past calendar year	
Past Initiative	Present on the current LMS Initiatives List				Not present on the current LMS Initiatives List	
					Total:	**0**

Figure 1: Project Scoring Sheet

Public Participation

The Steering Committee and Brevard County Emergency Management invite public participation annually through the planning cycle. Any contributions from the public are recorded and considered for incorporation into the plan by the Steering Committee. The last Steering Committee meeting of each year is publicly noticed through the Brevard County noticed meeting process.

Plan Maintenance

The Hazard Mitigation Plan is a living document that requires regular monitoring and evaluation to remain effective and relevant. Brevard County Emergency Management, working in partnership with the Steering Committee, oversees the plan's maintenance, including conducting an annual evaluation. The department maintains the master copy, ensuring all updates and revisions are properly documented. It also coordinates and facilitates Steering Committee meetings while providing the administrative support needed to guide plan maintenance activities. As part of this process, annual updates from participating jurisdictions are collected, reviewed for accuracy, and incorporated into the plan. In addition, strong relationships with external agencies and stakeholders are fostered to enhance coordination and ensure the plan remains comprehensive and effective.

Hazard Mitigation Plan Integration

The Hazard Mitigation Plan is integrated through the proposal and completion of mitigation projects and actions incorporated into the plan and each jurisdiction's policies and regulations. For the Hazard Mitigation Plan to be effective, it must be integrated into the everyday operations of Brevard County and its municipalities. At the jurisdictional level, this integration often takes the form of implementing mitigation projects identified in the plan. These projects address specific hazards or capability gaps. Additional projects are identified through jurisdictional after-action reports and updated hazard assessments.

Post-Disaster Assessment

Following any significant incident that impacts Brevard County, the Steering Committee, in coordination with Brevard County Emergency Management, undertakes a review to evaluate both the successes of existing mitigation efforts and the opportunities for further risk reduction. This process begins with an assessment, including the type of hazard, the scale of its impact, and the affected assets. Attention is given to understanding how the event compared with the County's hazard profiles, whether the impacts were anticipated, and any emerging vulnerabilities.

Mitigation projects within the impacted areas are examined for performance. This evaluation determines whether projects functioned as intended, the degree to which they reduced damage, and where they may have fallen short. Projects that demonstrate measurable success are highlighted as best practices and shared broadly with the Steering Committee, participating jurisdictions, and the community at large. Conversely, projects that did not achieve their goals are analyzed to identify the reasons for underperformance, such as design limitations, insufficient scale, or unanticipated hazard conditions. Successful strategies are considered for replication in other parts of the County, while lessons from less effective efforts inform the development of new projects or the modification of existing approaches.

Plan Update

The Hazard Mitigation Plan is updated regularly to remain compliant with federal and state requirements and to ensure it reflects the evolving needs of Brevard County. The update process has been adapted to the current needs of and capabilities of the entire county. Updates occur on both an annual and five-year basis, each serving a distinct purpose.

- Annual Update – The annual updates provide the Florida Division of Emergency Management with information on plan changes such as revisions to hazard profiles, project implementation status, jurisdictional participation, and Steering Committee representation. Annual reporting helps the Plan incorporate new data and emerging risks more frequently. Annual updates are required by Florida Administrative Code Rule 27P-22.

- Five-Year Update – Emergency Management leads the comprehensive update of the Hazard Mitigation Plan, working in close collaboration with local jurisdictions and the Steering Committee. This update allows the County to reexamine its risk analysis, review goals, and incorporate changes in policy, law, and funding programs. Special topic meetings are held to address hazard identification, track development, and discuss the goals. Unique to the five-year update, kick-off and check-in meetings are conducted to give as broad of an opportunity as possible for increased accessibility and participation.

Details about this most recent update can be found in Appendix A.

Appendix A: The 2025 5-Year Update Process

The Brevard County Hazard Mitigation Plan update began with a kickoff meeting in June 2024. This meeting covered the time schedule and goals for the update. It allowed stakeholders to identify their priorities for the update and provide feedback. The schedule included special topic meetings covering the risk assessment and development trends within Brevard County and regular quarterly meetings where the administrative sections of the Hazard Mitigation Plan could be discussed. The process culminated with a final public Steering Committee meeting in March 2025. All meeting documentation is available in the appendices.

Planning participants were given a questionnaire to discuss and update their mitigation capabilities, mitigation mechanisms, how development has changed in their areas and if the development has affected their vulnerability to the identified hazards in the risk assessment. A risk assessment survey sent to participants gathered high-level data about how hazards affect their jurisdictions and how they perceive risk from the hazards. These two tools ensured participation from all involved jurisdictions gathering input from a larger audience to better inform the risk assessment and planning process.

Development and Goals Meeting

The Steering Committee discussed current development in Brevard County and its municipalities. The development conversation included topics on increasing density, sustainable growth, and how they have impacted vulnerability in the county. They then reviewed the jurisdiction development update form. A new framework for the organization of mitigation actions and goals for the Hazard Mitigation Plan was also discussed.

Risk Assessment Meeting

The Steering Committee met to discuss the risk assessment for the update. They discussed a consistent definition of hazard and a consistent definition of critical infrastructure. Using this framework, the committee reviewed the hazards identified in the previous versions of the Local Mitigation Strategy and decided on which hazards would remain, and which hazards would be omitted. The hazards that were omitted were removed due to lack of occurrence, lack of mitigation opportunity, or not meeting the definition of a hazard. Because the Risk Assessment is used by the Brevard County Comprehensive Emergency Management Plan, natural, technological, and human-caused hazards were discussed and considered for inclusion in the 2025 update.

Different aspects of vulnerability in the county were also discussed. Population vulnerability data sources including the Center for Disease Control's Social Vulnerability Index were considered as a reference for locations of the most vulnerable people in the county. Different types of properties and their unique vulnerabilities were covered as well as critical infrastructure. The infrastructure conversation led to a discussion on what the committee considers as critical infrastructure, with a consensus on what should be included on the current critical infrastructure list.

Quarterly Meetings

The fourth quarter meeting of 2024 reviewed the progress made up to that point and provided the public with the first official opportunity to provide input on the Hazard Mitigation Plan update. This meeting was publicly noticed using the County's public notice system, which ensured that any interested person or group was given the opportunity to participate in the process. During this meeting, the committee elected new officers, updated the project list, the project proposal and scoring process, the Bylaws, and finalized the upcoming 2025 update workshop dates. This meeting was noticed to the public to seek input for the Hazard Mitigation Plan in the middle of the process.

The first quarter meeting of 2025 included a draft version of the plan for review by the Steering Committee and members of the public. This draft version incorporated changes from any comments received from the public or members of the Steering Committee.

Project List Meeting

The final topic specific meeting covered the project list and the new project proposal and scoring process. The process was introduced to the Steering Committee at the 4th quarter meeting. After receiving feedback, the changes were incorporated into the new process and brought back to the Steering Committee for final review. The group also discussed potential initiatives to categorize mitigation projects.

Appendix B: Participating Jurisdictions and Organizations

Member Organization	Voting Representative	Title
Cape Canaveral	Abigail Holmes	Resilience Planning and Services Manager
Cocoa	**Jonathan Lamm (Vice Chair)**	Fire Chief
Cocoa Beach	Justin Grimes AJ Hutson	Fire Chief City Manager
Grant-Valkaria	Jason Mahaney	Town Administrator
Indialantic	Michael Casey	Town Manager
Indian Harbour Beach	Orrie Covert Todd Scaldo	Assistant to the City Manager Director, Public Works
Malabar	Joseph Hooker	Fire Chief
Melbourne	Rebecca Thibert Clark Simmons	Assistant to the City Manager Assistant Fire Chief
Melbourne Beach	Vacant Gavin Brown	Town Clerk Fire Chief
Melbourne Village	Gail Griswold	Town Clerk
Palm Bay	Brandon McKee	Assistant Fire Chief
Palm Shores	Charles Chambliss	Mayor
Rockledge	Jim Wilson	Fire Chief
Satellite Beach	Jeff Dangler Nick Walsh	Fire Chief Director, Support Services
Titusville	Heather Kenney John Hustoles	Special Projects Coordinator Fire Chief
West Melbourne	Tom Bradford Jacqueline Jackson	Assistant City Manager Grants Administrator
BC Bd. of County Commissioners	John Scott Chris Eliadis	Director, Emergency Management Operations Manager
Brevard Public Schools	Sue Hann Karen Black	Assistant Superintendent, Facilities Manager, Facilities Planning & Intergovernmental Coordination
Health First	Daniel Hensler	Manager, Emergency Preparedness
Parrish Medical Center	**Leigh Spradling (Secretary)**	Emergency Services Specialist
Port Canaveral	**Cory Dibble (Chair)**	Director, Public Safety and Security
St. Johns River WMD	Jim Cannon	Intergovernmental Coordinator
Waste Management	Jordin Chandler	Government Affairs Manager

Appendix C: Prioritized Project List

Hazard: W = Winds FR = Fire UL = Utility Loss L = Lightning SS = Storm Surge C = Civil Disorder FL = Flooding E = Erosion HZ= Hazmat WS = Winter Storm D = Drought I = Infestation/Disease SR = Sea Level Rise WF = Wildfire All = All Hazards

Funding Source: 1-PDM (Pre Disaster Mitigation) 2-SHSP (State Homeland Security Program) 3-CDBG (Community Development Block Grant) 4-FMA (Flood Mitigation Assistance) 5-HMGP (Hazard Mitigation Grant Program) 6-PA (Public Assistance) 7-SRLP (Severe Repetitive Loss Program) 8-General Fund (Jurisdiction Annual Budget) Other specific funding sources are spelled out in column

Status: C-Completed D-Deferred/Funding Unavailable N-New U-Updated IP-In Progress CX-Cancelled IE-Ineligible

Number	Jurisdiction	Responsible Organization	Hazard	Project Description	Funding Source	Date	Estimated Completion	Status	Priority	Cost
BRV-0002	Indian Harbour Beach	City Hall/Admin.	FL	Retrofit Ind Harbour Main Drainage Canal	1, 4, 5, 8	2/4/2014	1/1/2020	D	34	$500,000
BRV-0003	Indian Harbour Beach	Fire Department	FR	Replacing Engine 356 (20yrs old)	8	2/4/2014	3/1/2024	D	25	$619,092
BRV-0004	Indian Harbour Beach	Fire Department	FR	Replacing Ladder Truck 56 (15yrs old)	8	2/4/2014	1/1/2026	D	25	$2,060,000
BRV-0007	Indian Harbour Beach	City Hall/Admin.	FR, UL	Hooking up power & Adding generator to RC storage unit. Part of COOP Plan	8	2/4/2014	1/1/2020	D	29	$15,000
BRV-0130	Palm Bay	Public Works	FL	Basin 2 Kingswood Dr.-Drainage	3	7/20/1999	1/31/2015	IP	26	$200,000
BRV-0407	Brevard Public Schools	Planning & Project Management	ALL	Oak Park Elementary - Generator/Wiring	5, 8	10/1/2014	7/12/2023	C	38	$121,357
BRV-0434	Cocoa Beach	Stormwater Utility	FL	Atlantic Av Stormwater Project	4	10/15/2014	11/15/2017	D	23	$250,000
BRV-0436	Cocoa Beach	Stormwater Utility	ALL	Downtown Stormwater Project	FDEP/FDOT/ IRLNEP	10/15/2014	11/15/2017	IP	31	$800,000
BRV-0622	Brevard County (Unincorporated)	Natural Resources	FL	South Beaches Commercial Prop Acquisition	SWU, 1	10/30/2008	4/30/2015	IP	28	$3,436,850
BRV-0623	Brevard County (Unincorporated)	Transportation Engineering	ALL	Traffic Operations Relocation	8	11/16/2004	9/30/2015	IP	31	$3,320,000
BRV-0633	Brevard County (Unincorporated)	Transportation Engineering	FL	Repetitive Loss Property Acquisition 6	8	11/16/2004	9/30/2021	IP	35	$163,000

BRV-0635	Brevard County (Unincorporated)	Transportation Engineering	FL	Repetitive Loss Property Acquisition 8	1, 5, 6, 8	11/16/2004	9/30/2021	IP	35	$129,000
BRV-0636	Brevard County (Unincorporated)	Transportation Engineering	FL	Repetitive Loss Property Acquisition 9	1, 5, 6, 8	11/16/2004	9/30/2020	IP	35	$84,000
BRV-0752	Brevard County (Unincorporated)	Natural Resources	FL	Flood hazard mitigation - West Cocoa	SWU, 5	11/16/2004	10/31/2014	IP	35	$3,050,000
BRV-0755	Brevard County (Unincorporated)	Utility Services	UL	Slip Lining Beachside sewer lines	8	1/19/2005	7/22/1905	IP	23	$15,000,000
BRV-0762	Palm Bay	Public Works	FL	Malabar Road Pipe Failures	1, 5, 6, 8	10/1/2014	9/30/2019	D	26	$1,000,000
BRV-0782	Titusville	City Hall	W	Water Resource Facilities	1, 5, 6, 8	10/30/2008	9/30/2020	D	26	$1,500,000
BRV-0787	Brevard County (Unincorporated)	Emergency Management	All	New Brevard County EOC and PSAP Center	2, 5, 8	12/19/2013	12/19/2023	IP	52	$14,404,729
BRV-0788	Cocoa Beach	Fire Department	L	Citywide Lightning Prediction System	5, 8	8/29/2014	3/1/2016	D	25	$62,105
BRV-0789	Cocoa Beach	Communications	UL	Communications Tower	2, 8	8/29/2014	1/15/2016	D	56	$30,000
BRV-0790	Cocoa Beach	Fire Department	UL	VHF back-up radio system	1, 2	8/29/2014	6/30/2015	D	25	$60,000
BRV-0792	Malabar	Town Hall	W	Town Hall (Shutters/Window Retrofit) Greening	5,6,8	8/29/2014	9/30/2016	D	25	$14,500
BRV-0793	Brevard County (Unincorporated)	Brevard County Parks & Recreation	UL	Generator - Barrier Island Environmental Center	1, 5, 8	8/29/2014	8/29/2024	D	25	$50,000
BRV-0794	Titusville	Brevard County Parks & Recreation	UL	Generator - Chain of Lakes Maintenance Facility	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$50,000
BRV-0795	Titusville	Brevard County Parks & Recreation	UL	Generator - Enchanted Forest Environmental Complex	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$50,000
BRV-0796	Brevard County (Unincorporated)	Brevard County Parks & Recreation	UL	Generator - Flutie Athletic Complex Maintenance Facility	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$50,000

BRV-0797	Palm Bay	Brevard County Parks & Recreation	UL	Generator - Greater Palm Bay Senior Center	1, 5, 6, 8	8/29/2014	8/29/2024	D	23	$50,000
BRV-0798	Grant-Valkaria	Brevard County Parks & Recreation	UL	Generator - Habitat Golf Course Maintenance Facility	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$50,000
BRV-0799	Brevard County (Unincorporated)	Brevard County Parks & Recreation	UL	Generator - Irene H. Canova	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$50,000
BRV-0801	West Melbourne	Brevard County Parks & Recreation	UL	Generator - Max K. Rodes Park Maintenance Facility	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$50,000
BRV-0802	Titusville	Brevard County Parks & Recreation	UL	Generator - North Area Maintenance Facility	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$50,000
BRV-0803	Indian Harbour Beach	Brevard County Parks & Recreation	UL	Generator - North Beaches Maintenance Facility	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$50,000
BRV-0804	Titusville	Brevard County Parks & Recreation	UL	Generator - North Brevard Senior Center	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$10,000
BRV-0805	Palm Bay	Brevard County Parks & Recreation	UL	Generator - Palm Bay Regional Park Maintenance Facility	1, 5, 6, 8	8/29/2014	8/29/2024	D	23	$50,000
BRV-0806	Brevard County (Unincorporated)	Brevard County Parks & Recreation	UL	Generator - POW/MIA Park	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$50,000
BRV-0807	Brevard County (Unincorporated)	Brevard County Parks & Recreation	UL	Generator - Sam's House Environmental Center	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$50,000
BRV-0808	Brevard County (Unincorporated)	Brevard County Parks & Recreation	UL	Generator - Savannah's Golf Course Maintenance Facility	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$50,000
BRV-0809	Brevard County (Unincorporated)	Brevard County Parks & Recreation	UL	Generator - Viera Regional Park Maintenance Facility	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$50,000

BRV-0810	Melbourne	Brevard County Parks & Recreation	UL	Generator - Wickham Park Maintenance Facility	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$50,000
BRV-0811	Melbourne	Brevard County Parks & Recreation	UL	Generator - Wickham Park Senior Center	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$50,000
BRV-0812	Titusville	Brevard County Parks & Recreation	W	Shutters - Enchanted Forest Environmental Center	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$10,000
BRV-0813	Palm Bay	Brevard County Parks & Recreation	W	Shutters - Greater Palm Bay Senior Center	1, 5, 6, 8	8/29/2014	8/29/2024	D	23	$10,000
BRV-0814	Grant-Valkaria	Brevard County Parks & Recreation	W	Shutters - Habitat Golf Course Clubhouse	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$10,000
BRV-0816	Titusville	Brevard County Parks & Recreation	W	Shutters - North Brevard Senior Center	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$10,000
BRV-0817	Brevard County (Unincorporated)	Brevard County Parks & Recreation	W	Shutters - Sam's House Environmental Center	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$10,000
BRV-0818	Titusville	Brevard County Parks & Recreation	W	Shutters - Sandrift Recreation Center	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$50,000
BRV-0819	Brevard County (Unincorporated)	Brevard County Parks & Recreation	W	Shutters - Savannah's Golf Course Clubhouse	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$10,000
BRV-0820	Brevard County (Unincorporated)	Brevard County Parks & Recreation	W	Shutters - Scottsmoor Meeting HUL	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$10,000
BRV-0821	Brevard County (Unincorporated)	Brevard County Parks & Recreation	W	Shutters - Spessard Holland Golf Course Clubhouse	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$10,000
BRV-0822	Brevard County (Unincorporated)	Brevard County Parks & Recreation	UL	Generator - Space Coast Comm. Sports Complex Maintenance Facility	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$50,000

BRV-0823	Brevard County (Unincorporated)	Brevard County Parks & Recreation	UL	Generator - Spessard Holland Golf Course Maintenance Facility	1, 5, 6, 8	8/29/2014	8/29/2024	D	25	$50,000
BRV-0824	Melbourne	Public Works	FL, E	Parkway Ditch Piping-mitigate drainage ditch erosion	1, 4, 5, 6, 8	6/15/2015	6/15/2020	D	24	$1,755,000
BRV-0825	Melbourne	Public Works	FL	Dairy Road at Kanawha Street Drainage Improvements	4, 5, 7, 8	6/15/2015	6/15/2020	D	9	$250,000
BRV-0826	Melbourne	Public Works	FL	Edgewood Ditch North Bank Erosion Control	4, 5, 7, 8	6/15/2015	6/15/2020	D	30	$1,970,000
BRV-0827	Melbourne	Public Works	FL	Florida Ave Drainage Improvements	4, 5, 7, 8	6/15/2015	6/15/2020	D	25	$750,000
BRV-0828	West Melbourne	City Hall/Admin	UL	Portable generator 1 - wastewater lift station	4, 5, 7, 8	6/15/2015	6/15/2020	U	32	$86,410
BRV-0829	West Melbourne	City Hall/Admin	UL	Portable generator 2 - wastewater lift station	4, 5, 7, 8	6/15/2015	6/15/2020	U	32	$86,410
BRV-0830	All	Brevard County Emergency Management	All	Outreach for Mitigation - Brevard Prepares	8	6/15/2015	6/15/2020	D	32	$2,500
BRV-0831	Brevard County (Unincorporated)	Fire Rescue	W	Wind Mitigation of the T. J. Mills Fire Rescue Headquarters Building	1, 5, 8	8/31/2016	8/31/2026	D	64	$2,078,905
BRV-0832	Brevard County (Unincorporated)	Natural Resources	FL	Mud Lake Acquisition for West Cocoa drainage improvement	1, 5, 6, 8	4/14/2016	4/14/2026	D	36	$1,500,000
BRV-0833	Brevard County (Unincorporated)	Natural Resources	FL	Scottsmoor Project K: Burkholm Rd. Basin drainage improvement	1, 5, 6, 8	4/14/2016	4/14/2026	D	24	$527,440
BRV-0834	Brevard County (Unincorporated)	Natural Resources	FL	Scottsmoor Project J: Harrison Rd, Aurantia Rd, D. Johnson Ave, &	1, 5, 6, 8	4/14/2016	4/14/2026	D	24	$987,000

				Lloyd St drainage improvement						
BRV-0835	Brevard County (Unincorporated)	Natural Resources	FL	Rosehill Estates drainage improvement	1, 5, 6, 8	4/14/2016	4/14/2026	D	24	$343,400
BRV-0836	Brevard County (Unincorporated)	Natural Resources	FL	Grecian Estates, Dalehurst Ranches & Pines drainage improvements	1, 5, 6, 8	4/14/2016	4/14/2026	D	24	$850,000
BRV-0837	Brevard County (Unincorporated)	Natural Resources	FL	Micco Project B: Outfall removal and pond construction drainage improvement	1, 5, 6, 8	4/14/2016	4/14/2026	D	24	$750,000
BRV-0838	Brevard County (Unincorporated)	Natural Resources	FL	Upper Eau Gallie Northwest drainage improvements	1, 5, 6, 8	4/14/2016	4/14/2026	D	24	$3,600,000
BRV-0840	Brevard County (Unincorporated)	Natural Resources	FL	L-1 Canal Stabilization	1, 5, 6, 8	4/14/2016	4/14/2026	D	24	$2,200,000
BRV-0843	Brevard County (Unincorporated)	Natural Resources	FL	Merritt Ridge Basin P1-4 Project B: drainage improvements	1, 5, 6, 8	4/14/2016	4/14/2026	D	24	$64,680
BRV-0844	Brevard County (Unincorporated)	Natural Resources	FL	Scottsmoor Project B: Flounder Creek Rd. drainage improvements	1, 5, 6, 8	4/14/2016	4/14/2026	D	24	$316,546
BRV-0845	Brevard County (Unincorporated)	Natural Resources	FL	North Basin (Fiske Blvd) Phase I drainage improvements	1, 5, 6, 8	4/14/2016	4/14/2026	D	24	$178,560
BRV-0846	Brevard County (Unincorporated)	Natural Resources	FL	Baymeadows Project H: Parkland Ditch drainage improvements	1, 5, 6, 8	4/14/2016	4/14/2026	D	24	$22,750
BRV-0847	Brevard County (Unincorporated)	Natural Resources	FL	Lake Washington Road Ditch Bank Restoration	1, 5, 6, 9	12/14/2016	12/14/2026	D	28	$400,000

BRV-0848	Brevard County (Unincorporated)	Fire Rescue	W	WeatherBug Stations	1, 5, 8	12/14/2016	12/14/2026	D	40	$530,450
BRV-0849	Melbourne	Public Works	FL	Paradise Blvd. Ditch Retrofit	1, 5, 6, 8	4/18/2017	4/18/2027	D	15	$850,000
BRV-0850	Melbourne	Public Works	FL	North-South Terminal Canal Erosion Ctrl.	1, 5, 6, 8	4/18/2017	4/18/2027	D	6	$1,800,000
BRV-0852	Brevard County (Unincorporated)	Utility Services	UL	Barefoot Bay - Slip Lining of Sewer Lines	1, 5, 6, 9	4/13/2018	4/13/2028	D	32	$1,500,000
BRV-0853	Melbourne	Florida Institute of Technology	W/UL	Panther Dining Hall Hardening & Backup Power	8	4/13/2018	4/13/2028	D	40	$331,906
BRV-0854	Melbourne	Florida Institute of Technology	W/UL	Harris Village Hardening & Backup Power	8	4/13/2018	4/13/2028	D	36	$1,270,376
BRV-0855	Melbourne	Florida Institute of Technology	W/UL	Security /Welcome Center Backup Power	5, 8	4/13/2018	4/13/2028	D	32	$141,829
BRV-0856	Cocoa Beach	Water Reclamation	UL	Lift Station Generators	5, 8	4/13/2018	4/13/2028	D	28	$400,000
BRV-0857	Palm Bay	Fire Department	W, UL	Hardening Fire Stations 1 & 5	5, 8	4/13/2018	4/13/2028	U	44	$509,750
BRV-0858	Palm Bay	Fire Department	W, UL	Hardening for Fire Stations 2, 3, 4	5, 8	4/13/2018	4/13/2028	IP	44	$504,643
BRV-0859	Palm Bay	Public Works	FL	Ferguson Culvert Replacement	5, 8	4/13/2018	4/13/2028	D	33	$1,500,000
BRV-0860	Palm Bay	Growth Management	FL	Cimmeron Circle Repetitive Loss Acquisitions	5, 7, 8	4/13/2018	4/13/2028	D	30	$1,980,000
BRV-0862	Melbourne	Melbourne Fire Department	W	Hardening of Melbourne Fire Department Fire Stations	5, 8	6/25/2018	6/25/2022	C	48	$176,000
BRV-0863	Brevard County (Unincorporated)	Natural Resources	FL	West Cocoa SFHA Property Acquisition	5, SWU	6/25/2018	6/25/2022	IP	36	$4,725,000
BRV-0865	Port Canaveral	Canaveral Port Authority	UL	Generator for Bulk Fuel Shipments	5, 8	7/16/2018	7/16/2028	U	44	$400,000

BRV-0866	Brevard Public Schools	Planning & Project Management	W	Hardening of Brevard Public Schools with Impact Resistant Glass	5, 8	7/16/2018	7/16/2028	D	48	$3,000,000
BRV-0868	Brevard County (Unincorporated)	Natural Resources	FL	Mud Lake Acquisition for West Cocoa drainage improvements	5, SWU	7/16/2018	7/16/2028	IP	36	$817,464
BRV-0871	Brevard County (Unincorporated)	Natural Resources	FL	Silver Pines - SFHA Acquisitions	5, 8	7/20/2020	7/16/2028	IP	24	$1,100,000
BRV-0872	Cocoa	Public Works	FL	Fiske Blvd. Drainage Improvements	5, 8	7/16/2018	7/16/2028	D	28	$600,000
BRV-0873	Cocoa	Utilities	UL, FL	Lift Station 1 Reconstruction/ Generator	5, 8	7/16/2018	7/16/2028	D	28	$844,000
BRV-0874	Cocoa	Public Works	FL	Broadmoor Drainage Improvements	5, 8	7/16/2018	7/16/2028	U	24	$3,092,780
BRV-0875	Cocoa Beach	Public Works	UL	Emergency Generators to Power Key Traffic Signals	5, 8	7/16/2018	7/16/2028	U	28	$13,194
BRV-0876	Cocoa	Crosswinds Youth Services, Inc.	UL	Robert E. Lehton Children's Shelter Generator	5, 8	7/19/2019	7/19/2029	D	28	$91,833
BRV-0877	Melbourne	City Hall/Admin.	UL	Fire Stations & Fleet Services Generators	5, 8	7/19/2019	7/19/2029	U	32	$900,000
BRV-0878	Cocoa	Public Works	E, UL	Indian River Drive Bank Stabilization	5, 8	1/6/2020	1/6/2030	N	24	$530,300
BRV-0879	Rockledge	Fire Department	W, UL	Fire Station 1 and 3 Hardening and Generator	5, 8	1/6/2020	1/6/2030	IP	56	$1,588,541
BRV-0880	Satellite Beach	Support Services	W, UL, SS, FL	Fire Station Hardening & Generator	5, 8	1/6/2020	1/6/2030	D	44	$300,000
BRV-0881	Satellite Beach	Support Services	W, UL, C	Police Station Hardening & Generator	5, 8	1/6/2020	1/6/2030	D	44	$1,000,000
BRV-0882	Satellite Beach	Support Services	W, UL, C	City Hall and Civic Center Hardening & Generator	5, 8	1/6/2020	1/6/2030	D	44	$1,500,000

BRV-0883	Satellite Beach	Support Services	W, UL, FL	DRS Community Center Hardening	5, 8	1/6/2020	1/6/2030	D	32	$1,500,000
BRV-0884	Brevard County (Unincorporated)	Sheriff's Office	UL	County 911 Communications Generator	5, 8	1/6/2020	1/6/2030	N	44	$100,000
BRV-0885	Port Canaveral	Canaveral Port Authority	SS, E	North Jetty Sediment Trap	5, 8	1/6/2020	1/6/2030	IP	44	$7,660,000
BRV-0886	Port Canaveral	Canaveral Port Authority	UL	Infrastructure Hardening/Burying – Utility Poles	5, 8	1/6/2020	1/6/2030	U	36	$10,000,000
BRV-0887	Port Canaveral	Canaveral Port Authority	UL	Infrastructure Hardening – Non-Structural Retrofitting of Existing Building/IT Room	5, 8	1/6/2020	1/6/2030	U	20	$1,874,000
BRV-0888	Indian Harbour Beach	City Hall/Administration	UL/W	Replacing Bucket Truck	8	12/17/2020	1/1/2024	D		$80,000
BRV-0889	Cocoa Beach	Fire Department	UL	Emergency Generator Fuel Tank Replacement	5, 8	5/17/2021	5/17/2026	N	36	$44,483
BRV-0890	Cocoa Beach	Water Reclamation	UL	Lift Station Generators	5, 8	5/17/2021	5/17/2026	N	40	$95,000
BRV-0891	Cocoa Beach	Fire Department	UL	Emergency Generators to Power Fire Station	5, 8	5/17/2021	5/17/2026	N	36	$80,505
BRV-0892	Brevard Public Schools	Brevard Public Schools	UL	Emergency Responder Radio Coverage in School Facilities	DEO-Mit	11/18/2021	11/18/2024	D	40	$5,000,000
BRV-0893	Cape Canaveral	Cape Canaveral Office of Resilience	UL	City of Cape Canaveral Community Center (C5) Battery Storage	5, 8	3/21/2023	3/1/2028	N	28	$100,000
BRV-0894	Cape Canaveral	Cape Canaveral Office of Resilience	UL, FL	City of Cape Canaveral Portable Sewer Pump	5, 8	3/21/2023	3/1/2028	N	48	$90,000

BRV-0895	Cape Canaveral	Cape Canaveral Office of Resilience	UL, FL	City of Cape Canaveral Portable 10-in. Stormwater Pump	5, 8	3/21/2023	3/1/2028	N	48	$150,000
BRV-0896	Cape Canaveral	Cape Canaveral Office of Resilience	UL	City of Cape Canaveral Portable Generator	5, 8	3/21/2023	3/1/2028	N	32	$100,000
BRV-0897	Titusville	Parrish Medical Center	W, FL, L	Parrish Medical Center Hardening of Building	1, 5, 8	6/27/2023	6/1/2028	U	24	$1,100,000
BRV-0898	Port Canaveral	Canaveral Port Authority	SS, FL, SR	Continuous Monitoring and Adaptive Control System	1, 4, 5, 8	6/27/2023	6/1/2028	N	40	$441,300
BRV-0899	Cape Canaveral	Cape Canaveral Office of Resilience	UL	Resilience Operations + Utility Vehicle-to-Everything Energy Backup System	5	6/27/2023	6/1/2028	N	36	$165,000
BRV-0900	Cape Canaveral	Cape Canaveral Office of Resilience	W, SS, FL, UL	BCSO Cape Canaveral Precinct Battery-Ready Solar Array	5, 8	6/27/2023	6/1/2028	N	28	$175,000
BRV-0901	Titusville	City Hall/Administration	UL	Vehicle-to-Everything (V2X) Energy Backup System	5	6/27/2023	6/1/2028	N	40	$165,000
BRV-0902	Titusville	City Hall/Administration	UL	Backup Generators for Network Communications Systems and Records Administration	5, 8	6/27/2023	6/1/2028	U	28	$40,000
BRV-0903	Brevard County (Unincorporated)	Traffic Operations	UL	Backup Power for Traffic Control Systems	5, 8	6/27/2023	6/1/2028	N	40	$1,500,000
BRV-0904	Melbourne	City Hall/Administration	W, UL	Production Wells #1 and #2 Emergency Generator Replacement	5, 8, Water and Sewer Enterpr	8/17/2023	8/1/2028	N	48	$500,000

					ise Funds					
BRV-0905	Melbourne	City Hall/Administration	UL	City of Melbourne Lift Stations Emergency Generator Replacement Project	5	8/17/2023	8/1/2028	N	48	$325,000
BRV-0906	Port Canaveral	Canaveral Port Authority	SS, FL, SR, UL	Raising Lift Stations Design	5, BRIC	8/17/2023	8/1/2023	N	27	$300,000
BRV-0907	Cocoa Beach	City Hall/Administration	W, UL, L	Critical Infrastructure Generators	5, BRIC	8/28/2023	8/1/2028	N	40	$1,982,000
BRV-0908	Brevard County (Unincorporated)	Parks and Recreation	WF	Erna Nixon Park Wildfire Mitigation (Fire Lines)	5, 8	5/24/2024	5/1/2029	N	24	$65,000
BRV-0909	Indialantic	Fire Department	UL, W, L	Fire House Generator Replacement	5, 8	5/24/2024	5/1/2029	N	32	$53,016
BRV-0910	West Melbourne	City Hall/Administration	FL, UL	Deep Injection Well	5, 8	5/24/2024	5/1/2029	N	27	$2,500,000
BRV-0911	West Melbourne	City Hall/Administration	FL	West Melbourne Hollywood Estates Flood Risk Reduction	4, 5, 8	3/24/2025	3/31/2030	N	41	$2,000,000
BRV-0912	West Melbourne	City Hall/Administration	FL	Flood Risk Reduction - Canal C69 and C70 Improvements	4, 5, 8	3/24/2025	3/31/2030	N	41	$950,000
BRV-0913	Brevard County (Unincorporated)	Emergency Management	FL, W, SS	Elevate Florida Reallocation	4, 5	3/24/2025	3/31/2035	N	0	$0

Appendix D: Steering Committee Bylaws

Brevard County Steering Committee Bylaws

ARTICLE I. PURPOSE OF *The Brevard County LMS Steering Committee*

The purpose of *The Brevard County LMS Steering Committee* is to decrease the vulnerability of the citizens, governments, businesses, and institutions of Brevard County, Florida, to the future human, economic, and environmental costs of natural, technological, and societal disasters. *The Brevard County LMS Steering Committee* will develop, monitor, and maintain a local strategy for hazard mitigation.

ARTICLE II. MEMBERSHIP

Participation in *The Brevard County LMS Steering Committee* is voluntary by all participating entities. Membership is established in accordance with the following provisions:

- Participation in *The Brevard County LMS Steering Committee* is open to all jurisdictions, organizations, and individuals supporting its purposes and
- *The membership and participation of local governments in The Brevard County LMS Steering Committee is controlled by contractual agreements between the Florida Department of Community Affairs, Brevard County, and the participating municipalities. These contractual agreements are incorporated hereto by reference, and their provisions are controlling*
- Members of the Steering Committee will be designated by formal resolution, appointment, or other action to serve as the official representative and spokesperson for the jurisdiction or organization regarding the activities and decisions of The Brevard County LMS Steering Committee
- To maintain good standing, members must attend at least two regular meetings on a rolling annual basis
- Members of the Steering Committee must complete an annual update of their initiatives and their representative(s) with the BCEM representative or the Steering Committee Secretary

ARTICLE III. ORGANIZATIONAL STRUCTURE

The Brevard County LMS Steering Committee shall be guided by a Steering Committee of not more than twenty-four (24) members, consisting of designated representatives of the following:

- One representative from the government of Brevard County and each participating municipality
- One representative from organizations and associations representing key business, industry, and community interest groups of Brevard County and
- Other interested individuals from the general public appointed by a majority vote of the Steering Committee

A. Initiative Scoring Committee

There shall be an Initiative Scoring Committee comprised of the three Steering Committee Officers and coordinated by Brevard County Emergency Management Staff. The Initiative

Scoring Committee meetings will be held semi-annually to score newly proposed initiatives and prioritize initiatives added to the LMS Initiatives List. The scoring and prioritization conducted by this Committee is an official action of the Steering Committee.

The Initiative Scoring Committee will meet at least two weeks prior to an eligible grant program's submission due date to reprioritize initiatives approved to seek funding from the grant program and set the Steering Committee's funding prioritization. The Initiative Scoring Committee will add up to ten (10) points based on the proposing entity's attendance at Steering Committee Meetings and an additional ten (10) points to any initiative that was present on the LMS Initiatives List before the official announcement of the grant program.

If an Initiative Scoring Committee Member's initiative must be prioritized, a Brevard County Emergency Management Staff member will score the initiative.

The Initiative Scoring and Prioritization procedure is in the Local Mitigation Strategy and will be sent to any person who requests an Initiative Proposal Form. All records, including scoring sheets, initiative proposal forms, and meeting minutes or recordings (as applicable), shall be made available upon request.

B. Temporary Committees

Temporary committees may be established at any time for special purposes by the Chair of the Steering Committee, and their membership designated at that time.

C. Program Staff

Brevard County Emergency Management will provide and/or coordinate individuals and organizations serving as the program staff for The Brevard County LMS Steering Committee.

ARTICLE IV. OFFICERS

Any member in good standing of the Steering Committee is eligible for election as an officer. A quorum of voting members must conduct the election. Each will serve a term of one year and be eligible for re-election for an unlimited number of terms.

- Chair: The Chair of the Steering Committee will preside at each meeting of the Steering Committee, establish temporary committees, and assign personnel to them
- Vice-Chair: The Vice-Chair will fulfill the duties and responsibilities of the chair in his or her absence
- Secretary: The Secretary will record minutes for Steering Committee Meetings, assist with initiative list maintenance, and maintain a list of Steering Committee Members in good standing

One of these positions will be elected from local government representatives and the other positions will be elected from local government representatives or the private sector.

The chair of each temporary committee will be designated from the members in good standing of the Steering Committee and will serve at the pleasure of the chair of the Steering Committee.

ARTICLE V. RESPONSIBILITIES

The Steering Committee will be responsible for oversight and coordination of all actions and decisions as well as solely responsible for formal actions in the name of the LMS Working Group, including the release of reports, development of resolutions, and similar activities.

A. Planning

- Development and maintenance of the Brevard County Multijurisdictional Local Mitigation Strategy
- Submission of the Local Mitigation Strategy to the Florida Division of Emergency Management for state review, as required
- Review of the hazards and vulnerabilities of Brevard County and the surrounding areas to assess human, infrastructural, environmental, and economic risks
- Identification, consideration, approval, and prioritization of hazard mitigation initiatives from any organization acting within the geographical borders of Brevard County
- Define structural and non-structural actions needed to decrease the human, economic, and environmental impacts of disasters, and plan a strategy for implementation of those initiatives in both the pre-disaster and post-disaster time frame
- Define the general financial vulnerability of the community to the impacts of disasters
- Incorporation of recognized best practices for mitigation planning, risk reduction, and vulnerability reduction into the Local Mitigation Strategy and any hazard mitigation initiatives
- Seek hazard mitigation funding sources for all priority mitigation initiatives identified in the Local Mitigation Strategy

B. Public Information

- Secure public input and comment on the efforts of the Working Group
- Inform the public about the activities of the Working Group
- Conduct public information and education programs regarding hazard mitigation
- Promote public acceptance of the strategy developed by the Working Group
- Promote disaster preparedness and mitigation at the community and individual level through partnerships and volunteerism

ARTICLE VI. ACTIONS BY *THE BREVARD COUNTY LMS STEERING COMMITTEE*

A. Authority for Actions

Actions by committees or program staff are not considered final until affirmed by the action of the Steering Committee.

B. Meetings, Voting and Quorum

Meetings of the Steering Committee and ad hoc committees will be conducted in accordance with Robert's Rules of Order when deemed necessary by the chair of the meeting. Regular meetings of the Steering Committee will be scheduled quarterly with a minimum of 10 working days' notice. At least one meeting annually will be appropriately noticed so that the general public may attend. The scheduling of meetings of a temporary committee is at the discretion of its chair.

There will be two (2) virtual and two (2) in-person quarterly meetings for a total of four (4) meetings annually. Members in good standing will be allowed to propose initiatives at regular meetings provided they submit the required documentation no later than five (5) calendar days before the meeting.

All final actions and decisions made in the same of *The Brevard County LMS Steering Committee* will be by an affirmative vote of a quorum of the Steering Committee. A quorum shall be one-third plus one of the members of the Steering Committee in good standing at the time of the vote. Each member of the Steering Committee will have one vote. Voting by proxy, written or otherwise, is permitted.

C. Special Votes

Special votes may be taken under emergency situations or when there are other extenuating circumstances that are judged by both the chair and vice chair of the Steering Committee to prohibit scheduling a regular meeting of the Steering Committee. Special votes may be by telephone, email, and/or first-class mail and shall be in accordance with all applicable statutes for such actions.

D. Public Hearings

When required by statute or the policies of Brevard County, or when deemed necessary by the Steering Committee, a public hearing regarding actions under consideration for implementation by *The Brevard County LMS Steering Committee* will be held.

E. Documentation of Actions

All meetings and other forms of action by the Steering Committee and ad hoc committees will be documented and made available for inspection by the public.

VII. ADOPTION OF AND AMENDMENTS TO THE BYLAWS

The Bylaws of *The Brevard County LMS Steering Committee* may be adopted and/or amended by a two-thirds majority vote of the members in good standing of the Steering Committee. All proposed changes to the bylaws will be provided to each member of the Steering Committee not less than 10 working days prior to such a vote.

VIII. DISSOLUTION OF *THE BREVARD COUNTY LMS STEERING COMMITTEE*

The Brevard County LMS Steering Committee may be dissolved by affirmative vote of 100% of the members in good standing of the Steering Committee at the time of the vote, by order of a court of competent jurisdiction, and/or by instruction of the Brevard County Board of Commissioners. At the time of dissolution, all remaining documents, records, equipment, and supplies belonging to *The Brevard County LMS Steering Committee* will be transferred to Brevard County Emergency Management for disposition.

Adopted December 19, 2013
Amended March 24, 2025

Appendix E: Meeting Documentation

Notices

The next meeting of the Brevard Prepares LMS Steering Committee is scheduled for 2:00 p.m. on Friday, **April 23, 2021**. This meeting will include the following:

- 2020 LMS Adoption Tracking
- Project Updates
- Mitigation Targets
- Bylaws Updates
- HMGP Process
- HMGP Project Consideration and Ranking

All interested persons are invited to attend. The meeting location is virtual hosted by the Brevard County Emergency Operations Center, 1746 Cedar Street, Rockledge, FL 32955. Please join the meeting from your computer, tablet or smartphone. https://global.gotomeeting.com/join/837960685

Audio is by phone only

Join the conference call: 1-888-585-9008

Pass code: 198-388-095#

Using a Mobile Phone? Use this cut and paste option for audio: 888-585-9008;198-388-095#

This meeting was held virtually starting at 2PM on April 23, 2021.

The local Mitigation Strategy is a multi-jurisdictional plan that describes hazards and vulnerabilities and list projects that will, once implemented, make our communities more resilient to disasters.

Following welcome and introductions by acting Chair Ryan Duckworth, Debbie Coles, Brevard Emergency Management, reported that 2020 Local Mitigation Strategy (LMS) has passed State and Federal review. She indicated the final step of the 2020 LMS update process is for each jurisdiction to adopt the plan. At the time of the meeting, only four jurisdictions had not adopted the LMS including: Grant-Valkaria, Malabar, Brevard Public Schools, Palm Shores.

Ms. Coles asked the LMS Steering Committee to remember to report any updates to mitigation projects. Projects in-work should include the percent completed. All should include the type of funding to complete, and the date completed. The current list of all projects was distributed to the Committee.

Ms. Coles also presented an overview of some of the types of eligible projects for HMGP funding as Hurricane Dorian HMGP funding is currently available. Those mitigation types include:

- The potential for reducing loss of life and property in the disaster area
- The potential to solve other social and economic problems through multi-objective planning

The committee reviewed the bylaws change this cycle to include an SOP on the way the committee scores mitigation projects, and how they are then used to rank them for funding consideration when grants become available that require committee approval. The committee made no further amendments to the bylaws.

Ms. Coles presented a review of the Hazard Mitigation Grant Program (HMGP) process.

The committee then considered HMGP projects and ranked them for a support letter to be drafted for the Acting Chair's Signature. The application period will close May 24, 2021.

The next meeting is to be scheduled as needed this year. No set date.

Brevard County LMS Steering Committee

Nicole HMGP Meeting Minutes

Date: Tuesday, June 27, 2023 at 2 PM

Brevard County Emergency Operations Center
1746 Cedar St, Rockledge, Florida 32955

I. Call to Order

Brendon Collins, Brevard County Emergency Management, called the meeting to order at 2:10 PM

II. In attendance

Name	Agency, Department, Jurisdiction
Heather Kenney	City of Titusville
Leigh Spradling*	Parrish Medical Center
Jonathan Lamm	City of Cocoa
Bach McClure*	Brevard County, Natural Resources Management
Karen Black	Brevard Public Schools
Corrina Gumm*	Brevard County, Traffic Operations
Rebecca Thibert	City of Melbourne
Justin Kenney*	City of Titusville
Clark Simmons*	City of Melbourne
Kyle Mack*	City of Titusville
Steve Kimball*	Brevard County, Parks and Recreation
Chris Eliadis	Brevard County, Emergency Management
Brendon Collins*	Brevard County, Emergency Management
Corey Dibble	Canaveral Port Authority
Alexis Miller	City of Cape Canaveral
*non-voting member or attendee	

III. Minutes

A. Introductions

1. Brendon Collins welcomed everyone to the meeting and stated its purpose as well as facilitated introductions

B. Review of HMGP Grant and Initiative Proposal Procedures

1. Brendon Collins provided a high-level overview of the HMGP
    a. Hurricane Ian apps are due 23:59:00 pm on August 29, 2023
    b. Hurricane Nicole apps due 23:59:00 on October 20, 2023
    c. Applications can be submitted via the online portal (required) and/or via mail
    d. Login/register with FDEM Grants Portal, follow the guide/instructions
    e. Webinar TBD for Hurricane Nicole HMGP Application, via email from BCEM
    f. Free technical assistance via this survey link via state-contracted consultants
2. Brendon Collins stated that the LMS tries to over-submit for allocated funds from the state to ensure full-dollar awards

Brevard County LMS Steering Committee

Nicole HMGP Meeting Minutes

Date: Tuesday, June 27, 2023 at 2 PM

Brevard County Emergency Operations Center
1746 Cedar St, Rockledge, Florida 32955

C. Initiative Proposals

1. Leigh Spradling, Parrish Medical Center, presented
    a. **NEW** initiative for weather-resistant whole-building hardening sealant for Parrish Medical Center building. The existing façade is vulnerable to brackish water exposure, sunlight, water intrusion, mold intrusion, etc., and experiences these threats, more severely during storm events.
        I. Rebecca Thibert, Melbourne, asked about the difference between maintenance vs infrastructure improvement. Leigh spoke on the sealant's protective nature for mold intrusion and water hazard mitigation as a public health concern for a critical building serving vulnerable individuals during and immediately after storm events.
2. Cory Dibble, Canaveral Port Authority, presented
    a. **EXISTING** initiative BRV- 0887 update, provide general hardening of main facility data hub at the Port. This is an existing project, providing an updated estimated cost.
    b. **NEW** initiative to acquire and install tide flex valves for Port outfalls. This is adjacent to a current project, to include Port-owned smart stormwater ponds for automated draw-down activities prior to a storm event in coordination with local weather agencies.
3. Alexis Miller, City of Cape Canaveral, presented
    a. **NEW** initiative to acquire and install a battery-ready solar array system for the city-owned BCSO Precinct building for energy backup and redundancy.
    b. **NEW** initiative to acquire two (2) V2X energy backup systems with V2B infrastructure for the City's Public Works/Wastewater Treatment Administrative Building.
        I. Rebecca Thibert, Melbourne, asked about the eligibility of the project per HMGP guidelines. Alexis spoke on its nature as a portable generator and backup power system for buildings and general community disaster relief and mitigation operations.
        II. Chris Eliadis, Brevard County, noted that this application would likely not get approved for funding and that this initiative could cause a higher level of scrutiny for other applications from Brevard.
4. Heather Kenney, City of Titusville, presented
    a. **NEW** initiative to procure two (2) V2B energy backup systems for the City's network operations center at City Hall and EOC at Fire Department.
    b. **NEW** initiative for three (3) mobile generators to provide backup operations at auxiliary network communications buildings that currently do not have generators.

Brevard County LMS Steering Committee

Nicole HMGP Meeting Minutes

Date: Tuesday, June 27, 2023 at 2 PM

Brevard County Emergency Operations Center
1746 Cedar St, Rockledge, Florida 32955

5. Corrina Gumm, Brevard County, presented
    a. **NEW** initiative to procure and install uninterruptable power supplies (UPS) for traffic control systems in outage events prior to generator prioritization and placement. Est. $1.5 million total (form attached).

J. Steering Committee Vote

1. All new initiatives were unanimously approved to be placed on the LMS Initiatives list
    a. Parrish Medical Center
        I. BRV-0897 – Parrish Medical Center Building Hardening
    b. Canaveral Port Authority
        I. BRV-0898 – Continuous Monitoring and Adaptive Control System
    c. City of Cape Canaveral
        I. BRV-0899 – Resilience Operations + Utility Vehicle-to-Everything Energy Backup System
        II. BRV-0900 – BCSO Cape Canaveral Precinct Battery-Ready Solar Array
    d. City of Titusville
        I. BRV-0901 – Vehicle-to-Everything (V2X) Energy Backup System
        II. BRV-0902 – Backup Generators for Network Communications Systems
    e. Brevard County Traffic Operations
        I. BRV-0903 – Backup Power for Traffic Control Systems
2. All presented initiatives were unanimously approved for LMS Letter of Support

K. Partner Updates & Open Forum

1. Vice Chair Dibble spoke to updates to bylaws for improved quorum and requirements for future meetings

IV. Adjourn

The Steering Committee Meeting adjourned at 3:15 P.M.

The next meeting is scheduled to be virtual on Tues August 29, 2023 at 2:00 P.M. Link forthcoming.

If something was missed and/or omitted from the minutes that should be recorded, please contact Brendon Collins, BCEM, at Brendon.Collins@brevardfl.gov or 321-637-4087.

Hurricane Nicole HMGP LMS Meeting

Date: Tuesday, June 27, 2023
Time: 2:00 PM – 4:00 PM
Location: Brevard County EOC

NAME	ORGANIZATION	TELEPHONE	EMAIL
✓ Karen Black	Brevard Public Schools	321-633-1000 x11418	black.karen@brevardschools.org
✓ Cory Dibble	CPA	3218484226	cdibble@portcanaveral.com
✓ Heather Kenney	City of Titusville	321-567-3708	heather.kenney@titusville.com
✓ Jonathan Lamm	City of Cocoa	904-861-9781	JLamm@cocoafl.org.
✓ Alexis Miller	City of Cape Canaveral	321-616-4049	a.miller@cityofcapecanaveral.org
✓ Kyle Mack	Titusville	321-567-3805	Kyle.mack@titusville.com
✓ Chris Eliadis	BCEM	321-637-6660	chris.eliadis@brevardfl.gov
✓ Brandon Collins	BCEM	321-637-6670	Brandon.Collins@brevardfl.gov
✓ Corrina Gumm	BCPW-Traffic	321-455-1448	Corrina.gumm@Brevardfl.gov
✓ Zach McClure	BC Nat Res/Sh	321-633-2016	zach.mcclure@brevardfl.gov

Hurricane Nicole HMGP LMS Meeting

Date: Tuesday, June 27, 2023
Time: 2:00 PM – 4:00 PM
Location: Brevard County EOC

NAME	ORGANIZATION	TELEPHONE	EMAIL
✓ Clark Simmons	City of Melbourne	321-408-2446	Clark.Simmons@mlbfl.org
✓ Justin Kenney	City of Titusville	321-567-3754	justin.kenney@titusville.com
✓ Rebecca Thibert	City of Melbourne	321-608-7206	rebecca.thibert@mlbfl.org
✓ Leigh Spradling	Preesh Healthcare	321-794-4485	Leigh.spradling@preeshmed.com
✓ Brendon Collins	BCEM	321-637-4097	Brendon.Collins@brevardfl.gov

BREVARD PREPARES
LOCAL MITIGATION STRATEGY
Hurricane Nicole HMGP Meeting

Tuesday, June 27th, 2023
2:00 PM

AGENDA

I. Introductions

II. Review of HMGP Grant and Initiative Proposal Procedures

III. Initiative Proposals

  i. Leigh Spradling, Parrish Medical Center

  ii. Cory Dibble, Canaveral Port Authority

  iii. Alexis Miller, City of Cape Canaveral

  iv. Heather Kenney, Titusville

IV. Steering Committee Vote

V. Partner Updates

VI. Open Forum

VII. Adjourn

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Press Releases, Meetings and Events

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South/Central Brevard Parks and Recreation Advisory Board
6/26/2023 3:29 PM by PARKS AND RECREATION DEPARTMENT
VIERA, FL. -- A Regular Meeting of the South/Central Brevard Parks and Recreation Advisory Board wil...

CORRECTED DATE: Charter Officers Invited to Make Budget Presentations at Specially Called Commission
6/23/2023 1:35 PM by BOARD OF COUNTY COMMISSIONERS
BREVARD COUNTY, FL. – A specially called meeting will be held by the Brevard County Board of County ...

Charter Officers Invited to Make Budget Presentations at Specially Called Commission Meeting
6/23/2023 12:07 PM by BOARD OF COUNTY COMMISSIONERS
BREVARD COUNTY, FL. – A specially called meeting will be held by the Brevard County Board of County ...

Mathers Bridge Maintenance Project Will Put Temporary Halt to Boating Traffic
6/21/2023 1:34 PM by PUBLIC WORKS DEPARTMENT
BREVARD COUNTY, FL. – Preventative maintenance, including replacement of two span motors, will shut...

Youth Master Naturalist Day Camp Open for Registration
6/20/2023 10:00 AM by UF/BREVARD COUNTY EXTENSION SERVICES OFFICE
BREVARD COUNTY, FL. – Do you have a budding naturalist at home? If so, sign them up for our Florida ...

District 4 Administrative Board to Hold Regular Meeting July 6th, 2023
6/20/2023 6:56 AM by PARKS AND RECREATION DEPARTMENT
COCOA, FL. -- A Regular Meeting of the Brevard County Parks and Recreation Central Area Parks Operat...

Environmentally Endangered Lands Program Selection and Management Committee Meeting-June 23

Meetings / Events

Meetings

Local Mitigation Strategy Steering Committee Meeting
27 June, 2023 2:00 PM

On June 27 at 2:00 PM, the Local Mitigation Strategy Steering Committee will meet to discuss ongoing Local Mitigation Strategy updates, upcoming HMGP funding for Hurricanes Ian and Nicole, and updating the project list.

Leave a comment

Brevard Family Partnership Rescheduled Special Board Meeting - June 30, 2023
30 June, 2023 9:00 AM

Brevard Family Partnership has rescheduled their Special Board Meeting from Thursday, June 22, 2023 to Friday, June 30, 2023 at 9:00 AM. Please contact Laurie-Anna DeGennaro at (321) 266-0603 for video conference details.

27 June, 2023 at 2 PM

Local Mitigation Strategy Steering Committee Meeting

On June 27 at 2:00 PM, the Local Mitigation Strategy Steering Committee will meet to discuss ongoing Local Mitigation Strategy updates, upcoming HMGP funding for Hurricanes Ian and Nicole, and updating the project list.

For more information you may contact Brendon Collins, Brevard County Emergency Management at (321) 637-6670.

Location

1746 Cedar St.
Rockledge, FL

Contact

Brendon Collins

(321) 637-6670

Add To

- Outlook,
- ICal,
- Google Calendar

Go Back

Active Actions	Live	**REMINDER: Local Mitigation Strategy Steering Committee Meeting TODAY @ 2PM**	Jun 27, 2023 10:37:06 EDT	Brendon Collins	**65**	
Sent Actions	Live	**Local Mitigation Strategy Steering Committee Meeting: Hurricane Nicole HMGP**	Jun 23, 2023 15:53:01 EDT	Brendon Collins	**65**	
Sent Actions	Live	**Local Mitigation Strategy Steering Committee Meeting: Hurricane Nicole HMGP**	Jun 14, 2023 15:59:29 EDT	Brendon Collins	**65**	

BREVARD COUNTY
LOCAL MITIGATION STRATEGY
STEERING COMMITTEE MEETING

Wednesday, December 11, 2024

2:00 PM

AGENDA

I. Introductions

II. Old Business

- Local Mitigation Strategy 2025 Update
- HMGP and other Hazard Mitigation Funding Opportunities

III. New Business

- Officer Elections
- Bylaws Update
- Project List Update

IV. Open Forum

- Partner Updates

V. Adjourn

Brevard County Public Meetings

Select tags and locations to filter events.

Select Event Tags | Select Event Locations | Print Results

Event Status: Blue Active Event | Red Canceled Event | Gray Previous Event

today

December 2024

month | weekly list

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3 5p Brevard County Board of County Commissioners Regular Meeting	4 10:30a Florida Local Government Finance Commission Meeting	5	6	7
8	9	10 9a Dangerous/Aggressive Dog Special Magistrate Hearing 12/10/24	11 1p Central Florida Cares Health System Finance Committee Meeting 1p Building Construction Advisory Committee 2p Central Florida Cares Health System Executive Committee Meeting 2p Local Mitigation Strategy Steering Committee Meeting	12 12p Merritt Island Redevelopment Agency Board Meeting 5p Brevard County Board of County Commissioners Zoning Meeting	13	14

Local Mitigation Strategy Steering Committee Meeting

Wednesday, December 11, 2024

2:00 PM to 3:00 PM

The Local Mitigation Strategy Steering Committee will meet to discuss ongoing Local Mitigation Strategy updates, upcoming Hazard Mitigation Grant Program (HMGP) funding for Hurricane Milton and updating the project list. The Local Mitigation Strategy (LMS) is the document that guides Brevard County and other jurisdictions within it through the selection and implementation of mitigation initiatives to help reduce the impact of hazards.

Contact: Brendon Collins
Phone: (321) 637-6670
Email: brendon.collins@brevardfl.gov

Location: Brevard County Emergency Operations Center
Street: 1751 Huntington Lane
City: Rockledge
Zip: 32955

Tags:

Event ID 2888

Add to Google | Add to Outlook | Download ICS | Download PDF

Close

LMS Steering Committee Meeting

Date: Wednesday, December 11, 2024
Time: 2:00 PM – 3:00 PM
Location: Brevard County EOC

NAME	ORGANIZATION	TELEPHONE	EMAIL
Leigh Spradling	Preish Medical		leigh.spradling@preishmed.com
Daniel Hensler	Health First		daniel.hensler@hf.org
DINA REIDER-HICKS	WM		dreider@wm.com
Jacqueline Jackson	City of west Melbourne		JJackson@westmelbourne.gov
Tom Bradford	City of west Melbourne		TBradford@westmelbourne.gov
Heather Kenney	City of Titusville		heather.kenney@titusville.com
Jacob Lee	City of Rockledge		JLee@cityofrockledge.org
Jonathan Lamm	City of Cocoa		JLamm@cocoafl.gov
Cory Dibble	Canaveral Port Authority		cdibble@portcanaveral.com
Brandon McKee	PalmBay Fire Rescue		Brandon.McKee@PalmBayFlorida.org
CLARK SIMMONS	MELBOURNE FIRE DEPARTMENT		CLARK.SIMMONS@MLBFL.ORG
John Miller	Brevard County		John.Miller@BrevardFL.gov
Chris Eliadis	Brevard County Em		chris.eliadis@brevardfl.gov
STEVE LEA	COCOA BEACH FIRE DEPT.		SLEA@CITYOFCOCOABEACH.COM

Brevard County LMS Steering Committee

Quarterly Meeting Minutes

Date: Wednesday, December 11, 2024 at 2 PM

Brevard County EOC

I. Call to Order

Brendon Collins, Brevard County BOCC, called the meeting to order at 2:00 PM

II. In attendance

Name	Agency, Department, Jurisdiction
Leigh Spradling	Parrish Medical Center
Daniel Hensler	Health First
Dina Reider-Hicks	Waste Management
Jacqueline Jackson	City of West Melbourne
Tom Bradford	City of West Melbourne
Heather Kenney	City of Titusville
Jacob Lee	City of Rockledge
Jonathan Lamm	City of Cocoa
Cory Dibble	Canaveral Port Authority
Brandon McKee	City of Palm Bay
Clark Simmons	City of Melbourne
John Miller*	Brevard County BOCC
Chris Eliadis	Brevard County BOCC
Steve Lea	City of Cocoa Beach
Brendon Collins*	Brevard County BOCC
*Indicates non-voting members	

Brevard County LMS Steering Committee

Quarterly Meeting Minutes

III. Minutes

A. Introductions

a. All in attendance introduced themselves with their names, titles, and organizations

B. Old Business

a. LMS 2025 Major Update

I. Brendon Collins, Brevard County BOCC, advised the group on the progress of the LMS update

II. A schedule of update-related meetings, including a risk assessment workshop, a goals and vulnerabilities workshop, and the first quarterly meeting for 2025, was discussed

b. Hazard Mitigation Grant Program (HMGP) and other Hazard Mitigation Funding Opportunities

I. Mr. Collins provided information about the expected funding for Hurricane Milton HMGP and the 2025 Non-Disaster Mitigation funding opportunities

II. Grant timelines, amount of work, and anticipated funding amounts were also detailed

III. Leigh Spradling, Parrish Medical Center, shared that Parrish had withdrawn their application for HMGP due to executive leadership changes in the organization

IV. John Miller, Brevard County BOCC, proposed some possible ways to spend the upcoming funding, including planning and capacity building

C. New Business/Program Updates

a. Officer Elections for 2025

I. Jonathan Lamm, City of Cocoa, nominated current Interim Chair Cory Dibble, Canaveral Port Authority, to fill the vacant Chair position

II. Mr. Dibble nominated Jonathan Lamm to fill the Vice Chair position

III. Mr. Lamm nominated Dina Reider-Hicks, Waste Management, to fill the vacant Secretary position

1. After group discussion, Chris Eliadis, Brevard County BOCC, nominated Leigh Spradling, Parrish Medical Center, to fill the Secretary Position
2. Further clarification was requested and made about the duties of the Secretary, according to the Bylaws

IV. Following the Secretary position discussion, no other nominations were made, and the new officers for 2025 were confirmed as follows:

1. **Chair: Cory Dibble, Canaveral Port Authority**
2. **Vice Chair: Chief Jonathan Lamm, City of Cocoa**
3. **Secretary: Leigh Spradling, Parrish Medical Center**

b. Bylaws Update

I. New Bylaws creating an Initiative Scoring Committee were proposed to the group

1. Discussion about the composition of the new committee and the responsibilities of the committee followed
2. It was recommended that rather than selecting three random Steering Committee Members for the Scoring Committee, the Steering Committee

Officers would also serve as the Initiative Scoring Committee and the group agreed

3. No motions were made, nor was a vote held to approve or deny the proposed changes

II. Initiative List Updates

1. Mr. Collins proposed a new scoring methodology and new scoring criteria to the group for their input
   a. It was clarified that scoring would occur separately from the initiative proposal approval for addition to the list or approval to seek funding for HMGP or similar grant programs
   b. The purpose of the new methodology is to incentivize participation in the Steering Committee and attendance at regular meetings
   c. The new scoring criteria refines how initiatives are scored and incentivizes positive effects
   d. Discussion was held on the final scoring criteria that assigned points to initiatives for previously being on the list prior to prioritization for funding
      i. Members had concerns with older initiatives and ineligible initiatives giving an advantage to unrelated initiatives. It was clarified that the extra points were only assigned if the initiative seeking funding already had a place on the list and was an exact match to the approved initiative
2. No motions were made, nor was a vote held to approve or deny the proposed changes

D. Partner Updates + Open Forum

a. No updates

E. Adjourn

a. Jonathan Lamm motioned to adjourn; Clark Simmons seconded

The Steering Committee Meeting adjourned at 3:00 P.M.

The next meeting is Monday, January 6, 2025. It is a Risk Assessment Workshop for the LMS Major Update and will be held over Zoom.

If something was missed and/or omitted from the minutes that should be recorded, please contact Brendon Collins, BCEM, at Brendon.Collins@brevardfl.gov or 321-637-4087.

Appendix F: Mitigation Capabilities and Mechanisms

Unincorporated Brevard County

Board of County Commissioners

The Board of County Commissioners, as established by the County Charter, is elected by the citizens to serve as the policy-making legislative body for Brevard County, Florida. The Commissioners hear and adopt the budget supporting capital improvements and hear comprehensive plan amendments as well as land development regulation changes. Each Commissioner provides responsive service to constituents through their five District Offices. The chairman of the Board is part of the Emergency Coordination Group that makes up the governing body of the County when disasters are declared.

County Managers Office

The County Manager is the head of the executive branch of County Government and is answerable to the Board of County Commissioners for the proper administration of all affairs of County Government not otherwise entrusted to an elected County officer. The Manager attends all regular and special Board of County Commissioners meetings and has the right to participate in discussions. The County Manager is a member of the ECG.

Emergency Management

This department has three divisions: Emergency Management Operations, Public Safety Radio Systems, and Enhanced 9-1-1 Administration/Address Assignment. Brevard County Emergency Management communicates and coordinates emergency services before, during, and after a disaster. Brevard County Emergency Management also serves as the coordinator of the LMS Steering Committee and LMS Maintenance.

Merritt Island Redevelopment Agency (MIRA)

MIRA implements the Merritt Island Redevelopment Plan as adopted and amended by the County Commission. The Plan sets forth the objectives of the redevelopment program and describes the Agency's purpose, authority, financial mechanisms and public improvement projects. It supports mitigation efforts through sustainable development initiatives and land use regulations.

Natural Resources Management Department

The Natural Resources Management Department (NRMD) provides sound, cost effective management of environmental resources. This is accomplished by developing and implementing management plans, regulations, and outreach programs designed to preserve and protect Brevard County's natural resources to further their public utilization and enjoyment. This department maintains the county's stormwater program and the Save Our Indian River Lagoon (SOIRL) program, both of which tie directly to the LMS. The various programs within the NRMD also support mitigation capabilities to implement the LMS.

Parks & Recreation Department

The Department oversees 117 parks, 3 campgrounds, 2 golf courses, 3 nature centers, 3 education centers, 78 beach access sites, 10 school athletic sites, and more than 16,500 acres of Environmentally Endangered Lands sanctuaries and conservation areas. Land management activities on these areas serve to mitigate fire and flooding.

Planning and Development

The Planning & Development Department is responsible for administering & ensuring compliance with Brevard County's Comprehensive Plan and Land Development Regulations both of which incorporate elements of the LMS. Brevard County's Comprehensive Plan is comprised of 15 elements, or chapters, that address the full range of topics affecting physical development of the County.

Public Works Department

Public works administers the CRS program helping to mitigate flooding and repetitive losses throughout the county. This department also implements mitigation through various programs to ensure safe travel, resilient infrastructure, and maintenance and expansion of drainage structures.

Transportation Planning Office

During the planning process the Space Coast Transportation Planning Organization includes items in projects that mitigate disaster impacts and encourage safety.

University of Florida/Brevard County Extension Service

The University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) Extension in Brevard County is a partnership between UF/IFAS, the United States Department of Agriculture (USDA), and Brevard County government. The UF Brevard County Extension Service provides educational programs based on the latest research and technology. Outreach efforts by Extension Service staff educate the public on water quality and quantity, crop and livestock health, financial management, injury prevention and marine sciences.

Brevard County Sheriff's Office (BCSO)

The Brevard County Sheriff's Office's mission is to build community and professional partnerships, commit to excellence and integrity, and strive to reduce crime and obtain fair and equal treatment for all. The BCSO Public Information Officer is responsible for composing and distributing news releases; handling media inquiries; coordinating and conducting press conferences; coordinating community relations opportunities for the Sheriff's Office.

Central Services

The Central Services Office provides the procurement of goods and services, and the accountability of assets mandated by various federal, state, and local laws and rules.

Fire Rescue

BCFR informs and educates the public on fire prevention and BCFR's Office of Fire Prevention mitigates disaster by performing fire and life safety inspections to businesses and homeowners, commercial lighting and fire systems plan review, and providing homeowner insurance information.

Housing and Human Services

This department assists citizens in meeting their health, social and housing requirements via affordable housing programs, coordinating the commission on aging and community action boards, and administering community development block grants.

Information Technology Department

The Brevard County Information Technology Department provides telecommunications support, computer system management and security, and software development support and services to County agencies.

Solid Waste Management Department

The Solid Waste Management Department is charged with protecting the public health by providing an efficient and environmentally sound Solid Waste Management System for Brevard County's residents.

Space Coast Government Television/Communications Office

The SCGTV/Communications Office is committed to providing Brevard County residents with better access to local county government information through a variety of communication tools. This Office operates Space Coast Government Television, a 24-hour, 7 days/week government-access cable television channel; writes and sends press releases to media and citizens; coordinates media interviews for County departments; oversees website design and content; and maintains the County's social media presence on Facebook and Twitter.

Utility Services Department

Brevard County Utility Services Department operates six wastewater treatment plants and three drinking water plants, providing quality drinking water, reclaimed irrigation water, and wastewater services throughout Brevard County.

Citation	Statement	Applies to
Brevard County, Unincorporated		
Code of Ordinances		
II.62.510	West Canaveral Groves area. For an existing permanent structure in West Canaveral Groves to receive a certificate of completion and electrical service approval, it must comply with all applicable federal, state, and county regulations at the time of application. A building permit or development order does not guarantee access to utilities such as electricity, telephone, or cable. The county determines the required finished floor elevation based on estimated roadway elevation and FEMA requirements. Variances may be granted if a state-registered engineer certifies that the structure will not flood or impact nearby properties, supported by a drainage plan for at least a 25-year, 24-hour storm event. Alternative drainage solutions may be considered, but no variance can violate FEMA regulations.	All areas
II.62.2891.a	House pads or lot elevations in the A or AE flood zones consistent w/ FEMA*** (8) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding; and…	All areas
II.62.3695.d.4	Structures are flood proofed and located above the 100-year flood elevation.***	All areas
II.62.3723.1	Floodplain uses include agriculture, recreation, wildlife and open space.***(a)In all areas of special flood hazard the following provisions are required:	All areas
II.62.3723.2	Development within floodplain areas	All areas
II.62.3724.	Development density and guidelines for floodplains. Providing for compensatory flood storage, restricting commercial and industrial development and development densities.	All areas
II.62.3725.a	New dikes, levees, or similar structures are not allowed below the 100-year flood elevation unless they are under the 10-year flood elevation and do not restrict 100-year storm floodwaters. Exceptions may be made for structures with overriding public benefit. Nonbreached dikes may be repaired or replaced as long as the floodplain status remains unchanged, and the property's use is maintained.	All Permit Applications

II.62.4003.a	The purpose of these provisions is to protect public health, safety, and welfare while minimizing flood-related losses. This is achieved by restricting hazardous land uses that could worsen erosion or flood risks, ensuring flood-prone structures and essential facilities are built to withstand flood damage, and regulating activities like filling, grading, and dredging to prevent increased erosion or flooding.	All areas
II.62.4003.b	This provision establishes minimum construction standards for new and substantially improved residential and nonresidential structures, including prefabricated and manufactured homes, to ensure eligibility for federal flood insurance. It requires compliance with recognized flood protection construction techniques and applies to all designated special flood hazard areas within the county's jurisdiction.	All areas
II.62.4031.1	The building official shall participate in the review of all development permits to ensure that the permit requirements of this article have been satisfied.	All areas
II.62.4031.1	(1) The applicable base flood elevation shall be determined for each property for each permit issued in a special flood hazard area.	All areas
II.62.4031.4	Maintain altered watercourse to ensure flood-carrying capacity.***(c) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards.	All areas
II.62.4031.6	In unnumbered A zones, the builder or owner must determine the base flood elevation per county requirements set by the building official. The official will review and use available flood data from federal, state, or other sources to enforce flood regulations. Additional technical reports or surveys may be required to ensure the lowest floor is at least 12 inches above the 100-year base flood elevation. Appeals of the building official's decisions can be made under section 62-4034.	All areas
II.62.4033.a	Before any development begins, a permit application must be submitted to the county, including detailed, scaled plans showing the site's layout, structures, fill, drainage, and material storage. Required information includes the proposed lowest floor elevation of all structures, the floodproofing elevation for nonresidential buildings, a FEMA floodproofing certificate from a licensed engineer or architect, and a description of any planned watercourse alterations or relocations.	All areas

II.62.4033.b	All new residential construction and substantial improvements, including manufactured and mobile homes, must have the lowest floor at or above the 100-year flood elevation. If a specific elevation is listed on the flood insurance rate map, the structure must be elevated accordingly. If no elevation is specified, the lowest floor must be at least two feet above the highest adjacent grade.	All areas
II.62.4034.e	Variances based on susceptibility of the proposed facility to flood damage.***(b)All new construction and substantial improvements of	All areas
II.62.4034.h	Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.	All areas
II.62.4034.i	Granting of a variance will not result in increased flood heights.***(b)All new construction and substantial improvements of nonresidential structures shall:	All areas
II.62.4034.j	Applicants granted a variance will receive written notice detailing the difference between the base flood elevation and the approved building elevation. The notice will warn that constructing below the base flood elevation will lead to higher flood insurance premiums, potentially reaching $25 per $100 of coverage, and will increase risks to life and property.	All areas
II.62.4061.1 – II.62.4061.11	All new construction and manufactured homes must be securely anchored to prevent flotation during flooding. Buildings and utility systems should be constructed with flood-resistant materials and methods to reduce potential damage. Sanitary sewage and water supply systems must be designed to minimize or eliminate the infiltration of floodwaters and prevent contamination. Electrical, heating, ventilation, air conditioning, and plumbing systems should be installed above the 100-year flood elevation to reduce the risk of water damage. To address hazardous waste and toxic material management as a regional issue, the county will coordinate with state, regional, and local agencies to ensure the availability of safe and cost-effective storage and transfer facilities. Additionally, significant improvements aimed at correcting existing flooding issues within special flood hazard areas may be considered for funding through the Municipal Service Benefit Unit (MSBU) mechanism.	All areas

II.62.4062.1 - II.62.4062.8	Residential and nonresidential structures in special flood hazard areas must have their lowest floors elevated at least 12 inches above the base flood elevation, with nonresidential buildings alternatively allowed to be floodproofed. Manufactured homes must meet the same elevation and anchoring standards as new construction, while floodways prohibit encroachments unless certified not to increase flood levels. Coastal structures must be elevated no lower than the base flood elevation, and AO zone construction must be at least two feet above the highest adjacent grade. To protect public health and safety, hazardous material storage is restricted near potable water sources, and road crowns must be elevated to ensure safe access during flooding.	All areas
II.62.4064.a	All subdivision proposals need to minimize flood damage.	All areas
II.62.4064.b	Base flood elevation data shall be provided for subdivision proposals.	All areas
II.62.510.c.	Flood hazard zone information required for CO.***(a)In all areas of special flood hazard the following provisions are required	All Permit Applications
Comprehensive Plan		
Conservation Element		
CE.P.3.2	Develop standards for development with potential to negatively impact water***	All areas
CE.P.3.6	Vertical seawalls and bulkheads shall be prohibited along the Lagoon system***	All areas
CE.P.3.7	New man-made canals connected to the Lagoon system are not permitted***	All areas
CE.P.3.8	Septic tanks and drain fields set back at least 100' from Lagoon shore***	All areas
CE.P.4.1	Develop regulations to protect riverine floodplain***	All areas
CE.P.4.5	Develop regs. to insure alterations of estuarine floodplains don't impact drainage***	All areas
CE P.4.6	alterations of isolated one-hundred year floodplains do not adversely impact the drainage of adjacent properties or public drainage facilities	All areas
CE.P.4.7	Develop regs. to protect coastal floodplain***	All areas

CE.P.4.10	Public facilities should not be located within the 100-year riverine or estuarine floodplain unless***	All areas
CE.P.5.2	Adopt regs which promote no net loss of wetlands***	All areas
CE.P.8.5	Landscaping, Land Clearing and Tree Protection ordinance to mitigate heat island effects***	All areas
CE.P.10.1	Undertake a surficial and Floridian aquifer protection study***	All areas
Surface Water Element		
SWM P.1.1-5	Providing for preservation and improvement of drainage basins and master stormwater systems	All areas
Potable Water Element		
PWE P.1.5	By 2011, Brevard County shall adopt land development regulations to further reduce per capita consumption of potable water.	All areas
Solid Waste and Hazardous Materials Element		
SWHME P.7.1	Brevard County shall continue and expand the collection center or system to receive hazardous wastes from households, small businesses, and other low-volume generators.	All areas
SWHME P.8.1	The County hazardous materials emergency response team shall be maintained and provided with adequate training and equipment (including field communication network) on a permanent basis.	All areas
SWHME P.8.2	Operating costs shall be recovered from parties responsible for the cause of hazardous material incidents.	
Capital Improvement Element		
SW/Watershed Improvements - **Fay Lake - Phase 1**	This project will divert West Port St. John outfalls into Fay Lake, creating a regional stormwater treatment pond to improve St. Johns River water quality and reduce flooding. Approved in 2000 but delayed for the Chain of Lakes Project, it will now proceed in three phases with grant funding. Construction is planned from FY 2010-11 to FY 2013-14 with a $700,000 budget.	Retrofit
SW/Watershed Improvements - **Breezeway**	The Breezeway project will install an exfiltration system to improve drainage and reduce flooding. Estimated at $150,000, design and permitting are set for FY 2012-13, with construction in early FY 2013-14.	Retrofit

SW/Watershed Improvements - **S. Lake (Carpenter Road Area) Water Quality Retrofit**	This project aims to improve water quality at three stormwater outfalls draining to the St. Johns River, with upgrades including baffle boxes, infiltration basins, and exfiltration systems. One site near South Lake Elementary School will feature a viewable baffle box for educational purposes. The total project cost is $513,000, with a $301,200 FDEP/EPA grant covering 60% of the costs. The City of Titusville will contribute the remaining 40% through in-kind services and land donations, with design set for FY 2009-10 and construction in FY 2010-11.	Retrofit
SW/Watershed Improvements - **NASA/KSC**	A drainage study is being conducted for the unincorporated area of North Merritt Island, including parts of Kennedy Space Center, to address significant flooding issues, particularly from Tropical Storm Fay in 2008. The study is exploring the possibility of reconnecting agricultural drainage ditches that previously drained to the Banana River. These reconnections will be modeled to ensure they do not cause adverse flooding or other negative impacts. The total project cost is estimated at $500,000.	Retrofit
SW/Watershed Improvements - **Merritt Island Airport Pond**	This project aims to improve water quality by modifying a County ditch and enlarging a pond on airport property. The design and permitting were completed, with an Interlocal Agreement approved for land use at no cost. A FDEP grant will cover 50% of costs, up to $800,000. Bidding is expected in July 2010, with completion anticipated in FY 2010-11, at a total cost of $1,150,000.	Retrofit
SW/Watershed Improvements - **Fortenberry Road/Parcel**	This project involves building a 26-acre regional stormwater pond on Merritt Island in two phases, expanding from an initial plan to treat 35 acres to nearly 1,000 acres. Redesign and permits are in progress, with the first phase slated for FY 2010-11. Total cost is $1,260,000.	Retrofit
SW/Watershed Improvements - **Valkaria Lakes**	This project will convert 3 borrow pits into stormwater ponds to treat runoff from 524 acres of mostly residential lots and reduce flooding. Located south of Valkaria Road and east of I-95, the project is funded through a State grant managed by the County under an Interlocal Agreement with the Town of Grant-Valkaria. The project will be built in phases to manage costs, with a total cost of $184,000.	Retrofit

SW/Watershed Improvements - **Merritt Island Improvement – Pine Island Phases 1 & 2**	This project aims to improve water quality in the Indian River Lagoon and reduce flooding on North Merritt Island by modifying two borrow pits on Pine Island. Phase I involves expanding the north borrow pit, installing a pump, and constructing a diversion weir for stormwater runoff treatment, with FDEP funding of $500,000. Phase II will further enhance water quality and flood control by regrading the south borrow pit and installing a second pump. Phase II is expected to cost $1.6 million, with a potential FDEP 319 grant to cover 50% of construction costs, and may be completed by FY 2014-2015. Total project cost is $1.5 million for Phase I and $500,000 for Phase II.	Retrofit
SW/Watershed Improvements - **NASA/KSC**	13. Upper Eau Gallie-Lake Washington flood protection 2009--$1,864,091	Retrofit
Coastal Management Element		
CME.P.10.10	County shall conduct hurricane exercises at regular intervals***	All areas
CME.P.10.3	Adopt post-disaster permitting procedure to expedite permitting***	Redevelopment
CME.P.10.5	Replacement of infrastructure constructed as part of integral network***	Redevelopment
CME.P.10.6	Analyze public structures likely to be damaged or destroyed in hurricane***	All areas
CME.P.10.7	Damaged infrastructure analyzed to judge cost relocation vs. repair***	Redevelopment
CME.P.11.7	Continue to pursue funds for dune revegetation for dune crossovers***	All areas
CME.P.2.4	Brevard County shall address modification of existing development which does not meet stormwater management standards.	All areas
CME.P.2.5	Modify existing development not meeting stormwater management standards***	All areas
CME.P.4.10	Develop plan for long-term response to sea level rise***	All areas
CME.P.4.3	Adopt standards for maintenance of reestablishment of dunes***	All areas
CME.P.4.6	Establish program to locally monitor beach dynamics data collection project***	All areas

CME.P.4.7	Brevard County shall continue to protect the coastal floodplain	All areas
CME.P.4.8	Brevard County shall prohibit motorized vehicles on the dune and beach system as well as foot traffic for all but emergency response and other approved activities	All areas
CME.P.4.9	Brevard County shall continue to collect and make available to the public information related to sea level changes	All areas
CME.P.5.1	Develop and implement standards for marinas and related facilities***	All areas
CME.P.5.2	Develop and implement regs governing live-aboards in coastal zone***	All areas
CME.P.5.6	Marinas within coastal zone shall be inspected annually***	All areas
CME.P.6.2	No financial support for new local transportation corridors in CHHZ***	All areas
CME.P.6.3	Brevard County should not locate sewer and water transmission lines within the coastal high hazard zone, except where there is no cost-feasible alternative and where practical due to engineering, safety and cost considerations, and where necessary utilizing existing rights-of-way.	All areas
CME.P.6.5	Public facilities, except for recreational facilities, shall not be located by Brevard County within the coastal high hazard zone, except where there are no other cost-feasible alternatives. Corresponding improvements may only be considered when the facilitation of such improvements is needed to support the densities programmed on the Future Land Use Map (FLUM) series of the Comprehensive Plan.	All areas
CME.P.7.1	Brevard County shall not increase residential density designations for properties located on the barrier island between the southern boundary of Melbourne Beach and the Sebastian Inlet.	Redevelopment
CME.P.8.6	Determine priority of road improvements by evacuation	All areas
CME.P.8.9	New mobile homes, rec vehicle development not permitted on barrier island***	New
CME.P.8.10	Require hurricane plan for rec vehicle park development in south beaches***	All areas
CME.P.10.8	The Brevard CEMP shall be coordinated with other local, regional and state entities. As additional interagency hazard	All Facilities

	mitigation reports are received, they shall be reviewed and incorporated into Brevard CEMP.	
CME.P.10.9	Brevard County should require that when utility lines ….are relocated, they shall be placed underground.	Redevelopment/ Reconstruction Only
Stormwater Improvement Plan		
Sec.II.P.1.1	Adopt, implement Master Stormwater Management Plan***	All areas
Sec.II.P.1.8	County to determine feasibility of innovative stormwater treatment methods***Or 18" above highest point of road elevation	All areas
Sec.II.P.2.3	New stormwater management facilities/techniques not to hurt adjacent lands***	All areas
Sec.II.P.3.3	Stormwater management systems to employ Best Management Practices***Lowest floor must be elevated to or above BFE and fully enclosed areas below lowest floor must allow for entry and exit of floodwaters.	All areas
Sec.II.P.3.5	Stormwater treatment facilities for all B.C.-built roadways provided by BC***	All areas
Sec.II.P.4.1	New surface water interbasin diversions shall be prohibited***	All areas
Sec.II.P.4.6	Development within flood-prone areas not to negatively impact adjacent land***	All areas
Sec.VI.P.1.4	County shall enact ordinances to reduce per capita water consumption***	All areas
Sec.VI.P.2.4	Anyone proposing new public water well must control areas within 500'***	All areas
Sec.VI.P.4.1	Continue to implement wellfield expansion in north county to increase yield***	All areas
Sec.VI.P.4.2	Expand Mims water treatment plant from 1.1mgd to 2mgd***	All areas
Sec.VII.P.1.	Untreated wastewater shall not be discharged into ditches, aquifer, waters***	All areas
Sec.VII.P.2.	County shall discourage new package treatment plants, with exceptions***	All areas
Sec.VII.P.3.	Development of private treatment plant not be used to increase density***	All areas

Sec.VII.P.5.	County to expand wastewater use/recharge/sludge management programs***	All areas
Sec.VIII.2.1	County shall expand collection system to receive hazardous wastes***	All areas
Sec.VIII.3.1	Hazmat emergency response team shall be maintained on a permanent basis***	All areas
Sec.VIII.3.2	Costs to be recovered from parties responsible for hazmat incidents***	All areas
Sec.XIII.1.8	County shall not increase residential densities within CHHA***	All areas
Sec.XIII.2.2	County shall develop regulations to protect riverine/estuarine floodplain***	All areas
Sec.XIII.2.4	County shall develop regulations to protect coastal floodplain***	All areas
Sec.XIII.2.5	County shall develop regulations to ensure drainage not effected***	All areas
Sec.XV.3.1	County shall not finance new local transportation corridors in CHHA***	All areas
Sec.XV.3.3	County should not locate sanitary sewer or transmission lines in CHHA***	All areas
Sec.XV.3.4	County shall not locate any new public facilities within CHHA***	All areas

Mitigation Capabilities and Development Summaries

Canaveral Port Authority

Public Safety Sector

The Port partners with numerous agencies, including the Department of Homeland Security, U.S. Customs and Border Protection, the U.S. Coast Guard and private security firms to deter crime, terrorism, and to mitigate hazards. Three departments cover daily operations at the Port: The Port's Public Safety Department, the Brevard County Sheriff's Office (BCSO) and Canaveral Fire Rescue (CFR).

CPA Public Safety and Security Department

The Public Safety Department coordinates with other team members, develops security plans for restricted Port sites and monitors and maintains gates, locks, surveillance cameras and other security equipment. The Public Safety Department is responsible for the Emergency Management Program and its deployment in emergency situations as well as mitigation measures in response to potential hazards.

Canaveral Fire Rescue

Canaveral Fire Rescue operates stations on Port property at 8970 Columbia Road and 680 Magellan Road. Manned by paid members and volunteers, CFR provides fire and non-transport advanced life support emergency medical services. Members handle medical issues of Port users and respond to fires, small spills and rescues, and practice firefighting techniques at the department's Columbia Road training facility. Firefighters from CFR and nearby departments also are training to handle any emergencies that might occur when ships powered by liquefied natural gas (LNG) arrive at the Port. CFR is an active member of Port Canaveral's Emergency Management Program and a partner in incident preparedness, response, recovery, and mitigation.

Brevard County Sheriff's Office

The Brevard County Sheriff's Office operates a Canaveral Precinct that includes Port Canaveral. Since 2014, BCSO has contracted with the Port Authority to provide law enforcement and security services at the Port. Marine units conduct landside and waterside patrols, K-9 teams regularly sweep terminals and cargo areas and deputies respond to a wide-range of incidents. BCSO is an active member of Port Canaveral's Emergency Management Program and a partner in incident preparedness, response, recovery, and mitigation.

CPA Engineering, Construction and Facilities Department

The Canaveral Port Authority's Engineering and Construction department's primary responsibility is to oversee and manage the construction and infrastructure improvements throughout the Port's jurisdictional area. These improvements range from large scale cruise terminal construction projects to small mitigation and repair projects. The Engineering and Construction department will survey conditions and identify potential hazards pre-storm and conduct damage assessment and debris collection post-storm.

CPA Building Department

The Canaveral Port Authority Building Department is comprised of licensed and certified persons charged with the responsibility of direct regulatory administration and supervision of plans review, code enforcement, inspection of building construction, erection, repair, addition, remodeling, demolition, and alteration projects that require permitting and compliance with the adopted building, plumbing, mechanical, electrical, gas, fire prevention, energy, accessibility, and other construction codes as required by state law and Port Authority regulation. Additionally, the Building Department, under the direction of the Port's Flood Plain Manager, is responsible for Special Flood Hazard Areas and Flood Plain Management in accordance with the Federal Emergency Management Agency and the National Flood Insurance Program.

CPA Information Technology

The Canaveral Port Authority Information Technology Services provides telecommunications and network services, computer system management and security, and application development services in support of maritime operations. ITS Operations provides computer help desk and technical services (customer support) and system administration. Network and Info Security Operations provides voice, data, integrated communications network services, and information security services. Business Applications provides systems analysis and design as well as development and maintenance services. Before, during, and after disasters, Information Technology staff provides support as Emergency Support Function – Communications ensuring that applications, network and communications systems are operational at the Port Emergency Operations Center.

CPA Government and Strategic Communications

The Canaveral Port Authority Office of Communications & Public Affairs is responsible for all aspects of external and internal communications, as well as media relations, community relations and public safety information. The office oversees, manages and approves all forms of communications, across all online platforms, electronic and print media, social media, trade journals and consumer publications. Its role is to promote the Port's mission and initiatives and create broad awareness and understanding of the Port's role and contributions to the local community, Central Florida region, and State of Florida. When the local EOC is activated, the department serves as the communications point of contact for collaboration and coordination with local and State officials and is the primary source of Port information to ensure consistent communications and transparent messaging of the Port's operating status, activities and events.

Development

The Canaveral Port Authority owns approximately 3000 acres of property, of which 1000 acres is developable. Port Canaveral property and resources are aligned with the four (4) business lines currently supported by the Port: Cruise, Cargo, Recreation and Real Estate. Current and proposed developments are commensurate with the goals of these business lines. Recent projects at the Port are strategically designed to be multi-user projects. Project locations are analyzed based on the current 35-year strategic master/vision plan to ensure consistency with the Port's long-range goals. Developable land at the port is limited; therefore, new developments will be utilized by various tenants or lines. Further, Port Canaveral development has pursued innovative stormwater solutions such as underground storage of

stormwater treatment and attenuation volumes to remove the need for large wet stormwater treatment systems in order to preserve and potentially create new upland areas for development. All stormwater runoff from Port Canaveral projects is captured, treated, and attenuated according to current FDEP regulations, and treated water is discharged into the harbor. Port Canaveral has implemented a Site Plan Review process with the goal of maximizing visibility for all stakeholders on all port and tenant projects throughout the port. In addition, the review process is used to ensure developments match port goals, have positive impacts on existing infrastructures, and will not negatively affect the potential for future growth and development. Lastly, Port Canaveral ensures compliance with federal, state, and local environmental regulations, is committed to environmental stewardship, and is concerned for the well-being of our harbor and the Indian River Lagoon. As a governmental body with public responsibility, the Canaveral Port Authority has been – and continues to be – committed to protecting the environment in which we all live and work, ensuring our resources are in harmony with Port Canaveral's economic growth, maintaining the highest levels of environmental responsibility to the region

For more information, please see:
https://www.portcanaveral.com/getattachment/About/Environmental-Stewardship/Port-Canaveral-Environmental-Stewardship.pdf.aspx?lang=en-US.

Mitigation Mechanisms

The Canaveral Port Authority as a State charted independent special district has broad powers and authority including:		
	The power to exercise , and any and all parts thereof; To apply to proper authorities of the United States Government for the right to establish, operate, and maintain a Foreign Trade Zone within the limits of Brevard County and to establish, operate, and maintain such Foreign Trade Zone; To apply for and obtain permission from the United States Government to create, improve, regulate, and control all waters, and natural or artificial waterways within said Port Canaveral; To improve all navigable and non-navigable waters situated within the Port District necessary or useful to the operation, improvement, and maintenance of Port Canaveral; to construct, improve, and maintain such inlets, slips, turning basins, and channels; To make and give to the United States Government such guarantees upon such terms and conditions as may be required;	All Areas

	To enact, adopt, and establish rules and regulations for the complete exercise of jurisdiction and control over all of said lands and waters of Port Canaveral within the Port District	
Building Code Enforcement:		
	As an independent regulatory agency, the Canaveral Port Authority enforces the Florida Building and the Florida Fire Prevention Code with no amendments or exemptions.	All areas
Flood Plain Management:		
	Adopted a flood damage prevention ordinance based on the State model that is coordinated with the Florida Building Code; Conducts annual inspections of development in Special Flood Hazard Areas (SFHAs) to be reported annually that addresses identified compliance issues to be resolved through enforcement and mitigation to the maximum extent possible; Administers a flood zone permit application for regulating all development in SFHAs with procedures and checklists approved by State and Region IV; Ensures accurate completion of all elevation certificates before vertical construction and prior to issuance of certificates of occupancy; Annually disseminates letters to utility companies concerning tanks that must be elevated or anchored and new HVAC equipment that must be elevated above the Base Flood Elevation (BFE); Administers substantial improvement/damage determination procedures approved by State and Region IV staff and maintenance of permanent records of determinations; and Provides DFIRMs or links to DFIRMs and elevation certificates on Canaveral Port Authority's website. Review applications and plans to determine whether proposed new development will be located in flood hazard areas; Review applications for modification of any existing development in flood hazard areas for compliance with the requirements of this regulation; Interpret flood hazard area boundaries where such interpretation is necessary to determine the exact location of boundaries; a person contesting the determination shall have the opportunity to appeal the interpretation; Provide available flood elevation and flood hazard information; Determine whether additional flood hazard data shall be obtained from other sources or shall be developed by an applicant; Review applications to determine whether proposed development will be reasonably safe from flooding; Issue floodplain development permits or approvals for development other than buildings and structures that are subject to the Florida Building Code, including buildings,	All areas

	structures and facilities exempt from the Florida Building Code, when compliance with this regulation is demonstrated, or disapprove the same in the event of noncompliance; and Coordinate with and provide comments to the Building Official to assure that applications, plan reviews, and inspections for buildings and structures in flood hazard areas comply with the applicable provisions of flood plain regulation. Estimate the market value, or require the applicant to obtain an appraisal of the market value prepared by a qualified independent appraiser, of the building or structure before the start of construction of the proposed work; in the case of repair, the market value of the building or structure shall be the market value before the damage occurred and before any repairs are made; Compare the cost to perform the improvement, the cost to repair a damaged building to its pre-damaged condition, or the combined costs of improvements and repairs, if applicable, to the market value of the building or structure; Determine and document whether the proposed work constitutes substantial improvement or repair of substantial damage; and Notify the applicant if it is determined that the work constitutes substantial improvement or repair of substantial damage and that compliance with the flood resistant construction requirements of the Florida Building Code and this regulation is required. Establish procedures for administering and documenting determinations of substantial improvement and substantial damage. Require that applicants proposing alteration of a watercourse notify adjacent communities and the Florida Division of Emergency Management, State Floodplain Management Office, and submit copies of such notifications to the Federal Emergency Management Agency (FEMA); Require applicants who submit hydrologic and hydraulic engineering analyses to support permit applications to submit to FEMA the data and information necessary to maintain the Flood Insurance Rate Maps if the analyses propose to change base flood elevations, flood hazard area boundaries, or floodway designations; such submissions shall be made within 6 months of such data becoming available; Review required design certifications and documentation of elevations specified by this regulation and the Florida Building Code and this regulation to determine that such certifications and documentations are complete; Notify the Federal Emergency Management Agency when the corporate boundaries of Canaveral Port Authority are modified.	

	Advise applicants for new buildings and structures, including substantial improvements, that are located in any unit of the Coastal Barrier Resources System established by the Coastal Barrier Resources Act (Pub. L. 97-348) and the Coastal Barrier Improvement Act of 1990 (Pub. L. 101-591) that federal flood insurance is not available on such construction; areas subject to this limitation are identified on Flood Insurance Rate Maps as “Coastal Barrier Resource System Areas” and “Otherwise Protected Areas.”	
Require other permits as needed:		
	The St. Johns River Water Management District or Florida Department of Environmental Protection; section 373.036, F.S. Florida Department of Health for onsite sewage treatment and disposal systems; section 381.0065, F.S. and Chapter 64E-6, F.A.C. Florida Department of Environmental Protection for construction, reconstruction, changes, or physical activities for shore protection or other activities seaward of the coastal construction control line; section 161.141, F.S. Florida Department of Environmental Protection for activities subject to the Joint Coastal Permit per Statute. Florida Department of Environmental Protection for activities that affect wetlands and alter surface water flows, in conjunction with the U.S. Army Corps of Engineers; Section 404 of the Clean Water Act..	All areas
Flood Plain Development standards:		
	Information for development in flood hazard areas. The site plan or construction documents for any development subject to the requirements of this regulation shall be drawn to scale and shall include, as applicable to the proposed development: Delineation of flood hazard areas, floodway boundaries and flood zone(s), base flood elevation(s), and ground elevations if necessary, for review of the proposed development. Where base flood elevations, or floodway data are not included on the FIRM or in the Flood Insurance Study, they shall be established in accordance with the regulation. Where the parcel on which the proposed development will take place will have more than 50 lots or is larger than 5 acres and the base flood elevations are not included on the FIRM or in the Flood Insurance Study, such elevations shall be established in accordance with the regulation. Location of the proposed activity and proposed structures, and locations of existing buildings and structures; in coastal high hazard areas, new buildings shall be located landward of the reach of mean high tide. Location, extent, amount, and proposed final grades of any filling, grading, or excavation.	All areas

	Where the placement of fill is proposed, the amount, type, and source of fill material; compaction specifications; a description of the intended purpose of the fill areas; and evidence that the proposed fill areas are the minimum necessary to achieve the intended purpose. Delineation of the Coastal Construction Control Line or notation that the site is seaward of the coastal construction control line, if applicable. Extent of any proposed alteration of sand dunes or mangrove stands, provided such alteration is approved by the Florida Department of Environmental Protection. Existing and proposed alignment of any proposed alteration of a watercourse. Information in flood hazard areas without base flood elevations (approximate Zone A). Where flood hazard areas are delineated on the FIRM and base flood elevation data have not been provided, the Floodplain Administrator shall: Require the applicant to include base flood elevation data prepared in accordance with currently accepted engineering practices. Obtain, review, and provide to applicants' base flood elevation and floodway data available from a federal or state agency or other source or require the applicant to obtain and use base flood elevation and floodway data available from a federal or state agency or other source. Where base flood elevation and floodway data are not available from another source, where the available data are deemed by the Floodplain Administrator to not reasonably reflect flooding conditions, or where the available data are known to be scientifically or technically incorrect or otherwise inadequate: Require the applicant to include base flood elevation data prepared in accordance with currently accepted engineering practices; or Specify that the base flood elevation is two (2) feet above the highest adjacent grade at the location of the development, provided there is no evidence indicating flood depths have been or may be greater than two (2) feet. Where the base flood elevation data are to be used to support a Letter of Map Change from FEMA, advise the applicant that the analyses shall be prepared by a Florida licensed engineer in a format required by FEMA, and that it shall be the responsibility of the applicant to satisfy the submittal requirements and pay the processing fees. Additional analyses and certifications. As applicable to the location and nature of the proposed development activity, and in addition to the requirements of this section, the applicant shall have the following analyses signed and sealed by a	

	Florida licensed engineer for submission with the site plan and construction documents: For development activities proposed to be located in a regulatory floodway, a floodway encroachment analysis that demonstrates that the encroachment of the proposed development will not cause any increase in base flood elevations; where the applicant proposes to undertake development activities that do increase base flood elevations, the applicant shall submit such analysis to FEMA as specified in Section 105.4 of this regulation and shall submit the Conditional Letter of Map Revision, if issued by FEMA, with the site plan and construction documents. For development activities proposed to be located in a riverine flood hazard area for which base flood elevations are included in the Flood Insurance Study or on the FIRM and floodways have not been designated, hydrologic and hydraulic analyses that demonstrate that the cumulative effect of the proposed development, when combined with all other existing and anticipated flood hazard area encroachments, will not increase the base flood elevation more than one (1) foot at any point within the community. This requirement does not apply in isolated flood hazard areas not connected to a riverine flood hazard area or in flood hazard areas identified as Zone AO or Zone AH. For alteration of a watercourse, an engineering analysis prepared in accordance with standard engineering practices which demonstrates that the flood-carrying capacity of the altered or relocated portion of the watercourse will not be decreased, and certification that the altered watercourse shall be maintained in a manner which preserves the channel's flood-carrying capacity; the applicant shall submit the analysis to FEMA as specified in Section 105.4 of this regulation. For activities that propose to alter sand dunes or mangrove stands in coastal high hazard areas (Zone V), an engineering analysis that demonstrates that the proposed alteration will not increase the potential for flood damage. Submission of additional data. When additional hydrologic, hydraulic or other engineering data, studies, and additional analyses are submitted to support an application, the applicant has the right to seek a Letter of Map Change from FEMA to change the base flood elevations, change floodway boundaries, or change boundaries of flood hazard areas shown on FIRMs, and to submit such data to FEMA for such purposes. The analyses shall be prepared by a Florida licensed engineer in a format required by FEMA. Submittal requirements and processing fees shall be the responsibility of the applicant.	
Flood Plain Inspections:		

	General. Development for which a floodplain development permit or approval is required shall be subject to inspection. Development other than buildings and structures. The Floodplain Administrator shall inspect all development to determine compliance with the requirements of this regulation and the conditions of issued floodplain development permits or approvals. Buildings, structures and facilities exempt from the Florida Building Code. The Floodplain Administrator shall inspect buildings, structures and facilities exempt from the Florida Building Code to determine compliance with the requirements of this regulation and the conditions of issued floodplain development permits or approvals.	All areas

Mitigation Capabilities and Development Summaries

City of Cape Canaveral

Public Works Services Department
The Public Works Services Department is responsible for maintaining infrastructure throughout the City; including, preserving and maintaining the critical operations of the Water Reclamation Facility (WRF) and its associated sanitary sewer system (i.e., pipes and lift stations), maintaining roadways, sidewalks and pedways, and maintaining the municipal stormwater system. This department is also heavily involved in facilitating the logistics and coordination of disaster preparedness and post-storm operations, and selected staff are active members of the City's Emergency Operations Team. The Public Works Services Administration Building, located at the WRF, serves as the City's backup Emergency Operations Center (EOC) for post-hazard operations should the primary municipal EOC (i.e., City Hall) be compromised. Should grid power fail, the WRF has a large-scale backup emergency diesel generator. To mitigate damage from on-property lightning strikes, the WRF is protected by a new CMCE-based lightning suppression system. Removable metal flood barriers are present at most facility exit/entryways to reduce the need for time consuming sandbag production.

Community and Economic Development Department
The Community and Economic Development Department includes the Building Division, the Code Enforcement Division, the Resilience Division, and Planning and Zoning Division. The primary responsibility of this department is to ensure that development and redevelopment projects are consistent with the City's Code of Ordinances, the Comprehensive Plan and Land Development Regulations; as well as implementing future-ready initiatives that serve to enhance infrastructure resilience and environmental wellbeing. In 2024, the department's Resilience Division took over the responsibility of leading the City's Emergency Operations Team and coordinating internal hazard preparedness activities year-round. In addition, staff within this department oversee the City's floodplain management, provides relevant updates to the City's Code of Ordinances, and ensures that the Florida Building Code is being followed. Finally, this department oversees the activities of the Community Redevelopment Agency. The department is situated in City Hall, which is the City's primary EOC. City Hall has a backup diesel generator that is capable of powering the entirety of the building's operations off grid for three to four days fully fueled. The building also contains a rooftop Starlink satellite-based internet emergency backup system in case the City's standard ground-based internet fails for whatever reason. City Hall is home to three of the City's six public EV charging stations (Level-2). To mitigate damage from on-property lightning strikes, City Hall is protected by a new CMCE-based lightning suppression system.

Parks, Recreation and Community Affairs Department
The Parks, Recreation and Community Affairs Department promotes the establishment and stewardship of public parks and recreational areas within the City, to include the City of Cape Canaveral Community Center (C5) and the CAPE Center. The 24,300 square foot C5 is intended to serve as a "resilience hub" for residents' post-hazard where relief supplies can be distributed and basic power needs met via onsite solar powered mobile battery energy storage systems. The C5 has one of the City's six public EV charging stations (Level-2). To mitigate flooding, the C5 is equipped with removable metal flood barriers and a Tiger Dam System. To mitigate damage from on-property lightning strikes, the C5 is protected by a new CMCE-based lightning suppression system. Selected public parks (i.e., Manatee Sanctuary Park and

Banana River Park) have been identified and approved by the Florida Department of Environmental Protection as debris staging areas during post-storm operations. This department is involved in facilitating the logistics and coordination of disaster preparedness and post-storm operations specific to City parks and recreational areas, and selected staff are active members of the City's Emergency Operations Team.

Canaveral Fire Rescue

The City of Cape Canaveral contracts annually with Canaveral Fire Rescue (CFR) for fire-fighting, rescue, advanced life support, and fire inspection services. CFR provides the same services to the Canaveral Port Authority and the unincorporated area of Avon-by-the-Sea. In 2015, the City completed the construction of Canaveral Fire Rescue Station #53, a $2 million facility that serves as CFR's primary response station for all emergencies within the jurisdictional boundaries of Cape Canaveral. This building has an emergency backup diesel generator to maintain off grid operations. CFR works closely with County, State, and Federal disaster relief organizations to meet the needs of residents during post-storm relief and recovery operations, and are capable of responding to a wide variety of other hazard-related situations. To mitigate damage from on-property lightning strikes, the station is protected by a new CMCE-based lightning suppression system.

Brevard County Sheriff's Office – Cape Canaveral Precinct

The City of Cape Canaveral contracts annually with the Brevard County Sheriff's Office (BCSO) to provide police protection services. BCSO provides these same services to the Canaveral Port Authority and the unincorporated area of Avon-by-the-Sea. The Cape Canaveral Precinct is supervised by a Precinct Commander and utilizes community policing techniques to remain in close contact with businesses and residents. BCSO also provides supervision and equipment during post-storm operations to ensure the safety and well-being of City residents. BCSO's operations within the City are run out of a precinct building located next to City Hall that has its own emergency backup diesel generator and, to mitigate damage from on-property lightning strikes, the building is protected by a new CMCE-based lightning suppression system.

Development

During the planning period, there has been an increase in vulnerability to the City of Cape Canaveral. Staff have observed more significant severe rainfall events that have led to several disruptive flood situations. Multiple large-scale hurricane events have also impacted the City to varying degrees, leading to power outages, coastal erosion, and damage to the built environment. Erosion is also actively occurring along the shoreline at the City's critical WRF, which immediately borders the Banana River Lagoon. Several vital pieces of WRF infrastructure are now only about ten feet from the shoreline's drop off; including the plant's 1.38-million-gallon capacity Oxidation Ditch and the City's primary fleet vehicle garage.

If a shoreline collapse were to occur beneath the WRF's Oxidation Ditch and undermine its structural integrity, it would not only cause a massive sewage spill into the lagoon, which is designated as an estuary of national significance, but it would also force a shutdown of the WRF. There is no backup Oxidation Ditch in which to divert sewage flow from the community; thereby forcing a complete long-term shutdown of the City's sewer utility system. Staff estimates that direct repair costs would likely be about $10 million, with a reconstruction period lasting 6 to 12 months. During this time, residents, visitors, and lifesaving services such as police and fire would not be able to use any water – showers, toilets, laundry, sinks, etc. – causing at least tens of millions of dollars more in socioeconomic losses

across the community. Sewage backups could occur, leading to sickness, especially of immunosuppressed individuals, the elderly, and infants. At least 1.4 million gallons of raw sewage could spill into the lagoon within the first 24 to 48 hours of a collapse, causing devastating environmental damages to the area that would incur $15,000 in daily fines from the Florida Department of Environmental Protection until the spill was cleaned up.

The City's 2019 Vulnerability Assessment is currently undergoing a revamp to meet state standards, and in 2021 Council accepted the City's first Resiliency Action Plan meant to boost future-readiness activities. The City's 2019 Vulnerability Assessment denotes clear vulnerabilities from tropical cyclone-related storm surge and ongoing sea level rise, with permanent inundation expected of certain low-lying areas of the City between 2050 and 2100. In present day, large sections of the City's northwest land areas are vulnerable to storm surge inundation in as little as a category 1 hurricane, especially along what is known as the Canaveral Ditch. This is a manmade waterway that bisects the north half of the City that collects stormwater runoff to drain into the Banana River Lagoon. This ditch can experience extreme water level fluctuations over a short period of time, and sometimes even have its water flow reversed due to wind-driven storm surge. The City installed its first ever permanent pump station and tidal valve on Center Street in 2024 and it is designed to rapidly and safely evacuate stormwater out of the highly residential Center Street Drainage Basin. This diesel pump has a capacity of 6,500 gallons per minute, can be remotely controlled, and is grid independent.

Redevelopment of existing properties is occurring more frequently than new development on vacant land because of how much the City has been built out. Due to increasing adjacent commercial space operations, areas in and around the City have witnessed significant growth, increasing the risk of impacts from hazards to individuals and properties. Such developments have included new hotels, single family redevelopment projects, the redevelopment of small business buildings, and a rise in short-term rentals. The City's Future Land Use Element limits residential development throughout the City to 15 units per acre, including in the Coastal High Hazard Area. Cape Canaveral has implemented a Community Redevelopment Agency and an A1A Economic Opportunity Overlay District, and maintains a Brownfields Redevelopment Program which was developed to increase the pace of future development and redevelopment. In 2025, an Adaptation Action Area was established with updates to the Comprehensive Plan's Coast Management Element to comply with state-mandated Peril of Flood legislation.

According to Census data found in the City's 2019 Vulnerability Assessment, nearly 36% of the City's population is over the age of 65, while 32% are between the ages of 44 and 64, indicating a continued trend toward an older population over the next 30 years. The average age in the City is 57. Additionally, in terms of vulnerable populations, approximately 17% of residents are living with a disability, thus increasing the likelihood that these individuals will need assistance in evacuation, special needs shelters, storm preparedness, and potential improvements to their property to improve resilience. According to a Sea Level Rise and Storm Surge Risk Assessment conducted by HighTide in 2024, approximately only 42.4% of all buildings in the Special Flood Hazard Area have National Flood Insurance Program coverage within the City.

Mitigation Capabilities

Capital Improvement Plan		
N/A	Water Reclamation Facility Shoreline Enhancement Project - $5,000,000	Retrofit
P.92	Infrastructure Maintenance building replacement – Public Works Services Multipurpose Logistical Support and Administrative Building - $8,000,000	New Construction
P.95 + P.152	Central Boulevard improvements - $250,000 + $366,500	Retrofit
P.96	City Hall air conditioning replacement - $350,000 + $27,000	Retrofit
P.97	Brevard County Sheriff's Office Cape Canaveral Precinct Rooftop Solar Array - $180,000	New Item
P.101 + P.158	Thurm Boulevard improvements - $1,480,000 + $600,000	Retrofit
P.102	Portable Emergency Generator - $110,000	New Item
P.111	Manatee Sanctuary Park infrastructure upgrades -$60,000	Retrofit
P.108	Park Redevelopment - $1,465,000	Retrofit
P.122	Canaveral City Park redevelopment - $412,000	Retrofit
P.123	Civic Hub - $1,050,000	Retrofit
P.124	Presidential Streets - $10,000,000	Retrofit
P.128	Nancy Hanson Recreation Center maintenance - $100,000	Retrofit
P.153	Canaveral Drainage Basin Improvements - $650,000	Retrofit
P.154	Harbor Heights Stormwater Pipe Replacement - $125,000	Retrofit
P.155	Center Street wet pond - $600,000	Retrofit
P.156	West Central Boulevard Wet Pond - $2,621,500	Retrofit
P.159	Portable Stormwater Pump - $160,000	Retrofit
P.160	Long Pointe Stormwater Retention - $280,000	Retrofit
P.161	Stormwater Improvement Projects - $506,000	Retrofit
N/A	Canaveral Ditch Pump Station and Tidal Gate -$4,000,000	New Item
P.132	RAS Pump/Motor Replacement - $65,000	Retrofit
P.133	Internal Recycle Pump/Motor Replacement - $75,000	Retrofit
P.134	Reclaimed Water Pump/Motor Replacement - $65,000	Retrofit
P.135	Lift Station Pump Replacements - $305,000	Retrofit
P.136	VFD Installation - $83,000	Retrofit
P.137	Mixer Replacements - $59,000	Retrofit
P.138	Piermount Mixer Rehabilitation - $147,000	Retrofit
P.141	Valve Replacements - $185,000	Retrofit
P.143	Wastewater Facility Fence Replacement - $100,000	Retrofit
P.144	Sodium Bisulfate System - $48,000	Retrofit
P.145	Sanitary Collection/Transmission System Evaluation Program - $300,000	Retrofit
P.146	Collection System Upgrade - $215,000	Retrofit
P.147	Blower Pipe for effluent transfer - $450,000	Retrofit
P.149	Utility (V2X) Energy Backup System - $170,000	New Item
P.150	Vac Truck - $540,000	New Item

P. 90	Air Conditioner Replacements – Canaveral Fire Rescue Station #53 - $40,000	Retrofit
P.142	Air Conditioner Replacement – Water Reclamation Facility - $27,000	Retrofit
N/A	Banana River Park/Manatee Sanctuary Park Wave Attenuation Shoreline Defense Project - $5,000,000	New Item
Comprehensive Plan		
H-1.9.2	City shall prohibit placement of mobile homes outside of mobile home parks	All areas
CM-1.2.11*	Consider property acquisition in the 100-year flood plain to use for public open space, function as part of a stormwater master plan, and remove coastal real property from flood zone designations established by the Federal Emergency Management Agency (FEMA). These projects shall be designed in a manner that will allow for continues functionality when considering effects from sea level rise. *	All areas*
CM-1.5.4*	Identify frontage areas along the Lagoon for acquisition in the Schedule of Capital Improvements to increase opportunities for public access, improve estuarine health, and mitigate the impacts of climate-related hazards. *	All areas*
CM-1.11.1*	The Code of Ordinances will require developers finance and install utilities including but not limited to improved stormwater drainage facilities, flood adaptation measures, multi-modal streetscape concepts, potable water, and sanitary sewer facilities to serve their proposed development and redevelopment, consistent with concurrency management and provisions to mitigate climate-related impacts. *	All areas*
CM-1.13.1*	The Code of Ordinances will require new development in areas at risk of flooding due to storm surge, high tide events, flash floods, stormwater runoff, and sea level rise to incorporate building design specifications, engineering strategies, site development techniques, and green stormwater management practices to reduce potential risk and losses. *	All areas*
D-1.2.1	The City shall require the use of existing drainage facilities, where feasible, for new development	All areas
D-1.1.5	The City shall review its Stormwater Management Ordinance with a view to strengthening it in order to make it more compatible with current standards of the SJRWMD	All areas
D-1.1.2	The City shall control the drainage of stormwater in order to minimize the impact on the storm sewer system and on the surficial and Floridan aquifers	All areas
D-1.1.4	The City shall enforce its Stormwater Management Ordinance for new development	All areas

SS-1.1.3	The City shall not allow the use of septic tanks for new development and work toward the elimination of any remaining septic tanks	All areas
SS-1.1.4	The City shall establish priorities for replacing facilities, correcting existing facility deficiencies and providing for future facility needs	Retrofit
Land Development Code		
Ch.106.Art.II, Sec. 106-31	Any development in wetlands shall provide for the replacement of lost wetlands caused by the project. Mitigation shall occur at a ratio of two units of replacement wetlands for each one unit or fraction thereof of lost wetlands (a 2:1 ratio).	All areas
Ch.34.Art.III, Sec. 34-97(a)(2)	The owner of every single-family or multiple-family dwelling, commercial or industrial property, his appointed agent and the occupant, operator, tenant or anyone otherwise using the property in any form or manner shall maintain the premises free of hazards which include but are not limited to: Dead or dying trees and limbs or other natural growth which, because of rotting, deterioration or storm damage, constitute a hazard to persons in the vicinity thereof. Trees shall be kept pruned and trimmed to prevent such conditions.	All areas
Ch.90.Art.II, Sec. 90-78	Pursuant to section 90-50, buildings, structures, and facilities that are exempt from the Florida Building Code, including substantial improvement or repair of substantial damage of such buildings, structures and facilities, shall be designed and constructed in accordance with the flood load and flood resistant construction requirements of ASCE 24.	All areas
Ch.90.Art.II, Sec. 90-102	All development, including man-made changes to improved or unimproved real estate for which specific provisions are not specified in this article or the Florida Building Code, shall: (a) Be located and constructed to minimize flood damage; (b) Meet the limitations of section 90-85 if located in a regulated floodway; (c) Be anchored to prevent flotation, collapse or lateral movement resulting from hydrostatic loads, including the effects of buoyancy, during conditions of the design flood; (d) Be constructed of flood damage-resistant materials; and (e) Have mechanical, plumbing, and electrical systems above the design flood elevation, except that minimum electric service required to address life safety and electric code requirements is permitted below the design flood elevation provided it conforms to the provisions of the electrical part of building code for wet locations.	All areas

Mitigation Capabilities and Development Summaries

Cocoa

Building Department

The City of Cocoa's Building Official acts as the Floodplain Administrator and ensures all development and redevelopment projects meet the new floodplain standards. All proposed development projects are reviewed for consistency with the City's adopted Comprehensive Plan, Land Development Regulations, the Florida Building Code and the Fire Prevention Code.

Fire Department

The Department is committed to responding to community needs by providing for the protection of life and property through innovative Emergency Medical Care, Fire Suppression, and Hazard Mitigation Services. All three fire stations are licensed in advanced life support and are staffed by paramedics. Fire Department personnel also aid in community disaster relief. This Department is charged with evaluating and updating the City's Emergency Management Plan. The Fire Department also works closely with the Brevard County Emergency Management personnel regarding hurricane preparation and other potential emergency conditions.

Police Department

All law enforcement professionals are dedicated to providing modern, efficient police services. The Department is committed to provide a safe and secure environment for every person in the City by controlling crime, reducing the fear of victimization, and maintaining a visible presence. The Department is also responsible for coordinating evacuation procedures during times of emergencies or natural disasters. In addition, the Police Department provides supervision and direction during post-recovery periods (including re-entry into the City after a storm).

Utilities Department

The Utilities Department is responsible for providing potable drinking water, wastewater treatment, and reclaimed water for properties within the City's service areas. The water service area includes approximately 88,000 customers both within the City of Cocoa and outside of the municipal limits.

Public Works

The Public Works Department maintains all City owned roadways and drainage facilities. Such infrastructure includes storm water conveyance and flood control structures as well as all City owned roadways. This Department also plays an important role regarding hurricane preparedness and post-storm recovery.

Development

Several changes have taken place in the City of Cocoa which has decreased overall vulnerability since the last plan update. The City determined a need for a Stormwater Management Study within the Diamond Square Redevelopment Area (Census Tract 626.4) since this area received flooding during 2008 Tropical Storm Fay. The study provided topographic mapping, an evaluation of existing conditions and a presentation of recommended alternatives. The area drains north through Avocado Ditch and Bracco Pond and has been subject to past flooding. This drainage basin was recently reduced by approximately 30 acres by the Florida Department of Transportation (FDOT) US1 improvements which diverted runoff

from US1 and adjacent areas to a new stormwater pond in the City of Rockledge. Existing elevations in the area range between approximately 18.4 and 23.5 above sea level, NGVD. 2,606 linear feet of piping was installed or replaced with larger pipes and a retention pond was constructed. The project was substantially completed in January 2012, at a cost of approximately $491,263.

Cocoa was awarded two (2) grants totaling $408,000 from the Florida Division of Emergency Management to retrofit or install wind mitigation devices on single family residential homes, 18 homes have been retrofitted to date. Cocoa used a systemic approach to mitigate and retrofit structures to reduce the overall vulnerability of hazards such as wind born debris and loss of homes due to wind storm events. Improvements included the replacement of roofs, doors and/or windows, or installation of storm shutters to allow the structures to withstand hurricane force winds. Additionally, Cocoa has demolished 61 substandard vacant, dilapidated structures since 2010 through code enforcement efforts.

The City of Cocoa updated its Floodplain Ordinance in 2014 to be consistent with FEMA regulations and participates in the FIRM program. The City's Building Official acts as the Floodplain Administrator and ensures all development and redevelopment projects meet the new floodplain standards. All proposed development projects are reviewed for consistency with the City's adopted Comprehensive Plan, Land Development Regulations, and most recently adopted Florida Building Code and Fire Prevention Code.

Vulnerability has decreased based on amendments to the City's Comprehensive Plan's Future Land Use Element, which reduced the permitted density on 146 acres of land. The Future Land Use Plan amendments reduced the permitted number of dwelling units from 237 to 69.

The City of Cocoa replaced it aging City Hall in 2009 with a new building built to within 145 mph winds. A new Utilities Administration building was constructed in 2012 to withstand 145 mph winds that replaced an aging structure that was demolished. The Public Works Administration building was updated with impact wind rated doors and windows in 2010.

Mitigation Mechanisms

Cocoa		
Future Land Use Element		
FLUE.CPA	The City shall ensure the protection of coastal resources such as marine wildlife, wetland areas, shoreline vegetation and water quality.	
FLUE.P.1.1.8.1	Proposed land use plan amendments shall be coordinated with the Brevard local mitigation strategy and the regional hurricane evacuation study.	
FLUE.P.1.1.8.2	Population densities in the Coastal High Hazard Areas (CHHA) shall be coordinated with the East Central Florida Regional Planning Council Hurricane Evacuation Study, as updated from time to time.	
FLUE.P.1.1.8.3	The City shall implement the applicable recommendations of the Brevard Local Mitigation Strategy as practical and feasible.	
FLUE.P.1.1.8.4	The City shall coordinate proposed land use plan amendments with the Indian River Lagoon Comprehensive Conservation & Management Plan and the Brevard County Manatee Protection Plan.	
FLUE.P.1.1.8.5	Construction of new marinas or improvements to the existing marinas shall be consistent with criteria listed in the Coastal Management Element.	

Sanitary Sewer Element		
SSE.G.4.1	The City of Cocoa will provide cost effective and environmentally sound wastewater treatment services to meet existing and projected demands identified in this Plan.	
SSE.P.4.1.1.8	Sanitary sewer facilities shall be replaced and existing deficiencies shall be corrected based upon the following priorities: A. Any project correcting an immediate threat to the health, safety, or welfare of the City's residents will receive priority over the expansion of a facility or the correction or replacement of a non-threatening facility. B. Any project that will correct an existing deficiency will receive priority over a project to expand the system. C. Projects that will result in the system exceeding the adopted level of service will be denied.	
SSE.P.4.1.2.6	By ordinance, the City shall mandate connection to the City's central sewerage system when available.	
SSE.O.4.1.3	Treatment and Disposal. The existing treatment system will operate at the tertiary level including all appropriate tests and procedures as required by FDEP and any other relevant governmental agency. System modifications and expansion shall include consideration of appropriate changes in treatment level.	
SSE.P.4.1.3.4	The City shall continue the implementation of the reclaimed water system as deemed feasible.	
SSE.P.4.1.3.6	Wastewater reuse for irrigation and other non-potable uses will be expanded into areas throughout the City where customer use is anticipated to be 25% or greater within five years of installation.	
SSE.O.4.1.4	On-site wastewater Disposal. The permitting and installation of additional septic tanks or package plants within the incorporated city limits will be discouraged or prohibited, except where on-site disposal represents the most efficient cost effective and environmentally compatible alternative.	
SSE.P.4.1.4.4	The City will develop a plan to phase-out septic tank use wherever feasible and cost effective.	
SSE.P.4.1.4.6	Wastewater package plants will only be allowed in the event that sewer capacity is not scheduled to be available or to satisfy on-site pretreatment required by the City.	
SSE.O.4.1.5	Land Development Regulations. The land development regulations shall be evaluated periodically to ensure that future development within the incorporated limits of the City is coordinated with City wastewater plans.	
Stormwater Management Element		
SME.G.6.1	The City shall ensure the provision of a stormwater management system of appropriate capacity and functionality to protect public health and safety, fulfill requirements of the National Pollutant Discharge Elimination System (NPDES) and Total Maximum Daily Load (TMDL's).	

SME.O.6.1.1	Protect Groundwater Recharge, Natural Drainage Features and Water Quality. The City shall continue to require, through the enforcement of development standards, the protection of groundwater recharge, natural drainage features and surface water quality from the impacts of development.	
SME.P.6.1.1.1	The City's land development regulations shall contain standards that require post-development groundwater recharge equal to or greater than pre-development rates.	
SME.P.6.1.1.2	The City shall include stormwater treatment and associated "best management practices" such as earthen berms, swales, settling basins, retention/detention facilities, filtration facilities, natural vegetation and vegetative buffers, oil/grease baffles and skimmers, porous pavement materials, street sweeping and similar devices and practices intended to improve overall water quality in any adopted design standards and land development regulations.	
SME.P.6.1.1.5	The City shall inspect businesses as needed to protect against illegal dumping or drainage of hazardous, toxic or deleterious substances into the City's stormwater management system for conveyance into receiving water bodies.	
SME.P.6.1.1.6	The City, as required by NPDES permit and the Basin Management Action Plan (BMAP) process, shall collect, compile and evaluate water quantity and quality data for conveyance systems and water bodies that transport and receive flow from stormwater runoff originating from within City Limits. The City will use the surface water quality monitoring program for the purposes of assisting in: A. Establishing baseline or ambient water quality conditions where none presently exist, and updating existing data on present conditions; B. Determining the quality of discharges from particular stormwater outfalls suspected of being significant sources of pollutant discharge; C. Identifying further capital improvements or performance standards for development which are needed to protect aquatic grass beds, wetlands, and water bodies.	
SME.P.6.1.1.7	The City shall maintain a comprehensive inventory of all components of the City's surface water management system as part of the City's Surface Water Management Plan, which will be updated in 2012 and every five years thereafter, to include the determination and identification of: A. Water flow patterns, hydro periods and the boundaries of all drainage basins within the City that receive stormwater from within the City, and those basins that receive stormwater from within and outside of the City; B. Current land uses within each of the identified drainage basins; C. All point source discharges; D. Surface water that does not meet Florida Department of Environmental Protection (FDEP) standards; E. 100-year flood-prone areas, including all floodplains; F. Extent of existing excess (uncommitted) water flow and storage	

	capacity; G. Extent of existing deficiencies, including flow and storage capacities; H. Improvements necessary for the proper operation and management of the Surface Water Management System; and I. Engineering, biological, and other studies needed to develop the prioritized needs, types and locations of public capital improvement projects and additional performance standards for development.	
SME.O.6.1.2	Maintenance and Operation of Public Stormwater Facilities. The City shall ensure that all stormwater management systems under the City's authority receive the proper levels of operation and maintenance necessary for the effective accomplishment of their intended water management functions.	
SME.P.6.1.2.1	Surface water management projects will be implemented in accordance with the adopted Surface Water Management Plan, as updated, and the Capital Improvements Element.	
SME.P.6.1.2.2	The City shall inspect public stormwater management system components and undertake required maintenance on at least an annual basis.	
SME.P.6.1.2.3	The City shall coordinate with various public entities such as the SJRWMD, FDEP, Brevard County, and with various civic organizations, in the preparation and dissemination of information to the public regarding litter control, fertilizers, pesticides and herbicides usage and proper application procedures, and the proper disposal of pollution-causing substances and materials.	

SME.P.6.1.2.4	The City shall continue to implement and update the Surface Water Management Plan. Specifically, the plan will contain such elements as the following as they are developed by the City or other agencies acting to protect and enhance the waters outlined in the plan: (A) Determine the boundaries of all drainage basins within the City limits to which stormwater within the City drains and the boundaries of all drainage basins, within and outside of the City limits, from which the City receives drainage; (B) Identify, quantify, and prioritized flooding situations by magnitude, frequency and severity of impact, including the ability of existing wetlands and water bodies to assimilate stormwater, based on an analysis of plant communities, without degrading the vitality of the natural wetland communities; (C) Develop a plan for solving or avoiding flooding situations including a preferred alternative and at least one alternative solution for each flooding situation that will accomplish significant reduction or elimination of pollutants in both stormwater and point source discharge from reaching receiving water bodies and wetlands for each drainage basin. Solutions shall make use of non-structural methods, including performance standards for development, wherever possible; (D) Assess the general vitality and distribution of grass beds in water bodies as well as natural wetland plant communities in wetlands for those water bodies which currently receive, or can reasonably be expected to receive in the future, stormwater or point source discharges from within the City limits. Where grass beds for wetland plant communities have been or may be adversely affected by stormwater or point source discharges, develop specific strategies and an implementation schedule for eliminating these adverse impacts; (E) Design and implement a surface water monitoring protocol, including: (1) Identification of the entity charged with the responsibility of carrying out this work; (2) The type, location, and frequency of monitoring; and (3) Where the monitoring program indicates permit violations or degradation of the receiving waters or wetlands or their grass beds or plant communities, requires that retrofitting, replacement, or redesign of stormwater systems or point source discharges must be done. (F) Identify prioritized actions regarding flood control and abatement, stormwater management, environmental and resource protection and water pollution control problems, needs, issues and opportunities; (G) Identify performance standards needed to assure protection of water quality and water flow regimes and native plant communities in wetlands and water bodies; and (H) Identify the entity assigned the responsibility of undertaking or overseeing each recommended action.	
SME.O.6.1.4	Stormwater Facilities Capacity. The City shall maximize the use of existing stormwater management facilities and require new development to construct facilities to achieve and maintain adopted stormwater management level of service standards that fulfill NPDES and TMDL mandates for stormwater quality and quantity.	

SME.P.6.1.4.1	The City, as part of the Surface Water Management Plan updates, shall identify and perform a comparative analysis of all capital, operational and maintenance costs associated with the identified preferred and secondary alternatives intended to address flooding, pollution control and environmental degradation problems and needs, including the following: A. The estimated costs of undertaking individual actions involving public construction projects or major manpower commitments and an economically feasible funding source for each; B. The proposed prioritized plan of implementation; C. The recommended time schedule for undertaking the prioritized actions, based on levels of degradation suffered by or anticipated for wetlands and water bodies, financial capabilities and time requirements to undertake the individual actions; and D. The list of necessary revisions to the Capital Improvements Element, including the Five-year Schedule of Capital Improvements, to reflect the prioritized actions which involve funding commitments.	
SME.P.6.1.4.2	Every five years, the City shall publish reports describing data obtained and progress made toward accomplishing the goals of the Surface Water Management Plan.	
SME.P.6.1.4.3	The City shall utilize funds from the stormwater assessment fee for correcting deficiencies in the public stormwater management system and funds from the stormwater utility service fee to provide funding for financing proposed improvements related to new development.	
SME.P.6.1.4.4	New development shall design stormwater management systems to meet the rules and criteria established by the City of Cocoa, the SJRWMD and the Florida Department of Environmental Protection, as applicable.	
SME.P.6.1.4.5	At a minimum, the existing stormwater management systems and current levels of service shall be maintained. The City shall achieve and maintain the following adopted stormwater management level of service (LOS) standards for new development and redevelopment: STORMWATER MANAGEMENT DESIGN STORM EVENT 25-year frequency/24-hour duration event ON-SITE STORMWATER MANAGEMENT Retention of the first one inch of rainfall runoff for areas of one acre or more; or retention of first one-half inch of rainfall runoff for drainage areas of less than one acre. STORMWATER QUANTITY Post development stormwater runoff flow rates, quantities, peaks, and velocities shall be equal to or less than levels that existed prior to development. STORMWATER QUALITY No significant degradation of water quality in receiving water bodies	

SME.P.6.1.4.6	The City shall inspect individual on-site stormwater treatment facilities following their construction and periodically to ensure proper operation and maintenance.	
SME.O.6.1.5	Sustainable Stormwater Management Strategies. The City shall encourage the use of sustainable, low impact development (LID) strategies to address stormwater management for developments ranging from individual building sites, to subdivisions, to large planned developments.	
SME.P.6.1.5.1	The City shall coordinate with local, regional, state and federal agencies to provide educational materials and forums to the public and the development community on the value and benefits of sustainable stormwater management facilities design.	
SME.P.6.1.5.2	For new construction or redevelopment of City buildings and facilities, the City shall utilize LID principles to the extent practicable to address stormwater management needs and to model innovative techniques: • Manage stormwater as close to its origin as possible by using many small-scale LID techniques. • Create a site design that slows surface flows and increases the amount of time stormwater flows over the site. • Increase the reliability of the stormwater system by using multiple, redundant stormwater controls. • Integrate stormwater controls into the design of the site and use the controls as site amenities. • Reduce the reliance on traditional collection and conveyance stormwater practices.	
SME.P.6.1.5.3	The City shall consider updating land development regulations to permit innovative LID techniques in the design of stormwater management facilities for development and redevelopment sites including, but not limited to the following: • Bioretention cells or swales (also known as rain gardens); • Cisterns and rooftop rainwater harvesting; • Permeable concrete pavers or pavement.	
Conservation Element		
CE.O.12.1.8	Hazardous Waste and Materials. The City shall coordinate with Brevard County to establish procedures and regulations which support State and County hazardous material management objectives, and which will reduce the number of sites at which improper use, storage or disposal of hazardous materials occurs.	
CE.P.12.1.8.1	The City shall coordinate with the FDEP and Brevard County in the establishment of Amnesty Days for the collection of hazardous domestic wastes.	
CE.P.12.1.8.2	The City shall ensure that businesses which store, generate, or transport hazardous wastes or materials do so in accordance with Federal and State guidelines and regulations.	

CE.P.12.1.8.3	Industrial parks which include tenants who use hazardous materials or generate hazardous wastes shall be required to: (a) prepare hazardous materials spill containment and clean-up plans; (b) design drainage and sewer facilities to prevent the contamination of soils, groundwater or surface waters from hazardous materials spills; and (c) provide interim storage facilities for hazardous wastes generated on-site.	
CE.P.12.1.8.4	The City shall provide the greatest support practical to Federal, State and County hazardous waste and materials management programs.	
CE.O.12.1.9	Floodplain Management. The City shall protect the flood storage and conveyance functions of the 100-year floodplain.	
CE.P.12.1.9.1	In order to reduce the adverse consequences of floodplain development and simultaneously encourage the conservation of natural habitat, the City's Flood Damage Prevention ordinance shall be updated as needed to maintain compliance with the National Flood Insurance Program and to discourage construction in the floodplain, unless the proposed construction is expressly authorized by this Comprehensive Plan. Developmental plans shall preserve the natural functions of floodplains when practical. The provision of compensatory storage for fill placed within the floodplain shall be allowed only when the applicant demonstrates the absence of adverse consequences of compensatory storage and demonstrates compliance with other applicable provisions of this Comprehensive Plan.	
CE.P.12.1.9.2	Developers shall be encouraged to incorporate those portions of sites that are within the 100-year floodplain as open space preservation	
CE.P.12.1.9.3	The City shall promote wetlands preservation and non-structural floodplain management by encouraging the use of isolated wetlands as detention areas, where such use is consistent with good engineering practice and does not significantly degrade the ecological value of wetlands. Pre-treatment of stormwater run off by diversion of the "first flush" shall be required prior to discharge to wetland detention areas.	
CE.P.12.1.9.4	The City shall encourage public and private agencies, including but not limited to the Florida Department of Environmental Protection, the Florida Game and Freshwater Fish Commission, the St. Johns River Water Management District, The Nature Conservancy, The Trust for Public Lands and Brevard County, in acquiring wetlands and floodplains.	
Coastal Management Element		
CME.O.9.1.4	Public Expenditures in Coastal High Hazard Area. The use of public funds for infrastructure improvements which subsidize increased development in the Coastal High-Hazard Area (CHHA) will be restricted to those projects which restore or enhance natural resources and/or part of the City's Redevelopment Plan.	
CME.P.9.1.4.1	The CHHA is delineated as the area below the elevation of the Category 1 storm surge line as established by a Sea, Lake, and Overland Surges from Hurricanes (SLOSH) computerized storm surge model.	

CME.P.9.1.4.2	Public expenditures for capital improvements that promote public access and use of coastal areas shall be reviewed through the annual budget process to minimize loss potential.	
CME.P.9.1.4.3	The use of local funds to subsidize new development in the CHHA shall be thoroughly considered prior to public investment and limited in most cases.	
CME.O.9.2.1	Coastal High Hazard Area (CHHA). The City shall continue to direct population concentrations away from the CHHA through implementation of the future land use map, land development code and through the development review and approval process.	
CME.P.9.2.1.1	The City shall continue to evaluate non-conforming land uses within the CHHA.	
CME.P.9.2.1.2	In order to continue to direct population away from the CHHA, the increase of densities of properties within the CHHA shall be discouraged from the time of this plan's adoption.	
CME.O.9.2.2	Evacuation Times. The City shall cooperate with Brevard County to ensure evacuation times are maintained or reduced and to ensure efficient evacuation of threatened residents to areas of safety in the event of a natural disaster.	
CME.P.9.2.2.1	In the event of a hurricane emergency the City will respond to the direction of the Brevard County Office of Emergency Management in the implementation of emergency plans. Coordinated emergency activities will include, but are not limited to warning, public information, communications, evacuation, public shelters and related welfare services.	
CME.P.9.2.2.2	The City will continue to require that development and redevelopment activities minimize the risks to life and property from natural disasters by evaluating the effects on evacuation times within the hurricane vulnerability zone.	
CME.O.9.2.3	Post-Disaster Redevelopment Plan. The City shall develop a post-disaster redevelopment plan (PDRP) to establish, at minimum, long-term policies regarding redevelopment, infrastructure, densities, nonconforming uses, and future land use patterns.	
CME.P.9.2.3.1	The City shall adopt a post-disaster redevelopment plan by 2014.	
CME.P.9.2.3.2	Appropriate redevelopment activities in the Coastal Planning Area will be conducted through means which will preserve and improve residential neighborhoods, eliminate unsafe conditions; identify, preserve, and improve historic resources and significant historic structures, sites, neighborhoods, and districts; preserve and improve natural resources; encourage recreational opportunities; and encourage appropriate commercial uses.	
CME.P.9.2.3.3	Guidelines for post-disaster redevelopment and hazard mitigation will continue to be developed and included in the City's land development regulations. These guidelines will be designed to reduce or eliminate the exposure of human life and limit repeat damage to public and private property due to hurricane hazards. The guidelines will incorporate Brevard County's Local Mitigation Strategies into	

	recommendations on hazard mitigation and other applicable interagency reports, as well as applicable chapters of the City Code or articles thereof.	
CME.P.9.2.3.4	Post-disaster redevelopment will be coordinated jointly by the Community Development, Public Works, and Code Enforcement departments and, if applicable, with the Federal Emergency Management Agency. Priority will be given to those post-disaster tasks needed to protect the health and safety of the public, restore public services and repair damaged infrastructure.	
CME.P.9.2.3.5	The City shall continue to participate in the National Flood Insurance Program.	
CME.P.9.2.3.6	Procedures for post-disaster action shall include a system for distinguishing between immediate repair and clean-up actions needed to protect the public health and safety, versus long-term repair and redevelopment activities.	
CME.P.9.2.3.7	Reconstruction shall be required to meet current standards for coastal construction, so as to reduce future exposure.	
CME.P.9.2.3.8	Recommendations provided by local agencies and in interagency hazard mitigation reports will be reviewed as available and will be implemented as feasible.	
CME.O.9.2.5	Infrastructure in the Coastal Planning Area. Level of service standards and service areas for the City as a whole, as adopted in the Capital Improvements Element, will apply to the infrastructure within the coastal planning area.	
CME.P.9.2.5.1	Phasing of infrastructure will occur according to the Capital Improvements Element and in accordance with development regulations adopted subsequent to this plan with specific consideration given to protection of coastal resources.	
CME.P.9.2.5.2	The level of service standards adopted in other elements of this Comprehensive Plan shall apply within the coastal planning area.	
CME.P.9.2.5.3	Consideration shall be given to alternative locations of infrastructure if located in the coastal high hazard area to reduce potential public losses.	
Zoning Code		
Art. XI. Sec.	All mobile homes located on masonry foundation and tied down per MHMA***Pertains to structures not related to natural resource protection, public access, recreation or coastline protection.	All areas
Art. XIII. Sec.	Established drainage must not be altered to adversely affect other property***	All areas

Chapter 6, Buildings, Construction and Property Regulations		
Ordinance 12-2014 Floodplain Management	The provisions of this ordinance shall apply to all development that is wholly within or partially within any flood hazard area, including but not limited to the subdivision of land; filling, grading, and other site improvements and utility installations; construction, alteration, remodeling, enlargement, improvement, replacement, repair, relocation or demolition of buildings, structures, and facilities that are exempt from the Florida Building Code; placement, installation, or replacement of manufactured homes and manufactured buildings; installation or replacement of tanks; placement of recreational vehicles; installation of swimming pools; and any other development.	All areas

Mitigation Capabilities and Development Summaries

Cocoa Beach

Development Services Department

The Planning Department and Development Services Department are responsible for reviewing site plans, subdivisions, code enforcement, and business tax receipts. The City reviews development requests for consistency with the Comprehensive Plan and Land Development Codes.

Building Department

The Building Department and Building Official are responsible for reviewing building permits and floodplain compliance. The City has adopted the Florida Building Code.

Fire Department

The Fire Marshall conducts annual fire compliance inspections of non-residential establishments. Fire Department provides fire and medical emergency response services for the City.

Police Department

The City's Police Department consists of 43 sworn officers. The department is responsible for public safety and plays a primary role in hurricane evacuation and post disaster operations through implementation of a comprehensive emergency management system designed to preserve life, minimize damage, and ensure an efficient law enforcement response.

Utilities Department

The Utilities Department is responsible for operating and maintaining the integrity of the wastewater treatment plant, sanitary sewer collection system and effluent disposal system. The Department is also responsible for hurricane preparedness and post-storm operations related to the wastewater plant, collection system lines, reclaimed water distribution system and lift stations to prevent sanitary sewer overflows and potential health risks. The Department Director or his designee would be part of the City's Disaster Response Team. The utilities department will continue to be part of the state's Florida Water/Wastewater Agency Response Network (FLAWARN) during natural disasters.

Public Works

Public Works Administration accomplishes its mission by providing strategic planning, financial and budget management, resource coordination, guidance and leadership to seven divisions including: Streets, Stormwater, Grounds, Facility Maintenance, Capital Projects, Leisure Services, and Solid Waste Collection. While each division has its own unique support functions, all divisions work together as a team and share resources to accomplish the overall mission of the department. The Public Works Administration also has the responsibility for hurricane preparedness, pre-storm preparations, and post event clean-up. These responsibilities include clearing the public drainage easements, collecting trash that could become airborne, and preparing city facilities. In the event of a disaster each item under this department's purview would be repaired and/or improved, as funding allows, mitigating future events.

Development

Cocoa Beach has reached an almost built out condition. There is only 2.8 % of vacant land remaining in the City, which can accommodate limited new residential and commercial development. The maximum allowable density for residential use is 10 units per acre. Redevelopment has become a prominent activity in the City. Most of the properties within the City are well maintained. According to the 2010 census, Cocoa Beach's permanent population decreased from 12,482 in 2000 to 11,231 in 2010. The City has also updated their webpage to include an "Emergency Alert" section which allows various messaging to be posted to increase community awareness. Due to a decrease in population, an increase in community communication for awareness, and the requirement that redevelopment must meet current codes; there has been an overall decrease in vulnerability to disaster.

The City had experienced growth in its permanent population over the years with the growth rate slowing in recent decades. By the 2010 census Cocoa Beach's permanent population decreased from 12,482 in 2000 to 11,231 in 2010. Similarly, average household size in the City fell to 1.88 persons in 2010 from 1.91 persons in 2000. Offsetting this decline is a steady influx of seasonal winter visitors as well as tourists visiting the city throughout the year. This annual fluctuation of population (about 12,000 seasonal residents and about 3,850 average daily tourists) is the most critical demographic condition affecting demands on public facilities, services, and land uses, and requires that systems be designed to handle recurring seasonal demands in addition to the demands of the City's permanent population.

There are approximately 74 acres of vacant land in the City (2.8 percent of the city's total area), which can accommodate limited new residential and commercial development. Based on the declines in the population for the past several decades, with further projected population declines predicted, paired with maximum allowable densities for single-family and multi-family residential uses, and the amount of vacant land in each of these land use categories, the City has sufficient vacant land to meet the need for single-family and multi-family housing units for the City's permanent and seasonal population through the year 2025.

At this time, the City appears to have sufficient commercial, recreational and institutional uses to meet the City's needs through the year 2025. Aged infrastructure in utilities such as power, water, stormwater, and sewer are still an ongoing vulnerability during natural disasters. Florida Power & Light (FPL) has continued to invest in hardening its power grid in Cocoa Beach, Florida to protect against hurricanes. The continued growth of Port Canaveral will create additional challenges to the capacity of the wastewater treatment plant, especially during natural disasters. The City receives sewer and provides treatment for Patrick Space Force Base to keep their critical infrastructure from being inaccessible during natural disasters. The City will continue to invest annually into sewer and wastewater treatment plant upgrades to reduce these vulnerabilities as well as comply with all applicable permits and power outage contingency plans in accordance with Florida Administrative Codes.

The City has initiated a Vulnerability Assessment (VA) to identify areas under the City jurisdiction that are vulnerable to the future impacts of sea level rise (SLR), storm surge, and coastal flooding. The city is working in partnership with the Florida Department of Environmental Protection (FDEP) to ensure the VA follows FDEP's standard processes to meet the requirements of Florida Statue, 380.093. The VA is estimated to be completed in June of 2026. The City finished updating the 2001 Stormwater Master Plan in 2021. The updated plan conducted a flooding problem assessment which identified chronic, minor and potential flooding areas. The main problem areas identified through this flooding problem assessment process include 19 chronic, 20 minor and 39 potential flooding problem areas. Based on the foregoing, the compiled flooding problem areas were consolidated into specific improvement areas to facilitate further study and/or addressing with capital improvement project. The improvement areas are

Basin A Flood Improvements; Brightwaters – Dorset Outfall System Improvements; Carmine – Barrello Outfall Improvements; Barrello – Angelo Outfall System Improvements; North Banana River Boulevard South Improvements; South Banana River Boulevard South Improvements; South Basin E Flood Improvements; Cedar Ave, Woodland Ave, Brevard Ave North, and 2nd St North Improvements; Indian Creek Drive at Oak Ave Improvements; Brevard Ave North and Burris Way Alley Improvements; 4th St South and Yawl Dr, Sloop Dr, Riverview Ln, and Corona Ave Improvements; Brevard Ave South and 4th St South Improvements; Indian Village Trail at A1A Improvements; and Basin I Flood Improvements.

Mitigation Mechanisms

Cocoa Beach		
Stormwater Management		
Objective III.1	New or redevelopment set to grades to preclude flooding from excessive rain***	All areas
Capital Improvement Plan		
CIP	New hurricane hardened fire station 50 relocation and design	Ongoing
CIP	Stormwater Slip-lining (Multi-Year)	Ongoing
CIP	Cedar/Woodland/Brevard/2nd Stormwater Improvements	Ongoing
CIP	Stormwater Vulnerability Assessment	Ongoing
CIP	Minor BMPS, Swales, Exfiltration	Ongoing
CIP	Structural Rehabilitation	Ongoing
CIP	Basin A Flood Improvements	Ongoing
CIP	Rehabilitation of Gravity Sewer Collection Systems: The purpose of this program is to repair and rehabilitate the sewer collection system lines and alleviate inflow and infiltration to the lift stations and the wastewater treatment plant.	Ongoing
CIP	Lift Station Upgrades: Mechanical and Electrical	Ongoing
CIP	Wastewater Treatment Plant Upgrades	Ongoing
Comprehensive Plan		
FLUE Policy I.1.4	Higher density and intensity development shall be directed into those locations which have proper access to the existing transportation system, minimal environmental constraints, sufficient stormwater treatment capacity, compatible land uses, and readily available sewer and water infrastructure	All areas
FLUE Policy I.5.4	The City shall prohibit residential development where physical constraints or hazards exist or shall require the density to be adjusted accordingly. Such constraints or hazards shall include, but not be limited to, floods, storm or slope hazards, and unstable soil or geologic conditions.	All areas
FLUE Policy I.4.3	Development within areas subject to 100-year flooding due to soil conditions or hydrology shall not increase expected flood levels for adjacent properties or reduce receiving surface water body quality below established levels.	All areas
Policy I.6.2	Protect existing residential areas and ensure safe hurricane	All areas

	evacuation times, the City shall limit maximum allowable residential density consistent with and in furtherance of the provisions of this element.	
FLUE Policy I.7.1	Development orders or permits for new development or redevelopment within the 100-year floodplain or coastal high hazard area shall be issued only after a finding that the proposed development or redevelopment complies with the building elevation requirements established on the Flood Insurance Rate Maps (FIRM's).	All Facilities
FLUE CME Policy II.1.5	Structures receiving damage from coastal storms or flooding in excess of 50% of their replacement cost at the time of the damage may be rebuilt to pre-disaster density, height and square footage, provided they comply with: (a) Federal requirements for elevation above the base flood elevation (100-year flood level) ; (b) Building code requirements for flood-proofing; (c) Current building and life-safety codes; and (d) State CCCL requirements	All areas
FLUE Policy III.1.8	In the Downtown Area the City must encourage low impact design, as identified in the Downtown Cocoa Beach Community Redevelopment Agency (DCBCRA) Community Redevelopment Plan to improve stormwater management.	All areas
IE Policy VI-A.4.4	New Development requesting connection to the City's effluent system shall submit plans to the City' Utilities Department. The City has the right to deny service to new development if the addition of the new service will negatively impact the provision of service to the existing users of the effluent system.	All areas
HE Policy II.2.3	If greater than 25% of the residential structures in a neighborhood (but not less than five) are determined to be "substandard/deteriorated" or "substandard/dilapidated" (based on the standards identified in Policy II. 2.1), that neighborhood shall be considered to be in danger of deterioration, and the City will develop a plan for the stabilization of the neighborhood within two years of such determination.	All areas
HE Policy II.6.1	Because structural damages resulting from the repetitive coastal storms and flooding continually lower the value of the flooded properties, the City shall explore acquisition and relocation projects (with assistance from the State and federal governments) in severely flooded areas.	All areas
CME Policy I.4.6	The removal of dune vegetation and stabilization of submerged and exposed beaches by artificial means other than replenishment with compatible sand shall be prohibited.	Coastline
CME Policy I.4.10	The construction of artificial shoreline hardening structures (e.g., vertical seawalls) shall be prohibited, except for the emergency use of such structures constructed in compliance with the requirements contained in Chapter 161, Florida Statutes If a hardened structure is deemed to be absolutely necessary along the beach, rip-rap revetments are preferred.	Coastline

CME Policy III.8.7	Structures suffering repeated damage to pilings, foundations or load-bearing walls shall be relocated landward of their present location or modified as necessary to mitigate future storm damage.	All areas
CME Objective I.5	To limit the expenditure of public funds that subsidize development permitted in coastal high hazard areas.	Coastal Areas
CME Policy I.5.1	Publicly funded infrastructure shall not be constructed within the CHHA unless the expenditure is for: (a) Restoration or enhancement of natural resources or public access; (b) Retrofitting of stormwater management facilities for water quality enhancement (of runoff) or the construction of storm sewer outfalls; (c) Flood-proofing public facilities; (d) Development or improvement of public roads or bridges which are included in the Metropolitan Planning Organization's (MPO's) long-range plan, or will serve a crucial need by reducing or maintaining evacuation times; (e) A public facility of overriding public concern, as determined by the City Commission; (f) Reconstruction of a seawall that is essential to the protection of existing public facilities or infrastructure; or (g) Land application of treated effluent (irrigation) of public and private open spaces.	All areas
CME Policy I.5.3	All new and improved public facilities constructed within the City shall be flood-proofed to minimize damage from flooding and coastal storms	All areas
CME Objective I.6	To direct population concentrations away from known or predicted coastal high hazard areas (CHHA).	All areas
CME Policy I.6.1	Consistent with the definition contained in Section 163.3178(2)(h), Florida Statutes, the designated CHHA shall include the area below the elevation of the category 1 storm surge line as established by a Sea, Lake, and Overland Surges from Hurricanes (SLOSH) computerized storm surge model. A great majority of the land within the City of Cocoa Beach is within the CHHA.	All areas
CME GOAL II	To prepare for disasters and post-disaster recovery to ensure the continued health, safety, and welfare of the citizens of Cocoa Beach.	Ongoing
CME Objective II.1	To reduce or eliminate the exposure of human life and property (public and private) to natural hazards through the preparation and implementation of hazard mitigation and post-disaster development plans and procedures.	Ongoing
CME Policy II.1.2	The City shall prepare a Post-Disaster Redevelopment Plan technical paper, describing ways to reduce or eliminate the exposure of human life and private and public property to natural disasters and in accordance with Section 163.3177(7)(l), Florida Statutes. This paper shall be consistent with the post-disaster plans of other beachside communities, Brevard County, the East Central Florida Regional Planning Council, and the State of Florida. (a) The immediate response strategy will focus on providing	Ongoing

	immediate relief to meet the emergency needs of the disaster victims. This strategy will identify efforts to: 1. Securing the disaster area and protecting public safety; 2. Assessing the immediate unmet emergency needs of those impacted by the disaster (e.g., food, water, clothing, medical supplies, etc.) and taking appropriate steps to meet those needs; 3. Identify and eliminate hazards to public health; 4. Assess damages to essential public facilities and services (e.g., electricity, telecommunications, roads, etc.) and take appropriate steps to restore essential facilities and services; and 5. Assess damage to homes and businesses and repair or replace (as appropriate) damaged structures. (b) The long-term redevelopment strategy will focus on community redevelopment and restoring the economic viability of the City. This strategy will require a substantial commitment of time and resources by both governmental and non-governmental organizations, and will identify efforts necessary to: 1. Restore public infrastructure and social services damaged by the disaster; 2. Re-establish an adequate supply of housing to replace that that was destroyed; 3. Restore jobs that were lost; and 4. Restore the economic base of the City.	
CME Policy II.1.3	The City shall continue to participate in the Local Hazard Mitigation Strategy (LMS) on a County-wide level through the City's designated representative who will: (a) Develop the City's goals and guiding principles for hazard mitigation and long-term recovery; (b) Identify hazards and assess the risks and vulnerability of the City to natural disasters; (c) Prepare a list of the City's existing and proposed mitigation initiatives and the policies, (including provisions contained in local Peacetime Emergency Plans) ordinances, and regulations that guide these efforts; and (d) Prepare for adoption of a single, unified local mitigation strategy for the City. The City shall amend its Comprehensive Plan as needed to incorporate appropriate mitigation initiatives.	Ongoing
CME Policy II.1.6	In the event of a Presidential Disaster Declaration, the City shall appoint a representative to coordinate the participation of other appropriate City officials on the Interagency Hazard Mitigation Team and in the preparation of the Interagency Hazard Mitigation Team Report and State Hazard	Ongoing

	Mitigation Plan for that disaster. This shall include, but not be limited to: (a) Evaluating the natural hazards in the disaster area; (b) Analyzing state and local hazard mitigation policies, programs, and capabilities to mitigate the hazards in the disaster area; (c) Recommending hazard mitigation strategies, measures and actions designed to reduce or avoid long-term vulnerability to hazards; and (d) Identify a method for implementing, monitoring, evaluating and updating the hazard mitigation plan on an annual basis.	
CME Policy II.1.7	Within one year following the release of the Interagency Hazard Mitigation Team Report and State Hazard Mitigation Plan, the City shall amend the Comprehensive Plan as necessary to incorporate appropriate hazard mitigation recommendations and strategies.	Ongoing
CME Objective II.2	The City shall maintain the 18.5 hours necessary to mobilize and safely evacuate coastal residents in advance of an approaching hurricane, as calculated in the most recent East Central Florida Regional Hurricane Evacuation Study	Ongoing
CME Policy II.2.1	It shall be the policy of the City to timely evacuate all residents (permanent and seasonal) and visitors well in advance of any approaching hurricane.	Ongoing
CME Policy II.2.2	Development (including redevelopment) activities shall not result in an increase in evacuation times above the established 18.5-hour standard.	All areas
CME Policy II.2.3	The City shall designate no public shelters nor make plans to shelter any segment of the City's permanent or seasonal populations (including tourists) within the City of Cocoa Beach in the event of an approaching hurricane.	Ongoing
CME Policy II.2.4	No later than March 1 of each year, the City shall provide the Brevard County Office of Emergency Management with updated population figures to be used to verify the accuracy of projected evacuation times.	Ongoing
CME Policy II.2.5	The City shall work closely with Brevard County Emergency Management Office to maintain accurate inventories of people with special needs during hurricanes and other natural disasters.	Ongoing
CME Policy II.2.6	The City shall coordinate on an annual basis with the beachside communities of Cape Canaveral, Satellite Beach, Indialantic, Melbourne Beach, Port Canaveral, and Patrick Air Force Base, and Brevard County and the East Central Florida Regional Planning Council in updating existing regional hurricane evacuation, sheltering and hazard mitigation studies. The City shall provide the Regional Planning Council with the best available existing projections of population, growth and development for use in preparing the updates.	Ongoing
CME Policy II.2.7	In order to increase the early evacuation and thereby minimize the amount of time necessary to evacuate the City after a formal evacuation order, the city will use electronic devices and media	Ongoing

	platforms to help disseminate information which contains emergency information regarding evacuation routes, shelter locations, points along evacuation routes that are subject to flooding, and other relevant emergency information to residents and visitors annually prior to each hurricane season (June 1).	
CME Policy II.2.8	Future roadway improvements shall be designed to minimize the impacts of flooding and damage from coastal storms.	Ongoing
CME Policy II.2.9	Evacuation routes shall be designated in a manner that distributes evacuees efficiently across the roadway network.	Ongoing
CME GOAL IV	To provide for public safety in the coastal high-hazard area and to limit public expenditure in areas subject to destruction by natural disasters, while providing for the long-term accessibility, economic viability, neighborhood stability, and environmental integrity of these unique resources.	All areas
CME Objective IV.1	The City will exercise all diligence to address damage or destruction from natural disasters.	Ongoing
CME Policy IV.1.1	Construction of public facilities within the CHHA, all facilities must be flood proofed to ensure minimum damage from storms and hurricanes.	Ongoing
CME Policy IV.1.2	Development within the City shall meet the minimum elevation requirements identified in the Florida Building Code and the Federal Flood Insurance Rate Maps (FIRMs). Development proposed within the VE zones, as indicated on the FIRM Maps will employ the specified base flood elevations (BFE) noted on said maps and, when possible, employ a wash-thru structure or similar grade level passage for storm surges to mitigate impacts of storm surge on existing and new development.	All areas
CME Policy IV.1.3	New development or redevelopment shall be set to grades which will preclude flooding of any part or portion of the site due to excessive rainfall. The City shall continue to employ the Level of Service (LOS) for stormwater management within the City, as defined in the City's adopted Stormwater Master Plan.	All areas
CME Policy IV.1.4	Coastal infrastructure shall be maintained and replaced as necessary to insure adequate Levels of Service to the existing population and to any planned redevelopment efforts. Efforts will be made to limit public investment in coastal infrastructure by entering into Public/Private partnerships when feasible and into negotiated developments employing Development Agreements to facilitate the replacement of certain public infrastructure.	All areas
CME Policy IV.1.5	The flood resistant construction requirements in the Florida Building Code and applicable floodplain management regulations set forth in 44 C.F.R.part 60, or more stringent controls, shall continue to be applied to development and redevelopment in the coastal storm area.	All areas
CME Objective IV.2	Manage the City's residential "finger-island" communities located along the Banana River to protect these properties from the effects of hurricane winds and flooding.	Coastal areas
CME Policy IV.2.1	Development and redevelopment in the City's western residential districts shall be planned and managed to reduce risk and losses due to	

	flooding resulting from high-tide events, storm surge, flash floods, stormwater runoff, and the related impacts of sea level rise.	
CME Policy IV.2.2	The City will maintain shoreline protection and erosion control by encouraging the proper maintenance and, when necessary, the replacement of hard structures, such as seawalls, built to the current height standards as established by the City.	Coastal areas
CME Policy IV.2.3	The City will encourage the installation of living shorelines where possible and practical along the residential canals as a means of shoreline protection.	Coastal areas
CME Policy IV.2.4	Evaluate designing a “natural runoff” or “net-zero discharge” policy for stormwater in subdivision and site design as well as site redevelopment.	All areas
CME Policy IV.2.5	Development orders or permits for new development or redevelopment within the 100-year floodplain or CHHA shall be issued only after a finding that the proposed development or redevelopment complies with the building elevation requirements established on the Flood Insurance Rate Maps (FIRMs).	All areas
CME GOAL V	New development, redevelopment, and investment in public facilities, utilities, and infrastructure shall be managed and regulated to reduce flood risk in the coastal storm area, as defined in Objective IV.1, resulting from high tides, storm surge, flash floods, stormwater runoff, and related impacts of sea level rise and to reduce losses due to flooding and claims made under flood insurance policies in this state.	All areas
CME Objective V.1	Development and redevelopment in the City shall be planned and managed to reduce risk and losses due to flooding resulting from hightide events, storm-surge, flash floods, stormwater run-off, and related impacts of sea level rise.	All areas
CME Policy V.1.1	Development and redevelopment plans and proposals in the coastal storm area shall be reviewed for compliance with the goals, objectives, and policies of the Comprehensive Plan and other appropriate plans and references, including the City’s National Flood Insurance Policy (NFIP) and the Community Rating System (CRS) program.	All areas
CME Policy V.1.2	The flood-resistant construction requirements in the Florida Building Code and applicable floodplain management regulations set forth in 44 C.F.R. part 60, or more stringent controls, shall continue to be applied to all development and redevelopment in the City.	All areas
CME Policy V.1.3	The City shall continue to encourage and incentivize the use of Low Impact Development site design methods for new development, redevelopment, additions and retrofits, and modifications to properties in the coastal storm area.	All areas
CME Policy V.1.4	Low Impact Development standards shall provide for site design, engineering, and stormwater management designs and retrofits that reduce run-off, mitigate flood impacts, and provide for the on-site percolation, capture, and re-use of rainwater. These standards shall encourage or require the increased use of “green” stormwater	All areas

	management treatments, native/Florida-friendly landscape material, porous paving materials, and the preservation and restoration of natural drainage characteristics on the site.	
CME Policy V.1.5	The City shall grant building permits in compliance with the Florida Building Code and National Flood Insurance Program (NFIP) regulations, a part of the Federal Emergency Management Agency (FEMA) regulations, regarding, but not limited to issues such as community floodplain activities and land management	All areas
CME Objective V.2	Hazard mitigation efforts have been implemented and will be expanded to reduce flood risk resulting from high-tide events, storm-surge, flash flood, stormwater runoff, and the related impacts of sea level rise.	All areas
CME Policy V.2.1	The City shall encourage and support hazard mitigation efforts through the continuation of the following activities: (a) Participation in the National Flood Insurance Program's Community Rating System; (b) Participation in the Brevard County Local Mitigation Strategy; (c) Administration of building regulations consistent with the City and FEMA regulations; (d) Administration of building regulations consistent with the City and FEMA regulations; (e) Review and implementation of appropriate policies and strategies development by partner agencies or through interagency hazard assessment and mitigation initiatives.	All areas
CME Policy V.2.2	The City will continue to monitor and evaluate the feasibility of incorporating recommendations from other intergovernmental hazard planning initiatives into the City of Cocoa Beach Comprehensive Code and Land Development Code.	All areas
CME Policy V.2.3	The City will continue to apply building code and land development code requirements to ensure noncompliant structures are brought into conformance with FEMA flood elevation standards or will be flood proofed consistent with FEMA standards to the degree practical.	All areas
CME Policy V.2.4	Continue to educate the public on flood risks, as well as mitigation strategies and available programs to reduce flood hazards and improve the City's Community Rating System (CRS) score, which will allow for decreased flood insurance premiums.	Ongoing
CME Policy V.2.6	Prepare and disseminate communications and conduct NFIP community workshops to provide information regarding the benefits of acquiring flood insurance.	Ongoing
CME Objective V.3	Continue to update, maintain, and make available for public review flood risk maps and related information indicating the risk associated with high tide events, storm surge, flash flood, stormwater runoff, and related impact of sea level rise.	Ongoing
CME Policy V.3.1	The anticipated impacts of storm surge and sea level rise shall be a consideration in the implementation and administration of the City's Comprehensive Plan, building and life-safety codes, capital improvement plans, emergency management plans, land development	Ongoing

	codes, water resource and stormwater management plans, coastal management plans, and economic development programs.	
CME Policy V.3.2	The City shall work with local, state, and federal entities in the continued assessment of vulnerabilities and the development of mitigation and adaptation strategies to address the impacts of sea level rise.	Ongoing
CME Objective V.4	The City shall collaborate with the East Central Florida Regional Planning Council and other appropriate governmental agencies to determine and designate any appropriate Adaptation Action Area(s) as provided by Section 163.3177(6)(g)(10), Florida Statutes, to identify areas vulnerable to coastal storm surge and sea level rise impacts.	Ongoing
CME Policy V.4.1	Map any identified adaptation Action Areas to evaluate areas vulnerable to the impacts of sea level rise.	All areas
CME Policy V.4.2	Identify and implement adaptation policies to increase community awareness and evaluate the impacts of requiring elevated finished floors, additional freeboard, and wet/dry flood-proofing in areas outside designated flood plains within the designated Adaptation Action Area.	Ongoing
CME Policy V.4.3	Work with local, state, and regional partners to identify funding sources to support adaptation projects located within the Adaptation Action Area(s).	Ongoing
CME Policy V.4.4	Adaptation Action Area(s) will follow a regular program of assessment and reevaluation to ensure policies and strategies address known and anticipated risks associated with sea level rise.	Ongoing
CME Objective V.5	When constructing or reconstructing utilities or infrastructure, evaluations shall be completed to assess vulnerability and resilience to sea level rise and identify cost-effective strategies to ensure resilience.	All areas
CME Policy V.5.1	The City shall continue to evaluate opportunities to protect public facilities, infrastructure, and utilities from the impacts of sea level rise.	All areas
CME Objective V.6	Evaluate and identify which public investments and infrastructure should be built or rebuilt, modified, or relocated to maximize the effective life span.	All areas
CME Policy V.6.1	The City shall adopt and implement strategies which increase community resiliency and protection of public facilities and infrastructure, including but not limited to public buildings and facilities, including police and fire stations, water reclamation facilities, transmission lines and pumping stations, stormwater systems, roads, and other transportation related infrastructure.	All areas
CME Policy V.6.2	Based on the sea level rise vulnerability assessment, the City will determine appropriate strategies related to the modification in place (e.g., elevation, hardening, relocation, etc.) or strategic retreat from areas at risk.	All areas
CME GOAL VI	The City shall accomplish post-disaster redevelopment in a manner that shall minimize public and private vulnerabilities to future disasters.	All areas

CME Objective VI.1	Post-disaster redevelopment shall be governed by all applicable codes and standards as well as complying with applicable state and county construction regulations.	All areas
CME Policy VI.1.1	Damage infrastructure shall continue to be repaired or rebuilt to minimize the potential for future damage. Unless the facility is necessary to serve the population of the coastal storm area, consideration shall be given to relocating public facilities outside the coastal storm area.	All areas
CME Policy VI.1.2	Temporary building moratoriums may be declared in the coastal storm area when 50% or more of the homes/structures have been destroyed in order to assess the impacts and feasibility of redevelopment.	All areas
CME Policy VI.1.3	Repair and rebuilding of critical facilities such as sewage treatment plants, lift stations and other utilities damaged in future storms shall be reconstructed to minimize hurricane and flooding vulnerability	All areas
CME Policy VI.1.4	Coastal infrastructure shall be maintained and replaced as necessary to ensure adequate Levels of Service to the existing population and to projected population increases at planned densities consistent with the Future Land Use Element of the Comprehensive Plan.	All areas
Objective VI.2	Post-disaster redevelopment plans shall include provisions for the repair and cleanup, assessment of infrastructure and limiting redevelopment of repeatedly damaged properties within the inclusion of building strategies and elements to further flood-proof the subject properties.	Ongoing
CME Policy VI.2.1	The City shall continue to review inventories of repetitive loss properties provided by FEMA and continue working with the state officials to improve the process of reducing vulnerability and loss for any identified properties within the City.	Ongoing
CME Policy VI.2.2	As part of the process for defining and establishing policies for development and redevelopment in the Adaptation Action Area(s), the City shall assess existing regulations and standards for post-disaster redevelopment and such standards shall address the replacement, removal, relocation or structural modification of damaged and unsafe structures and infrastructures and distinguish between the recovery phase and long-term redevelopment.	Ongoing
CME Objective VI.3	The reestablishment of businesses after a disaster is critical to the redevelopment of the coastal storm area.	All areas
CME Policy VI.3.1	The City will cooperate with local businesses and organizations to aid in disaster planning and recovery for businesses located within the coastal storm area.	All areas
CME Policy VI.3.2	The City will cooperate with the Chambers of Commerce in developing an informational program about hurricane preparedness for local businesses.	Ongoing
CME Objective II.2	The City shall designate no public shelters nor make plans to shelter any segment of the City's permanent or seasonal populations (including tourists) within the City of Cocoa Beach in the event of an approaching hurricane.	

PSFE Policy I.2.6	The City shall work with Brevard County Public Schools, as needed, to ensure that the emergency school evacuation plan meets current and anticipated needs.	Ongoing
ICE Policy I.2.7	Given its coastal location, the City shall continue to work closely with Brevard County, adjacent beach communities, and the East Central Florida Regional Planning Council to implement the Region's emergency evacuation plan.	Ongoing

Mitigation Capabilities and Development Summaries

Grant-Valkaria

The town has completed a five-year Capital Improvement Plan, a Stormwater Master Plan, and is now in the review stage of the Land Development Codes and will be addressing issues relating to drainage and flood prevention, construction in flood prone areas and designing for fire prevention. Once town specific Land Development Regulations are adopted more reduction in overall vulnerability is expected.

Development

Several changes have taken place in the Town of Grant-Valkaria which has decreased overall vulnerability since the last plan update. The Town has completed a Comprehensive Plan. Although the land uses remain similar to the Brevard County land-uses adopted when incorporating, the town has decreased overall densities by capping the highest density to 4 units per acre. This density was given in mostly previously platted and developed areas which accounted for a very small percentage of the overall land area. The low density residential makes up the majority of the town and densities have been capped at 1 unit per 1.25 acres. Brevard County had allowed densities at 1 unit per acre. Since the last plan update the town adopted by referendum a requirement for any new development within the low-density residential land use to have a minimum size lot of 1.25 acre, thereby reducing the overall number of new homes that could be built. The Town is currently writing a new zoning code for the 1.25 acre lots.

The town has also completed a Stormwater Master Plan that catalogs every stormwater culvert in town with size, type, elevation, and condition to utilize in a capital improvements replacement program and for flood prevention. This data has helped determine the future needs of the Town and budget accordingly. The Town has better data for establishing base flood elevations for new construction outside of subdivisions with designed stormwater systems which will aid in the reduction of our vulnerability.

In 2014, the construction of a new town hall was completed. The Town Hall is on the list as a critical facility and was previously located in a rental unit that was an older metal building adjacent to the Indian River Lagoon in a flood prone area. The new facility was designed to all of the latest building codes and is located in an area that is not within the flood zone or storm surge areas. Vulnerability to wind damage and flooding has now significantly been reduced as the facility is now located 3.5 miles inland from the Indian River Lagoon.

New construction in town has been primarily limited to single family residential homes, approximately 25 per year. Now there is a better understanding of the drainage system. Drainage improvements are now included in a 5-year capital improvement plan as part of the budget each year. This aids in analyzing the needs for the drainage system and budget accordingly. Although there are still improvements to be made, overall success in the function of the drainage system has reduced the threat of flooding within the town. Overall maintenance of the existing stormwater systems has improved annually which also aids in flood prevention.

The town is now in the review stage of the Land Development Codes and will be addressing issues relating to flood prevention, construction in flood prone areas and designing for fire prevention. Once town specific Land Development Regulations are adopted more reduction in overall vulnerability is expected. The combination of the adoption of the Stormwater Master Plan, the Comprehensive Plan, and staff experience reduce the overall vulnerability to hazards.

Mitigation Capabilities and Development Summaries

Indialantic

In 2013, the Town's Land Development Code was updated by ordinance to meet current floodplain regulations which are constituted in a new Chapter of the Code (i.e. Chapter 6.5 Floodplain Management). The Capital Improvement Element of the Town's Comprehensive Plan includes an annual allocation of $50,000 for storm drainage improvements through FY-18. The Town purchased, in FY-15, a replacement emergency generator for the Town Hall for $62,000. The Town is developing plans to construct stormwater retention areas in locations both north and south of US-192.

Development

The Town of Indialantic is built-out with redevelopment occurring more often than development on vacant land due to the lack of vacant land on which to develop. As these new structures are completed it has decreased the Town's vulnerability as new construction meets updated codes.

Mitigation Mechanisms

Indialantic		
Code of Ordinances		
Sec. 17-106.2 Prohibited Signs	All signs which will constitute a hazard or potential menace to life or limb or which will endanger public safety in any manner.	All Facilities
SEC.17-106.1 Signs	All signs shall be able to with stand the force of 130 MPH winds.	All Facilities
Comprehensive Plan		
	Mitigation expenditure for replacement of emergency generator for Town Hall for fiscal '15-- $61,500	
	Storm drainage improvements for fiscal '16-- $50,000	All Utilities
	Storm drainage expenditure for fiscal '15--$71,129	All Utilities
CCME.P.1.4	Review stormwater management ordinance to insure Lagoon protection***	All areas
CCME.P.1.5	Participate in beach and dune renourishment programs***	All Facilities
CCME.P.1.9	Protect and conserve water recharge areas, beaches, marshes***	All areas
CCME.P.2.1	First priority for water-dependent uses shall be recreational facilities***	All areas
CCME.P.4.1	Only maintenance funds will be expended on infrastructure in CHHA***	All areas
FLUE.1.1	Adopt regulations for areas that flood, provide drainage***	All areas
FLUE.4.1	Educate residents to effects of fertilizer runoff and dumping of debris***	All areas
FLUE.4.4	Continue to use and enforce water shortage ordinance***	All areas
FLUE.5.1	Project evacuation impact of Town on overall Beaches evacuation plan***	All areas
IE. 2.1.3	Discharge of untreated stormwater runoff from new development is prohibited	All areas
IE. 4.3	Promote water conservation devices and evaluate need to require them***	All areas

IE.1.3	Supports water/sewer line improvement to reduce cost to environment***	All areas
IE.2.1.2	After stormwater study, adopt policies to reduce untreated runoff***	All areas
IE.4.1	Ensure all areas of Town have proper size water lines for fire protection***	All areas
IE.4.2	Ensure that all water lines are flushed to provide sediment free water***	All areas
IE.5.1	Encourage return water conservation from water-to-air units in older houses***	All areas
Policy 7.1	Drainage improvements of $50,00 annually through 2018.	All Utilities
Policy 7.1	2009/10 FEMA $26,250 plus general fund $8750 for fire station bay door and window hardening.	Government Facilities Only
Policy 7.1	2010/11 $40,000 from general fund for replacement of Town Hall emergency generator	All areas

Mitigation Capabilities and Development Summaries

Indian Harbour Beach

Building Department

The Building Department and Building Official are supported by a City Planning Consultant. The department is responsible for reviewing site plans, subdivisions and building permits. The City has adopted and continues to adopt updates to support the various codes including the Florida Building Code. It, also, reviews development requests as they relate to consistency with the Zoning Ordinance and the Comprehensive Plan. The Building Official enforces the Floodplain Management regulations and works with the Fire Marshall with respect to Fire Prevention and plan review.

Public Works Department

The Public Works Department maintains the City's infrastructure which includes local streets as well as drainage. This department has the prime responsibility in the National Pollutant Discharge Elimination System (NPDES) program. This department assists the Police Department during emergency operations. It has a major responsibility in hurricane preparedness and post-storm recovery operations.

Fire Department

The City has a Volunteer Fire Department which consists of 30 volunteers. The department operates out the City's one fire station. The City's Insurance Service Office (ISO) rating is three and the Fire Department's rating is four. The department has two engines and a 75 foot ladder truck. The Fire Department answers, on average, 110 calls per year. It is on standby during emergency situations and assists with hurricane evacuation and post-disaster operations.

Police Department

The City's Police department consists of 19 sworn officers. The department is responsible for public safety, and it plays a primary role in hurricane evacuation and post disaster operations. This includes re-entry to the City after a disaster. One of the purposes of the Department is to reduce the vulnerability of residents and the City to loss of life and injury including damage to or loss of property.

Development

In the City of Indian Harbour Beach there has not been much change in vulnerability since the City is almost completely built out, with less than 100 acres remaining to be developed. The remaining acreage is mostly made up of infill parcels located within residential and commercial areas. The City, also, has no room to increase its size through annexation. The City does adhere to its Future Land Use policy in the Comprehensive Plan by "not increasing the density and intensity of land use in the Coastal High-Hazard Area".

Mitigation Mechanisms

Indian Harbour Beach		
Building Code		
BHC.Sec.109	Adoption of flood hazard boundary maps and flood insurance rate maps***	All areas
BHC.Sec.20-2	No unsanitary sewage, industrial waste, etc. shall be discharged into drain***	All areas
BHC.Sec.6-109	Intent and purpose to comply with Federal Flood Insurance requirements***	All areas
BHC.Sec.6-145	All new structures must comply with Coastal Zone Protection Act of 1985***	All areas
BHC.Sec.6-112	Water supply systems shall minimize infiltration of floodwaters***	All areas
BHC.Sec.6-112	Construction/improvement lowest floor no lower than BFE or 6 1/2' above MSL***Applies to all new or substantial improvement of residential and non-residential construction. In all A zones, may be flood proofed in lieu of being elevated provided areas are watertight. Elevated buildings with foundation below BFE shall be designed for parking, access or storage.	All areas
BHC.Sec.6-145	Encroachments in floodways prohibited unless certified by engineer***	All areas
BHC.Sec.6-145	No variance will be granted if flood heights or safety are compromised***$2,265,000 1998-99	All areas
BHC.Sec.8.5-3	No person shall intentionally cause the release of hazardous material***	All areas
Capital Improvement Plan		
CIE.P.C1-4.2	Developers must provide on-site facilities for sanitary sewer, water, etc.***	All areas
CIE.P.CI-5.1	Developers must provide sewer, drainage, lessening public expenditure***	All areas
CIE.P.CM-11.1	City requires developers to finance, install water, sewer lines, streets***	All areas
CME.P.CM-2.2	Enforce ordinances minimizing excess freshwater runoff, pollution sources***	All areas
Comprehensive Plan		
AR.P.AR-1.1	Regulate land use to protect functions of drainage and recharge***	All areas
CE.P.C-1.2	Prohibit non-permitted open burning of trash and debris***	All areas
CE.P.C-2.1	Enforce Stormwater Management Ordinance controlling runoff***	All areas
CE.P.C-2.5	Ensure that LDR require availability of potable water prior to development***	All areas
CE.P.C-5.2	Cooperate with all appropriate agencies in planning for hazmat problems***	All areas

CME.CM-4.4	No new construction permitted that threatens dune systems or beach***	All areas
CME.P.CM-3.1	Establish priorities for shoreline uses, standards for development***	All areas
CME.P.CM-3.2	Review, enforce hazard mitigation regulations related to building practices***	All areas
CME.P.CM-4.1	Monitor beachfront development to insure dune system preservation***	All areas
CME.P.CM-5.2	Require developers to install infrastructure***	All areas
CME.P.CM-6.1	City shall discourage development in coastal high-hazard areas***	All areas
CME.O.7	The City shall work toward reducing its local hurricane evacuation times based upon the most current Brevard County Emergency Management Plan.	All areas
CME.P.CM-7.4	City shall limit development that increases hurricane evacuation times***	All areas
CME.O.8	The City shall continue to improve its post disaster redevelopment plan which will reduce the exposure of human life and public and private property to natural hazards.	All areas
CME.P.CM-8.2	Post-disaster redevelopment planning based on reduction of risk to life***	Redevelopment
D.P.D-1.3	City shall control drainage of stormwater to minimize impact on system***	All areas
D.P.D-1.4	Control development of storm sewers to insure maintenance of canals***	All areas
D.P.D-2.2	Enforce stormwater management ordinance for runoff retention***	All areas
D.P.D-2.5	Determine feasibility of updating storm treatment facilities***	Retrofit
FLUE.P.LU-5.1	Continue to monitor density of developments, especially in high-hazard area***	All areas
PW.P.PW-1.2	Developers are required to install potable water distribution facilities***	All areas
PW.P.PW-2.2	Adopts Melbourne's LOS at 120 gallons per capita per day***	All areas
SS.P.SS-1.2	Developers required to install sewage collection facilities***	All areas
SS.P.SS-1.3	Septic tanks for new development are not permitted***	All areas
Land Development Code		
Sec. 101-24	Proposed development must provide for construction of stormwater system***	All areas
Sec. 101-27	Hazardous waste disposal systems adequately maintained for development***	All areas
Sec. 101-28	Fire protection systems adequate to serve needs of development***	All areas
Sec. 108-4	Specific prohibitions on development in wetlands***	All areas

Sec. 108-5	Mitigation shall occur at ratio of 2:1 for replacement of wetlands***	All areas
Sec.101-25	Potable water service to be provided prior to CO issuance for development***	All areas
Sec.101-26	Wastewater collection, treatment and disposal available prior to occupancy***	All areas

Mitigation Capabilities and Development Summaries

Malabar

Building Department

The Building Department is responsible for reviewing site plans, subdivisions and building permits. The Town has adopted and continues to adopt updates to support the various codes including the Florida Building Code. It, also, reviews development requests as they relate to consistency with the Zoning and the Comprehensive Plan. The Building Official also enforces the Floodplain Management regulations.

Fire Department

Malabar Fire Rescue provides emergency services to the resident of Malabar Florida. This Department is on standby during emergency situations and assists with hurricane evacuation and post-disaster operations.

Public Works Department

The Public Works Department provides a variety of services to the residents of Malabar including: vehicle and equipment maintenance, building maintenance, road and sign maintenance, and parks and grounds maintenance. The Department repairs and performs preventative maintenance and modifications to all Town structures, cleans and repairs all storm drain inlets, cleans storm drain swales, maintains Town streets, replaces damaged signs, and installs new signs as required.

Development

There have been several stormwater upgrades and projects over the last five years in the town of Malabar that have decreased the potential flooding while improving water quality. Regular maintenance of culverts, ditches, and catch basins has also decreased flooding potential. The Town also promotes wildfire awareness through outreach to residents. These items have decreased the overall vulnerability of the Town.

Mitigation Mechanisms

Malabar		
Capital Improvement Plan		
IE.4-4.1.1	Require retention of open space for all development to preserve aquifer***	All areas
Code of Ordinances		
9.3.2	Minimize expenditure of public money for costly flood control projects.***Refers to alterations of isolated 100-year floodplain	All areas
9.3.6	...providing for the sound use and development of flood-prone areas...***	All areas
9.3.7	Ensure ... home buyers are notified that property is in a flood area.***	All areas
9.5	Basis for establishing areas of special flood hazard.***	All areas
9.5	Variances shall not be issued within any designated floodway ...***	All areas
9.5.11	The costs of providing gov. services during and after flood conditions...***	All areas
9.5.3	The susceptibility of the proposed facility ... to flood damage ...***	All areas
9.5.9	The safety of access to the property in times of flood ...*** Refers to alteration of isolated 100-year floodplains	All areas
9.91	General standards for all areas of special flood hazard.***	All areas
9.91	(1) Residential construction ... no lower than the base flood elevation...***	All areas
9.91.(3)b	Electrical, plumbing ... prohibited below the base flood elevation.***	All areas
9.91.(4)a	(4) Floodways ... Prohibit encroachments ...***refers to alteration of isolated100-year floodplains	All areas
9.91.3	New construction ... shall be constructed ... resistant to flood damage.***Refers to alteration of isolated 100-year floodplains	All areas
9.91.4	New construction ... shall be constructed [to] ... minimize flood damage.***	All areas
9.93	... areas of special flood hazard...designated as shallow flooding areas.***Refers to alteration of isolated 100-year floodplains	All areas
9.93.1.a	All subdivision proposals shall ... minimize flood damage.***	All areas
9.93.1.b	All subdivision [utilities] ... constructed to minimize flood damage.***Excepting parks and recreation	All areas
9.93.1.c	... adequate drainage to reduce exposure to flood hazards.***	All areas
9.93.1.d	Base flood elevation data shall be provided for subdivision proposals ...***	All areas
III.1.3.3.1	Individual septic tanks ... must receive development orders ...***	All areas

III.1.3.3.3	Regulating Use of Septic Tanks and Wastewater Disposal Fields***	All areas
IV.1.4.1.1	stormwater/flood protection permits required for all development***	All areas
IV.1.4.1.4	Conserve and protect the natural environment ...***	All areas
IV.1.4.1.G	Flood Prone Land and Wetland Preservation...***	All areas
VIII.1.8.11	Surface water management permit application and review procedures.***Help maintain a stable tax base by providing for the sound use and development of flood-prone areas in such a manner as to minimize flood blight areas.	All areas
VIII.1.8.2	...responsible stormwater management and flood protection practices...***	All areas
VIII.1.8.5	Surface water management permit application and review procedures.***Ensure that potential home buyers are notified that property is in a flood area.	All areas
VIII.1.8.8	Additional stormwater management policy for flood hazard zones...***	All areas
VIII.1.8.8.1	Additional stormwater management policy for flood hazard zones...***	All areas
VIII.1.8.8.2	The velocity of the regulatory flood must not be adversely altered...***	All areas
VIII.1.8.8.5	The flood protection elevation shall be set for each project...***	All areas
VIII.1.8.8.6	... lowest floor elevated to the flood protection elevation ...***	All areas
VIII.1.8.8.7	... lowest floor elevated to the flood protection elevation ...***	All Permit Applications
VIII.1.8.8.9	Sewage, potable water supply systems ... flood protection elevation.***	All areas
XVII.1.17.1	Requirements for Central Water Systems***The areas of special flood hazard identified by the Federal Emergency Management Agency in its report entitled "Flood Insurance Study for the Town of Malabar," dated March17, 2014, with accompanying flood boundary-floodway map, and the flood insurance study including wave heights...	All areas
Comprehensive Plan		
CE.6-1.2.2	Agricultural activities shall not be conducted adjacent to waterways***	All areas
CE.6-1.2.3	New development in service area must connect to wastewater system***	All areas
CE.6-1.2.4	Requires new development to preserve shoreline vegetation and requires coastal preservation. 99% of Town coastline is “no build area”***	All areas
CE.6-1.2.7	Where non-potable water is available for irrigation must be used***	All areas
CE.6-1.4.1	No wetland development except passive recreation, open space, etc.***	All areas

Chapter 4 p. 4.6 Drainage Analysis	Install baffle boxes along lagoon	Required Retrofit Only
Chapter 4 p. 4.6 Drainage Analysis	Retrofit ditches	Required Retrofit Only
CME..5-1.1.1	Implement policies to protect the Indian River Lagoon***	All areas
CME.1.1.3	Incorporate criteria in land regs that no native vegetation be removed***	All areas
CME.5-1.1.1	Adopt wetlands protection ordinance to prohibit development***	All areas
CME.5-1.1.5	Coastal development shall not alter tidal flushing/circulation patterns***	All areas
CME.5-1.3.1	Town-funded public facilities shall not be built in CHHA***	All areas
CME.5-1.4.1	Incorporate policies to direct population concentrations away from CHHA***	All areas
CME.5-1.7.5	Structures receiving damage of more than 50% must meet current laws***	Redevelopment
FLUE.1-1.3.3	New industry shall not endanger groundwater quality or potable water supply***	All areas
FLUE.1-3.1	Management of land will be coordinated with natural systems, infrastructure***	All areas
FLUE.1-3.1.3	Development regs revised to regulate flooded areas, drainage, recharge***	All areas
FLUE.1-3.5.2	Land development code will protect Indian River Lagoon, drainage, recharge***	All areas
FLUE.1-3.5.5	Developer/owner responsible for managing on-site runoff***	All areas
FLUE.1-3.5.6	Potable water supply conserved by enforcing standards of development	All areas
HE.3-1.3.1	Prohibit structures including mobile homes not hurricane resistant***	All areas
IE.4-1.3.1	Septic tank and package treatment plants stay in service until centralized***	All areas
IE.4-2.1	Reconcile existing service deficiencies with coordinative projects***	All areas
IE.4-3.1.3	Town shall implement adopted master stormwater drainage plan***	All areas
IE.4-4.1.3	Amend stormwater regs to require runoff retention to recharge groundwater***	All areas
Land Development Code		
94-4Sec.IX.P	Proposed use shall not generate hazardous waste without approved	All areas
Or.94-3.Sec.	Residential sites in aquifer recharge area without central water, 2/u/acre***	All areas
Ord.94-3.Sec	Impervious surface ratio of 50% for single family residence and 50% open***	All areas
Ord. 2014-02	Amends Chap. 9 adopting flood hazard maps; designating floodplain administrator; adoption procedures and criteria	All areas

	for development on flood hazard areas; providing for definitions; adoption local administrative amendment to the Florida Building Code; amending section 6-1 of the codes of ordinances***	

Mitigation Capabilities and Development Summaries

Melbourne

Community Development Department

The Community Development Department processes all applications for annexations, comprehensive plan amendments, rezonings, subdivision plats, conditional uses, and formal site plans. The Community Development Department is responsible for ensuring that the Comprehensive Plan meets all statutory requirements including coastal management components such as the designation of coastal high hazard areas principles for hazard mitigation and addressing coastal flooding events. This Department is also charged with ensuring that all development and redevelopment is consistent with the City's Comprehensive Plan and Land Development Regulations.

Public Works and Utilities Department

The Public Works and Utilities Department is responsible for providing potable drinking water, wastewater treatment, and reclaimed water for properties within the City's service areas. The water service area includes approximately 170,000 customers both within the City of Melbourne and outside of the municipal limits. The City's wastewater system serves approximately 80,000 customers. The City also maintains 25 miles of reclaimed water lines. This Department maintains all City owned roadways and drainage facilities. Such infrastructure includes storm water conveyance and flood control structures as well as all City owned roadways. This Department also plays an important role regarding hurricane preparedness and post-storm recovery.

Engineering Department

The Engineering Department coordinates the City's NPDES permits with the Florida Department of Environmental Protection. This Department also administers the City's Stormwater Utility. The City of Melbourne's Stormwater Utility was established in 1999 to address localized flooding as well as environmental issues related to stormwater runoff. The City of Melbourne uses these funds to construct flood prevention projects, as well as stormwater treatment systems that clean polluted stormwater before it can enter Melbourne's waterways.

Police Department

The Melbourne Police Department has over 265 law enforcement professionals who are dedicated to providing modern, efficient police services. The Department is committed to provide a safe and secure environment for every person in the City by controlling crime, reducing the fear of victimization, and maintaining a visible presence. The Marine Patrol provides emergency services to residents and visitors on public waterways. The Department is also responsible for coordinating evacuation procedures during times of emergencies or natural disasters. In addition, the Police Department provides supervision and direction during post-recovery periods (including re-entry into the City after a storm).

Fire Department

The Department is committed to responding to community needs by providing for the protection of life and property through innovative Emergency Medical Care, Fire Suppression, and Hazard Mitigation Services. All eight fire stations are licensed in advanced life support and are staffed by paramedics. Fire Department personnel also aid in community disaster relief. This Department is charged with the evaluating and updating of the City's Emergency Management Plan. The Fire Department also works

closely with the Brevard County Emergency Management personnel regarding hurricane preparation and other potential emergency conditions. The Code Compliance Division is responsible for public education, building inspections, and fire investigations.

Code Compliance Division

The Code Compliance Division reviews building permit applications for new structures, demolition of existing structures, as well as renovations and additions to existing buildings. All development permit applications are reviewed by the Code Compliance Division for compliance with National Flood Insurance Program requirements as well as all local Code regulations. The Code Compliance Division serves as the storehouse for Flood Maps, Elevation Certificates, and other related documents. The Community Rating System Coordinator position is also located within this department.

Development

From a development standpoint, the City of Melbourne has maintained its commitment to not increasing vulnerability. In 2017, the City updated its Coastal Management Element to address peril of flood requirements. The amendments reinforced activities that the City is already undertaking, including participation if the National Flood Insurance Program Community Rating System (CRS) and enforcement of the Florida Building Code and federal floodplain regulations. The amendments also proposed that the City undertake a study to evaluate options regarding the establishment of Adaptation Action Areas (AAAs) in locations that experience coastal flooding due to high tide events, storm surge, and the related impacts of sea level rise. This study will include public input and participation. A final modification pertained to the definition of the Coastal High Hazard Area. Two new maps and several map updates were also adopted as part of the Coastal Management Element amendments. The map revisions included a depiction of the 2060 High Water Scenario for Sea Level Rise as identified by the National Oceanic and Atmospheric Administration (NOAA), an identification of Future Land Use categories in the coastal area, and recognition of the City's Coastal High Hazard Area as identified by the Sea, Lake, and Overland Surges from Hurricanes (SLOSH) Model. In addition, the City has annexed almost three-square miles of property west of I-95. This property, which is part of the St. Johns River floodplain, will be given a Conservation Future Land Use Map designation. A Conservation designation will provide for the long-term protection and preservation of this environmentally sensitive natural resource. This wetland mitigation bank area will comprise a greenbelt on the City's western edge that protects Lake Washington, the primary source of drinking water for the City of Melbourne.

Mitigation Mechanisms

Melbourne		
Building Code		
IE.O1.P27	Acquire property to ensure proper maintenance of facilities on private land***(e)Hazardous materials discharge shall be prohibited. No entity and/or individual shall discharge into any stream, lake, the ground, the air, the public sewer or stormwater management system, any hazardous materials defined in this section or which would be harmful or dangerous to persons, animals or	All areas
Capital Improvement Element		
CIE.O.1.2	Public expenditures that subsidize development in the coastal high hazard areas will be limited to those improvements that are consistent with the Future Land Use Element, Coastal Management Element and Conservation Element.	All areas
CIE.P.1.2.1	The City shall expend funds in coastal high hazard areas for the replacement and renewal of existing public facilities, consistent with this comprehensive plan.	All areas
CIE.P.1.2.2	The City shall continue to provide or require provision of recreational facilities within coastal high hazard areas as needed, consistent with this comprehensive plan.	All areas
CIE.P.1.2.3	The City shall continue to expend funds to maintain existing facilities and services at their existing capacity and level-of-service.	All areas
CIE.P.1.4.3	The City shall continue to maintain an inventory of any existing hazards within the City by using the hazards analysis and hazards mitigation criteria established within the Brevard County Comprehensive Emergency Management Plan and shall also identify any grant sources available to mitigate the hazards listed on the hazard inventory.	All areas
Stormwater Projects		
SW Improvements	North Riverview Dr. treatment $150,000	Required Retrofit
SW Improvements	Beachside-drainage treatment $50,000	Required Retrofit
SW Improvements	Dairy Road—Kanawha drainage improvements $150,000	Required Retrofit
SW Improvements	TMDL treatment—SW Canal $850,000	Required Retrofit
SW Improvements	North Sarno Retrofit1 $250,000	Required Retrofit
SW Improvements	Retrofit stormwater devices— Olde Eau Gallie/Downtown Melbourne $500,000	Required Retrofit
SW Improvements	S. Expansion Streetscape Phase I $225,000	Required Retrofit

SW Improvements	Headwalls at Various Locations $500,000	Required Retrofit
SW Improvements	Water Quality Master Plan $1,250,000	All Areas
SW Improvements	Sherwood Park Water Quality $500,000	Required Retrofit
SW Improvements	Eau Gallie Dam Demucking $200,000	Required Retrofit
SW Improvements	Line Street Water Quality $575,000	Required Retrofit
SW Improvements	House of Lights Quality Control Retrofit $550,000	Required Retrofit
SW Improvements	Lime Street SW Quality Retrofit $300,000	Required Retrofit
SW Improvements	Garfield St. North SW Quality Retrofit $800,000	Required Retrofit
SW Improvements	Garfield St. South SW Quality Retrofit $900,000	Required Retrofit
SW Improvements	Autumn Woods Quality Retrofit $27,5000	Required Retrofit
Water/Wastewater Projects		
W/W Improvements	Replacement of 2", 4", & 6" water lines $3,750,000	Required Retrofit
W/W Improvements	Construct 10" waterline to the Willows Subdivision $40,000	New Construction
W/W Improvements	Additional high service pump at SWTP $700,000	Required Retrofit
W/W Improvements	Construct a new 36" water transmission main from WTP to McGraw $926,160	New Construction
W/W Improvements	Construct enclosure for filtration basins $1,200,000	New Construction
W/W Improvements	Construct a north booster discharge main $880,000	New Construction
W/W Improvements	Relocate 20" water main around airport $1,750,000	New Construction
W/W Improvements	Construct a 16" water main crossing the Indian River $8,750,000	New Construction
W/W Improvements	Additional water storage facilities $1,600,000	New Construction
W/W Improvements	Replacement odor control system $1,500,000	Required Retrofit

W/W Improvements	Replace deteriorated sewer force mains $8,750,000	New Construction
W/W Improvements	Install new D.B. Lee WRF gravity interceptor $1,600,000	New Construction
W/W Improvements	Install new western lift station and force main to D.B. Lee WRF gravity interceptor $1,500,000	New Construction
W/W Improvements	Renovate lift stations including installing permanent standby generators $8,750,000	Required Retrofit
W/W Improvements	Install lift station #6 force main $2,220,000	New Construction
W/W Improvements	Rehabilitate sewer lines $8,138,200	Required Retrofit
W/W Improvements	Install new force main from western FM to Hibiscus gravity sewer $1,375,000	New Construction
W/W Improvements	Grant St. WRF Reuse Improvements Phase 2 $5,650,000	New Construction
W/W Improvements	Rehabilitate sanitary sewer manholes $2,559,133	Required Retrofit
W/W Improvements	New lift station (Dairy Road location) $675,000	New Construction
W/W Improvements	Facility improvements at Grant Street WRF $6,800,000	New Construction
City Code		
II.12.41.3	Prohibit the placement of manufactured homes (mobile homes),...***(c) Prohibit the placement of manufactured homes (mobile homes), except in an existing manufactured homes (mobile homes) park or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring standards of Section 50.52(6)(b), and the elevation standards of subsection (A)(1) above are met.	All areas
II.13.2.a	The flood hazard areas of the city ...***The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner.	All areas
II.13.2.b	... occupancy in flood hazard areas by uses vulnerable to floods ...***The safety of access to the property in times of flood for ordinary and emergency	All areas

II.13.3.1	Restrict or prohibit uses which are dangerous to health, safety ...***The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.	All areas
II.13.3.2	Require that uses vulnerable to floods ...***Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.	All areas
II.13.3.3	Control the alteration of natural floodplains, stream channels ...***General standards for all areas of special flood hazard.	All areas
II.13.3.4	Control filling, grading, dredging and other development ...***New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.	All areas
II.13.3.5	Prevent or regulate the construction of flood barriers ...***New construction or Substantial improvements shall be constructed by methods and practices that minimize flood damage.	All areas
II.13.4.1	To protect human life and health...***(1) Residential construction. New construction or substantial improvement of any residential structure shall have the lowest floor, including basement, elevated no lower than the base flood elevation. Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movements of floodwaters shall be provided in accordance with standards of subsection (3)	All areas
II.13.4.2	To minimize expenditure of public money for costly flood control projects***b. Electrical, plumbing, and other utility connections are prohibited below the base flood elevation.	All areas
II.13.4.3	To minimize the need for rescue and relief efforts associated with flooding***(4) Floodways. Located within areas of special flood hazard established in section 9-5 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris and potential projectiles and has erosion potential, the following provisions shall	All areas
II.13.4.4	To minimize prolonged business interruptions***a. Prohibit encroachments, including fill, new construction, substantial improvements and other developments unless certification (with supporting technical data) by a registered professional engineer is provided demonstrating that encroachments shall not result in any increase in flood levels during	All areas
II.13.4.5	To minimize damage to public facilities and utilities ...***b. If subsection (4)a. above is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this chapter.	All areas

II.13.4.6	... sound use and development of floodprone areas ...***All subdivision proposals shall be consistent with the need to minimize flood damage.	All areas
II.13.4.7	... potential home buyers are notified that property is in a flood area.***All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood	All areas
II.27.17	Uncontrolled drainage ... has a significant adverse impact upon the health***1. It shall be illegal and subject to the penalties provided herein for any person to construct, or arrange for, authorize, or participate in the construction of a development project within the incorporated area of the Town of Malabar without first obtaining a valid permit to construct either a stormwater management system (hereinafter referred to as a Type A Permit) or a flood protection-stormwater management system, when applicable, (hereinafter referred to as Type B Permit) pursuant to this ordinance.	All areas
II.27.17.7	Improperly managed storm water runoff ... flooding ...***When a development project is determined to be within a flood hazard zone according to the procedure set forth in Section 1-8.7(20)(a)--(e) [1-8.7(19)(a)--(e)], a Type B Permit shall be required and the project shall be reviewed under the criteria of Section 1-8.7 and must meet the following additional criteria:	All areas
II.27.17.9	Substantial economic losses result ...***When a development project is determined to be within a flood hazard zone according to the procedure set forth in Section 1-8.7(20)(a)--(e) [1-8.7(19)(a)--(e)], a Type B Permit shall be required and the project shall be reviewed under the criteria of Section 1-8.7 and must meet the following additional criteria:	All areas
II.27.18.12	To prevent damage from flooding ...***The velocity of the regulatory flood must not be adversely altered on any watercourse.	All areas
II.27.23.a.1	... storm water management systems shall be designed to prevent flood ...***The flood protection elevation shall be set for each project at the elevation of the regulatory flood plus one (1) foot. In "coastal high hazard zones," the flood protection elevation shall be established with consideration given to wind-drive wave action.	All areas
II.27.23.b.4	Runoff computations shall be based on the most critical situation ...***Residential buildings must have the lowest floor elevated to the flood protection elevation for that site.	All areas
II.27.23.b.5	All storm water management facilities ... a minimum of twenty-year life***Industrial, commercial or other non-	All areas

	residential buildings must have the lowest floor elevated to the flood protection elevation or be floodproofed as	
IV.2.32.137.	... apply for and obtain a septic tank permit ...***G. Flood Prone Land and Wetland Preservation. In order to promote and preserve natural hydrological conditions and to preserve water recharge areas, water supply and water quality, and natural habitats, the following regulations shall be applied to	All areas
IV.2.32.182	Sanitary nuisances***1. Flood Prone Land. Construction in flood prone areas shall comply with the Town's flood plain management policies.	All areas
IV.2.32.186	Unlawful use of temporary wastewater treatment facility***The purpose of this surface water management policy is to protect the health, safety, and welfare of the citizens of the Town of Malabar; to implement those drainage objectives and policies found in the Public Facilities element of the Town's Comprehensive Plan; to ensure protection of land and improvements together with natural resources through the use of responsible stormwater management and flood protection practices; to ensure replenishment of the Town's surficial aquifer system and to provide a continuing usable water supply; and to ensure compliance with level of service criteria and concurrency management policies established in the Comprehensive Plan.	All areas
XII.18.A	Mobile home parks ... efficient, economical and aesthetically pleasing ...***All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards.	All areas
XII.18.A.a.1	The minimum size of the site to be developed for a mobile home park ...***(d) All areas Base flood elevation data shall be provided for subdivision proposals and other proposed development (including manufactured home parks and subdivisions) which is greater than the lesser of fifty (50) lots or five (5) acres.	All areas
XII.18.A.a.8	All mobile home parks must be connected to public water and sewer lines.***Located within the areas of special flood hazard established in section 9-5 are areas designated as shallow flooding areas. ...	All areas
XX.a	SITE PLAN APPROVAL FOR MULTIPLE-FAMILY DWELLING DISTRICTS***Conserve and protect the natural environment including wetlands, natural habitat, drainage corridor, flood prone lands, and other environmentally sensitive lands; and ...	All areas
Comprehensive Plan		
FLUE.O.1.1	The City shall discourage and/or reduce urban sprawl.	All areas

FLUE.P.1.1.1	The City shall encourage infill development through the following mechanisms: • The use of higher density/intensity and mixed-use land use categories in areas desirable for infill development; • The use of density bonuses or targeted redevelopment programs; • Prioritizing capital improvements funding in a manner that generally assigns first priority to the renewal, reuse and/or rehabilitation of existing facilities or the replacement of existing obsolete or worn out facilities as a preferred alternative to new construction when feasible	All areas
FLUE.P.1.9.1	It is the intent of the "Conservation" land use category to provide for the long term protection and preservation of environmentally sensitive natural resource systems. The Conservation land use category is established for the long term management protection and preservation of publicly or privately owned lands that contain valuable natural resources such as wetlands, floodplains, aquifer recharge areas, and unique ecological habitat. If it is impractical to designate the area containing conservation resources as Conservation due to size, location, or other factors, the City shall have the option of obtaining a conservation easement from the property owner(s) to protect the area. Areas covered by a conservation easement shall be treated the same as areas designated as Conservation on the FLUM.	All areas
FLUE.P.1.9.2	No development is permitted within the Conservation land use category, except to support passive use and maintenance of the land. The City shall not permit development on properties designated as Conservation on the Future Land Use Map except as follows: natural resource land management activities, clearing and/or construction of walking trails; construction of boardwalks for direct access to water bodies; construction of wildlife management shelters, footbridges, observation decks and similar structures not requiring dredging and/or filling for their placement; and clearing and/or construction of electric utility, storm water management, water, or waste water infrastructure as needed to provide a public service.	All areas
FLUE.O.1.10	The Agriculture land use category accommodates single family dwelling units on large lots, agricultural uses, and supporting infrastructure and public facility uses. The maximum intensity for supporting infrastructure and public facility uses shall be .5 FAR. This land use category is intended for lands west of 1-95 which have been historically utilized or zoned for agricultural uses and those properties which can support estate sized residential uses. Lands designated as Agriculture on the FLUM are primarily associated with a greenbelt along the	All areas

	City's Western boundary. This greenbelt encompasses both historically active agricultural properties and conservation lands in an area east of the St. Johns River and Lake Washington. The greenbelt provides a protective buffer for Lake Washington, the City's principal source of potable water.	
FLUE.P.1.15.1	The protection of natural resources shall be accomplished by one or more of the following techniques, based on the degree of protection required: • Limitations on development density and intensity; • Limitations on building placement, such as required clustering of allowable development on non-sensitive portions of a site; • Limitations of building coverage or impervious surface coverage; • Requirements for setbacks and landscaped buffers sufficient to mitigate or eliminate impacts; and • Evaluation of proposed land use map amendments to ensure that they do not fail to protect natural resources. Determination of the degree of protection required and the imposition of requirements to accomplish protection shall be part of the application and review process and may result in conditions on development approvals.	All areas
FLUE.P.1.15.4	The development approval process shall ensure that new development and redevelopment is consistent with natural drainage patterns, and shall require appropriate stormwater management systems consistent with the adopted drainage level of service, natural drainage patterns, and topography and soil conditions.	All areas
FLUE.P.1.15.5	Flood plains and floodways shall be identified during the development review process and development shall be limited consistent with FEMA requirements.	All areas
FLUE.P.1.16.1	Proposed development, redevelopment, changes in zoning, and land use plan amendments shall be coordinated with the Brevard local mitigation strategy and the regional hurricane evacuation study.	All areas
FLUE.P.1.16.2	Development shall not be permitted seaward of the CCCL except where authorized by the appropriate state and federal permits. The development review process shall recommend or require the use of natural area and environmentally sensitive areas for conservation land use, based on the degree of protection required and, where	All areas

	possible, for passive recreation use through dedication of easement.	
FLUE.P.1.16.3	Development within the CHHA, as depicted on the FLUM shall not exceed ten dwelling units per acre.	All areas
FLUE.P.1.16.4	Population densities in the CHHA shall be coordinated with the East Central Florida Regional Planning Council Hurricane Evacuation Study, as updated from time to time.	All areas
FLUE.P.1.16.5	The City shall implement the applicable recommendations of the Brevard Local Mitigation Strategy.	All areas
PSFE.P.1.3.7	The City of Melbourne, in conjunction with the School District and the municipalities within the City of Melbourne shall identify issues relating to public school emergency preparedness, such as: The determination of evacuation zones, evacuation routes, and shelter locations; the design and use of public schools as emergency shelters; the designation of sites other than public schools as long-term shelters, to allow schools to resume normal operations following emergency events.	All areas
IE.SSE.G.1	To develop, operate and maintain an environmentally sound, economically efficient wastewater collection, treatment and disposal system for meeting the current and future needs within the City's Urban Service Area.	All areas
IE.SSE.P.1.1.3	Continue to operate and maintain existing collection lines and transmission mains at their present size and capacity in conjunction with the ongoing maintenance, upgrading and expansion program.	All areas
IE.SSE.O.1.2	To correct existing facility deficiencies as needed and to prevent future facility deficiencies.	All areas
IE.SSE.P.1.2.3	If a sanitary sewer transmission line is located within 300 feet of a proposed development or redevelopment project, said project shall be required to connect to the public sanitary sewer system at the owner/developer's expense.	All areas
IE.SSE.O.1.3	The City shall ensure that future demands can be met, while maintaining adequate capacity by designing and building the necessary wastewater facilities.	All areas
IE.SSE.P.1.3.7	Maintain the proper operation of the wastewater biosolids handling and disposal systems at the D.B. Lee and Grant Street WRFs.	All areas
IE.SSE.P.1.3.8	Continue to investigate those areas where septic tanks are in use within the planning area to determine the feasibility of providing collection/transmission lines for the central sewer system and encourage connection.	All areas
IE.SWE.P.1.1.4	Encourage safe disposal of hazardous waste.	All areas

IE.SWE.P.1.1.5	Promote proper disposal of bio- hazardous waste.	All areas
IE.SWE.O.1.2	To continue to ensure that adequate landfill facilities are available for disposal of solid waste collected within the Melbourne Planning Area, through cooperative and supportive actions where appropriate.	All areas
IE.DE.G.1	To provide a safe, environmentally sound stormwater management and drainage system within the Melbourne Planning Area.	All areas
IE.DE.O.1.1	To continue to provide stormwater management and drainage facilities to accommodate runoff from frequently occurring and seldom occurring storm events; the City's annual work program and development regulations will be used to accomplish this objective.	All areas
IE.DE.P.1.1.1	Maintain and enhance existing and develop new minor drainage systems for handling runoff from frequently occurring (e.g., two-, five- and ten-year) storm events consistent with the Future Land Use Element	All areas
IE.DE.P.1.1.2	Similarly maintain existing and develop new major drainage systems and regulated floodways for handling seldom occurring (e.g., 25- and 100-year) storm events.	All areas
IE.DE.P.1.1.3	Ensure that all stormwater management and drainage facilities comply with existing City, State and Federal stormwater management ordinances and regulations.	All areas
IE.DE.P.1.1.4	Establish design and operational criteria for all drainage facilities, based on the Engineering Design Standards and Procedures Manual.	All areas
IE.DE.P.1.1.5	The level of service (LOS) standards for the Drainage system facilities developed within the City of Melbourne's USB shall be as follows: • Ensure that all new detention facilities are designed to handle at least the 25-year/24¬hour storm event as a minimum requirement in accordance with the City's Stormwater Ordinance. • Using the development approval process, ensure that all retention facilities are designed to handle at least the first inch of runoff from impervious surfaces and the runoff from the first inch of rainfall over natural surfaces, as a minimum.	All areas
IE.DE.P.1.1.6	Via the land development regulations, require design of drainage systems which protect the functions of natural groundwater recharge areas and natural drainage features, and which maintain or enhance groundwater quality.	All areas
IE.DE.P.1.1.7	Acquire property or easements to ensure continued proper maintenance of systemwide drainage facilities located on privately owned lands.	All areas

IE.DE.P.1.2.1	Adopt interlocal agreements or take other multi-jurisdictional initiatives to evaluate proposals addressing drainage areas that extend across jurisdictional boundaries.	All areas
IE.PW.O.1.4	To coordinate expansion of potable water facilities to meet future needs without contributing to urban sprawl.	All areas
IE.PW.P.1.4.3	Ensure that any extension of the distribution system does not contribute to urban sprawl.	All areas
IE.PW.P.1.4.6	The City will ensure adequate water supplies are available to serve new projects prior to the issuance of a development order.	All areas
IE.RE.P.1.1.1	Prohibit uses that would be detrimental to the recharge area. Prohibited uses include: disposal of liquefied petroleum products or hazardous substances, underground storage of liquefied petroleum products or hazardous substances, automotive and marine repair facilities, automotive impounding yards, automotive and marine paint and body shops, solid waste disposal activities, new sanitary sewage treatment plants, including privately owned package plants and septic systems.	All areas
IE.RE.P.1.1.1	Limit the amount of lot coverage in surficial aquifer recharge areas to ensure an adequate quantity of water for recharge. The maximum allowable impervious surfaces in these areas shall be 65 percent.	All areas
CME.O.1.1	The City shall continue to protect, conserve and enhance wetlands, living marine resources, coastal barriers, and wildlife habitat by limiting impacts of development or redevelopment.	All areas
CME.P.1.1.13	The City shall support and coordinate with the St. Johns River Water Management District, the Department of Environmental Protection, the Army Corps of Engineers, and/or any other regulatory agency having jurisdiction in order to conserve, enhance, and protect coastal wetlands.	All areas
CME.O.1.3	The City shall protect beaches and dunes by enforcing coastal construction standards that minimize the impacts of manmade structures on beach and dune systems; and require the restoration of altered beaches and dunes, as needed.	All areas
CME.P.1.3.1	Ensure compliance with the Florida Department of Environmental Protection (DEP) Coastal Construction Control Line (CCCL) regulations that require location of construction a sufficient distance landward of the beach to permit natural shoreline fluctuations and to preserve dune stability. Construction may occur to the extent that the natural storm buffering and protection	All areas
CME.P.1.3.2	Retention of existing dunes is required. New construction must be designed to avoid impacts to the dunes, and will be restricted to areas landward of the primary dune line.	All areas

CME.P.1.3.3	New construction in coastal areas where dunes have already been damaged or destroyed is required to restore those dune areas.	All areas
CME.P.1.3.4	The City will encourage activities that protect and rebuild coastal dunes. This action will be accomplished by supporting the activities of private and public agencies (for dune restoration purposes).	All areas
CME.P.1.3.5	The City shall continue to cooperate with Brevard County, the U.S. Army Corps of Engineers and the Florida Department of Environmental Protection to re-nourish public beaches.	All areas
CME.P.1.3.6	New access to the beach will be confined to elevated structures, subject to Florida Department of Environmental Protection approval and compliance with ADA requirements.	All areas
CME.P.1.3.7	Motorized vehicles shall be prohibited from operating on dune systems, except in emergency situations.	All areas
CME.P.1.4.2	Industrial uses along any waterfront in the City shall be discouraged and shall only be permitted for uses that are water- dependent and conform to performance criteria established in the land development code.	All areas
CME.O.1.5	The City shall use the capital improvements program and annual budget to limit public expenditures that subsidize development in the coastal high hazard area, except for restoration or enhancement of natural resources.	All areas
CME.P.1.5.1	The use of local funds to subsidize new development in the coastal high hazard area shall be prohibited.	All areas
CME.P.1.5.3	Public funds may be expended for infrastructure improvements in cases where a threat exists to the public health, safety or welfare. Such improvements may involve infrastructure necessary to ensure adequate hurricane evacuation, clean drinking water, proper sanitary sewage collection and disposal, and proper stormwater management. The annual budget process and the development review process will be used to assess the appropriateness of the proposed public expenditures.	All areas
CME.O.2.1	The City shall continue to direct population concentrations away from the coastal high-hazard area, through implementation of the future land use map and through the development review and approval process.	All areas
CME.P.2.1.1	The City shall restrict residential densities for development within the coastal high-hazard areas to ten units per acre, except for the 160-unit Beach Club Condominium complex that is constructed at a density of 14.95 dwelling units per acre. This property is located on the south side of Eau Gallie Boulevard, approximately 2,150 feet west of SR Al A.	All areas
CME.P.2.2.1	Residential densities and the intensity of employment centers on the barrier island shall be limited through the Future Land Use Element and development regulations, to	All areas

	protect the ability of evacuation routes to efficiently handle projected traffic.	
CME.P.2.2.2	The City shall continue to examine the future land use pattern within the CHHA to protect the ability of evacuation routes to efficiently handle projected traffic.	All areas
CME.P.2.2.3	For dense residential developments such as apartments and condominiums outside the coastal high hazard area, the City shall encourage the construction of on-site shelters for the project residents that would meet safety standards to withstand up to a Category 4 or Category 5 hurricane.	All areas
CME.P.2.2.4	The City shall continue to work with Brevard County to ensure efficient evacuation procedures are implemented and upgraded as needed for timely evacuation.	All areas
CME.P.2.2.5	The City shall continue to work with Brevard County and the Red Cross to develop an on-going public education program to notify the public as to the necessity to evacuate as quickly as possible.	All areas
CME.P.2.2.6	The City shall participate in Brevard County's disaster related exercises.	All areas
CME.P.2.3.2	Procedures for post-disaster action shall include a system for distinguishing between immediate repair and clean-up actions needed to protect the public health and safety, versus long-term repair and redevelopment activities.	All areas
CME.P.2.3.3	Reconstruction shall be required to meet current standards for coastal construction and dune protection and restoration, so as to reduce future exposure.	All areas
CME.P.2.3.4	Recommendations provided by local agencies and in interagency hazard mitigation reports will be reviewed as available and will be implemented as feasible.	All areas
CME.O.2.6	The City shall prohibit inappropriate uses and mitigate the flood peril to existing and planned development in coastal areas that are at a high risk of flooding due to storm surge, high tide events, stormwater runoff, flash floods, and sea level rise.	All areas
CME.P.2.6.1	The City shall continue to require that construction seaward of the Coastal Control Construction Line is consistent with Chapter 163, Florida Statutes.	All areas
CME.P.2.6.2	The City will continue to participate in the National Flood Insurance Program Community Rating System to diminish flood losses and to attain flood insurance premium discounts for Melbourne residents.	All areas
CME.P.2.6.3	The City will continue to enforce the requirements of the current edition of the Florida Building Code and the federal flood plain management regulations to ensure that new	New Constructi on

	development in high risk areas is designed and constructed to minimize flood damage. Such development requirements include the use of flood resistant materials, requiring higher minimum floor elevations, etc.	
CME.P.2.6.4	By 2020, the City shall undertake a study to evaluate options regarding the establishment of Adaptation Action Areas (AAAs) in municipal locales that experience coastal flooding due to high tide events, storm surge, and the related impacts of sea level rise. The study will examine the areas shown on Map VI-7 (2060 Sea Level Rise) that are vulnerable to coastal flooding and identify needed adaptation measures and infrastructure improvements to improve resiliency in these areas.	All areas
CME.P.2.6.5	The City will continue to assess risks to life and property within coastal areas and implement appropriate development and redevelopment strategies to reduce such risks.	All areas
CME.P.2.6.6	The Coastal High Hazzard Area (CHHA) is defined as the area below the elevation of the Category 1 storm surge as defined by the Sea, Lake, and Overland Surges from Hurricanes (SLOSH) model. The City will continue to restrict maximum residential densities in this area. The CHHA is depicted on Map VI-3.	All areas
CME.P.2.6.7	Sea level rise, as projected by the National Oceanic and Atmospheric Administration, will be considered in future decisions concerning the design and location of new infrastructure and public facilities in areas at risk for coastal flooding.	Public Facilities
CME.P.2.6.8	The City is actively acquiring over two miles of property adjacent to the Indian River Lagoon for use as waterfront open space and a linear park. The City will continue to investigate the feasibility of acquiring land adjacent to the Indian River Lagoon and its tributaries, where such areas could provide open space, visual access, or provide passive recreational opportunities.	All areas
CME.P.2.6.9	The City shall provide safe and adequate evacuation capabilities by cooperating and coordinating with the Florida Department of Transportation and Brevard County to facilitate movement over state and county roads during emergencies.	All areas
CME.P.2.6.10	The City shall cooperate with state, regional, and county agencies to maintain or reduce hurricane evacuation times and work with Brevard County to ensure suitable hurricane shelter space.	All areas
CE.P.1.1.1	The City will continue to utilize its development regulations in conjunction with this element to encourage preservation, protection, enhancement and conservation of those areas	All areas

	which have limitations or are environmentally sensitive, such as wetlands, flood hazard areas or areas with severe soil limitations.	
CE.P.1.3.10	The owner/developer of all development in the City of Melbourne which requires formal site plan approval, including, but not limited to, any platting of land shall be required to perform an environmental impact assessment. If the assessment, which must be done by a qualified professional, indicates the presence of any protected species or critical habitat which supports such species, no final development order shall be issued until the regulating agency (Department of Interior, St. Johns River Water Management District, Florida Game and Fresh Water Fish Commission or other regulating agency) has reviewed the environmental assessment and indicated what requirements, limitations or restrictions must be imposed. Those stipulations and/or management plans recommended by the applicable regulatory agency or agencies will be included in the City's development order.	All areas
CE.P.1.4.4	The City will continue active participation in the Federal Flood Insurance Program.	All areas
CE.P.1.6.2	The City will make every effort to protect the primary recharge areas in the coastal ridges from adverse development or other activities which would destroy their natural function.	All areas
CE.P.1.6.3	The City will encourage preservation and maintenance of secondary recharge areas to enhance their recharge potential.	All areas
CE.P.1.6.4	The City will encourage diversion of stormwater runoff to recharge areas whenever feasible rather than discharge the runoff to surface water bodies.	All areas
CE.P.1.7.1	The City will require management of stormwater runoff to prevent diminished water quality, flooding, loss of groundwater recharge, soil erosion, sedimentation in receiving surface waters and lowering of the water table.	All areas
1.7.3	The City will encourage the use of best management practices to maintain swamps, marshes, flood plains and other wetlands for stormwater management.	All areas
CE.P.1.7.4	The City will ensure that new developments are designed to minimize, to the greatest degree practicable, changes in the quantity, quality, rate and temporal characteristics of stormwater discharge; the amount of impervious surfaces will be kept to a minimum through open space requirements. Parking spaces, for example, will be kept to a minimum in both quantity and size.	All areas

CE.P.1.7.5	The City will ensure that retention areas are designed and located to maximize their effectiveness for flow attenuation and aquifer recharge; to minimize the need for channelization; and to provide for greater safety and reliability.	All areas
CE.P.1.7.6	In developed areas, the City will encourage the use of retention and detention areas for flow attenuation and aquifer recharge as alternatives to expansion of existing drainage facilities.	All areas
CE.P.1.7.7	The City will continue to enforce the surface water runoff control ordinance, and will provide for maintenance of stormwater management facilities as part of its stormwater management program.	All areas
CE.P.1.7.9	The City has established a Stormwater Utility Fund which serves as a revenue source for projects that prevent localized flooding and addresses environmental issues related to stormwater runoff.	All areas
CE.O.1.9	To provide effective flood plain management to prevent loss of flood storage capacity and protect property.	All areas
CE.P.1.9.1	Stormwater management plans for new developments must provide on-site storage capacity equal to conditions for a 25-year, 24-hour storm. Runoff rates and volumes resulting from the project, in excess of existing rates and volumes, shall be accommodated on-site.	All areas
CE.P.1.9.2	Central water and sewer must be available for development to occur in flood plain areas in order to avoid health problems associated with wells and septic tanks in such areas.	All areas
CE.P.1.9.3	Flood plain management efforts will be coordinated with the county to avoid contradictory standards and promote health, safety and welfare.	All areas
CE.P.1.12.1	The continuation of the comprehensive planning process which includes review by SJRWMD for any development project containing a wetland larger than 1/2 acre. The protection of wetlands shall be accomplished through the use of the Comprehensive Plan, including the Future Land Use Map, and shall take into account the type, intensity or density, extent, distribution and location of allowable land uses and the types, values, functions, sizes, conditions and locations of affected wetlands. Land uses that are incompatible with the protection of wetlands and wetland functions shall be directed away from such areas. Land uses compatible with wetland areas shall include approved passive recreation, open space, restricted access to the property (where unavoidable and kept to minimum width), nature preserve or other similar land uses. All other uses	All areas

	shall be directed away from wetlands. The City shall ensure that the following measures are taken when assessing activities that may result in impacts: avoidance of wetland impacts; minimization of wetland impacts; and compensation for wetland impacts through mitigation. If the City determines direct impact upon wetlands cannot be avoided, the following mitigation measures shall be applicable: All mitigation must comply with federal, state, regional, and local agencies; Impacts must be minimized by the appropriate design measures; and; The mitigation measures are consistent with other policies of the comprehensive plan and the terms of any mitigation plans approved by SJRWMD and/or other regulatory agencies.	
CE.P.1.12.2	Future land uses that are incompatible with the protection of wetlands and wetland functions will be directed away from wetland areas through the site plan review process. All developments requiring a formal site plan, preliminary plat, or other development proposed on property identified as containing a wetland shall submit an environmental impact assessment at the time of application.	All areas
CE.P.1.12.3	Where there are sufficient uplands on an existing parcel of land or lot of record (at the time of plan adoption) to locate the proposed development, such development shall be located on the uplands. The City may allow the transfer of development rights at the future land use densities established on the future land use map, from the wetlands to the upland portion of the site. The transfer of density may occur provided other plan provisions regarding upland and floodplain resource protection, compatibility of adjacent land use, stormwater management and setbacks, etc. are met. Any mitigation plan approved shall be consistent with Policy 1.12.1 of this Element.	All areas
CE.P.1.12.4	Where sufficient uplands do not exist to avoid a taking, development in the wetlands shall be restricted to a residential use with a maximum density of one unit per five acres. Any mitigation plan approved shall be consistent with Policy 1.12.1 of this Element.	All areas
CE.P.1.12.5	Prior to construction, all necessary permits must have been issued by the Florida Department of Environmental Protection, the St. Johns River Water Management District and/or the U.S. Army Corps of Engineers, as required by the agency or agencies having jurisdiction.	All areas
CE.P.1.12.6	Future development projects west of 1-95 shall be monitored through the site plan review process to ensure the protection of wetland areas.	All areas

CE.P.1.12.7	In order to prevent development from having adverse impacts to existing wetlands, a vegetated buffer strip shall be created or, where practicable, retained in its natural state along the banks of all watercourses, water bodies or wetlands. The width of the buffer shall be sufficient to protect wetlands from the impacts of development, prevent erosion, trap the sediment in overland runoff, provide access to the water body and allow for periodic flooding without damage to structures. For wetland areas east of 1-95, a buffer width of not less than 15 feet shall be required. For wetland areas west of 1-95, the buffer width shall not be less than 30 feet.	All areas
ROSE.O.1.2	To preserve, maintain and enhance on an ongoing basis the aesthetic and recreational qualities of open space within and surrounding the City of Melbourne through passive parks, passive areas in active parks and scenic corridors.	All areas
ROSE.P.1.2.1	The appropriate use of the land in flood plain and waterfront areas will be encouraged and the protection of natural areas will be promoted through development regulations.	All areas
Land Development Regulations		
III.13.80.c	Wind Speed Zones….Hereby Established…	All areas
III.13.80.f(1),(2)	The Following Administrative Amendments…. Elevation Requirements…Coastal A Zones….AO Zones…	All areas
IX.13.150.b	The Provisions of This Floodplain Management Code… Development Wholly or Partial In Any Flood Hazard ….	All areas
IX.13.150.c	Purpose of Floodplain Management Code….Minimum Requirements To Safeguard The Public Health, Safety, and General Welfare	All areas
IX.13.150.c (1-8)	Disruption of Commerce…Prevent or Minimize Future Flooding…Manage Alteration of Flood Hazard Areas… Minimize Damage To Private and Public Utilities… Stable Tax Base… Minimize Future Expenditure… Meet Requirements of NFIP	All areas
IX.13.151.c	FIS for Brevard County…. File at the Office of The City Building Official	All areas
IX.13.153.c(1-8)	Floodplain Administrator….Review Application And Plans… Interpret Flood Area Boundaries….Provide Available Flood Elevation and Hazard Information… Reasonably Safe From Flooding…Issue Floodplain Development Permits….Building And Structures In Floor Hazard Area Comply With Applicable Provisions	All areas
IX.13.162	Pursuant To The Requirements of NFIP….Structures Exempt From FBC Meet Requirements of Floodplain Management Code	All areas

IX.13.168	Site Plans and Construction Documents	All areas
IX.13.174	Inspect Buildings… Exempt From FBC	All areas
IX.13.176	Final Inspection …. Submit a Final Certification of Elevation of The Lowest Floor	All areas

Mitigation Capabilities and Development Summaries

Melbourne Beach

Public Works

The Public Works Department provides a variety of service to the residents of Melbourne Beach. The Department provides four specific types of services: vehicle and equipment maintenance, building maintenance, road and sign maintenance, and parks and grounds maintenance. The Department repairs and performs preventative maintenance and modifications to all Town structures, cleans and repairs all storm drain inlets, cleans storm drain swales, maintains 16 miles of Town streets, replaces damaged signs, and installs new signs as required. The Public Works Department also maintains all of the Town parks and implements beautification and mitigation projects. Recent stormwater mitigation projects have reduced the potential for future repetitive loss to only two areas. Current stormwater projects have alleviated flooding problem areas. Public Works employees are now required to complete NPDES training to help recognize areas that can be improved upon.

Building Department

The Building Official is designated by the Town Manager and charged with the administration, interpretation and enforcement of the building code, flood control, coastal construction, coastal setback regulation, landscaping and trees, environmentally sensitive lands and concurrency, as set forth in the Land Development Code. New construction project guidelines regarding swales, stormwater run-off, and storm drain protection have been updated and appropriate permitting staff trained and certified.

Zoning Department

The Zoning Official is designated by the Town Manager and charged with the administration, interpretation, and enforcement of general code administration, comprehensive planning, subdivision regulation, zoning regulation, takings, vested rights, and due process, all as set forth in the Land Development Code. Future land use plans do not include any increase in density, or lot coverage. A local floodplain ordinance has been established along with webpage updates to include floodplain topics. The Town of Melbourne Beach has also joined the CRS as of 2015 and hired a permanent Floodplain Administrator. The Town's emergency management plans are also being updated.

Volunteer Fire Department

The City has a Volunteer Fire Department which consists of 30 volunteers. The department operates out the City's one fire station. The Fire Department's ISO rating is 4. The department has 2 engines, a 4WD mini-pumper equipped with a 10,000 pound winch, a 12-foot RHIB rescue boat, a 19' Carolina skiff rescue boat with full radio and light packages, and a 4X4 ATV. Above and beyond regular firefighting, the Fire Department aggressively trains to U.S. Coast Guard standards for Search and Rescue in marine environments (ocean and inter-coastal waterway). The Fire Department answers, on average, 110 calls per year. It is on standby during emergency situations, is part of the Beach Strike Team for urban interface fires, and assists with hurricane evacuation and post-disaster operations. Fire prevention efforts include education of local students via annual visits to area schools. The Fire Department mitigates disaster by performing fire and life safety inspections to businesses and homeowners and fire systems plan review, and providing homeowner insurance information. The Fire Department accomplishments include improvements to communication systems, acquiring equipment for emergency response, and conducting staff training and exercises.

Police Department

The prime function of the Melbourne Beach Police Department is the preservation of peace and order, the prevention and detection of crime, the apprehension of offenders, the protection of persons and property under the laws of the State of Florida, the ordinances of the Town of Melbourne Beach, and the performance of a multitude of tasks relating to public welfare and safety. The department also plays a role in hurricane evacuation and post-disaster operations. This includes re-entry to the City after a disaster. The Department is also updating radio systems to improve mutual aid and other emergency communications.

Development

The Town of Melbourne Beach is built-out. Recent development trends include redevelopment of parcels due to the lack of vacant land on which to develop. As these new structures are completed, it has decreased the Town's vulnerability as new construction meets updated codes.

Over the last five years, a local floodplain ordinance has been established, the Town has joined the Community Rating System program as of 2015, a permanent Floodplain Administrator has been hired, and repetitive loss properties have been reduced to two areas by implementing stormwater mitigation projects. Current Stormwater projects, in process, mitigate flooding problem areas. Website information has been updated to include Floodplain Ordinance topics. Future land use plans have been amended to not include any increase in density, or lot coverage. New construction project guidelines regarding swales, stormwater run-off, and storm drain protection have been updated by certified and trained permitting staff. The Public Works employees are now required to complete NPDES training. Beach sea oats planting projects are ongoing through local community involvement. Emergency management plans are being updated to include Police, Fire, Public Works and Building Departments. The Police and Fire Departments are currently updating radio communications for future mutual aid conditions during statewide emergency declarations. All of the projects listed, and the development trends have made the town less vulnerable and more resilient to disasters.

Mitigation Mechanisms

Melbourne Beach		
Capital Improvement Plan		
SWI	Project Complete- In Basin 4, the Recipient will install bioretention swales, traditional swales, and curb inlet baskets with associated piping. In Basin 11, the Recipient will install a nutrient separating baffle box in the area upstream of the Driftwood Avenue outfall to the Indian River Lagoon. The project includes replacement of two roadway inlets and approximately 25 linear feet of pipe along Driftwood Avenue.--$457,306.	Redevelopment
SWI	Project Complete- Improvements to Basins 6, 7, and 8, including 500 linear feet of shallow roadside swales, two nutrient separating baffle boxes, three curb inlet baskets, and 40 linear feet of exfiltration pipe. Also includes 1100 linear feet of stormwater pipe and associated structures and regrading 300 linear feet of First Avenue.--$470,000	Redevelopment
SWI	Project Complete- Improvements to Basin 2 on Hibiscus Trail and Riverside Drive. The project includes one nutrient separating baffle box, one FDOT Type P4 Curb Inlet, 100 linear feet of new stormwater pipe, and replacement of 340 linear feet of CIPP.--$190,000	Redevelopment
SWI	Project Complete- Previous work in Basins 1 & 9--$525,354	Redevelopment
SWI	Project Complete- Work performed is in Basins 4, 6, 7, 8, 9, and 11. Town to improve stormwater conveyance in an effort to alleviate past flooding issues in the basins. The majority of the improvements are along the Pine Street and Riverside Drive corridors; both of which are routes to evacuate the beachside communities. This also includes grant above in total grant amounts.--$2,381,054	Redevelopment
SWI	Project Complete- DESIGN ONLY for drainage improvements in the vicinity of Pine, First and Second Ave.--$41,500	Redevelopment
Comprehensive Plan		
2	Dune traffic is prohibited***	All areas
3	New or reconstruction must retain first 1/2' runoff***	All areas
4.1	Upon completion of stormwater study, weirs and sediment traps installed***	All areas
5	Protect natural drainage functions with controlled grading, rate, direction***	All areas
7	Low volume plumbing fixtures required for new construction***	All areas
CIE.3.3	Development requiring public facility improvements bear the costs***	All areas

CMCE.P.10.1	Infrastructure improvements only for existing developed areas***	All areas
CMCE.P.2.1	Develop ordinances to prohibit pedestrian and/or vehicular traffic on dunes***	Retrofit
CMCE.P.3.2	Complete drain and storm management study***	All areas
CMCE.P.7.1	Infrastructure to serve new construction will be available as needed***	All areas
CMCE.P.8.1	Require low volume plumbing fixtures on new construction***	All areas
FLUE.7.0	Insure construction consistent with requirements for flood-prone areas***	All areas
IE.P.95	Require retention and treatment of first 1/2" stormwater for construction***	All areas
IE.P.96	Amend codes to require use of low volume plumbing fixtures for new building***	All areas
Land Development Code		
ART.IX.10A-7	Detention/retention systems designed to conform with SJRWMD specifications***	All areas
ART.IX.10A-8	Best management practices shall be used to retain sediment on site***	All areas
ART.IX.11A-4	Any activity impairing function of wetlands is prohibited***	All areas
ART.IX.11A-4	Residential, commercial, industrial, etc. uses prohibited with exceptions***	All areas
ART.IX.4A-94	New construction and substantial improvements shall be anchored***	All areas
ART.IX.5A-4	No major structures constructed seaward of coastal setback line***	All areas

Mitigation Capabilities and Development Summaries

Melbourne Village

Three departments serve the town with paid employees: Administration, Public Works, and Police. Even though the municipality is small, having its own police force enables the town to provide 24/7 coverage with fast response times, as well as community policing activities. All other activities are handled by various volunteer committees.

Permits and Inspections Committee

This committee is responsible for reviewing applications for permits, issue permits, works with the building official.

Town Review Board (TRB)

The Committee is designed to maintain those features of residential neighborhoods specifically identified by Town residents and the Town Commission as core community values.

Beautification Committee

The committee report on methods, concepts, and specific plans to improve the general appearance of the planting and landscaping of public property in Melbourne Village.

Neighboring Relations Committee – Reference Resolution 2011-03

This committee reports on issues, development, regulations, and problems arising from neighboring municipalities, the County, and other agencies abutting or of near impact on the Town of Melbourne Village.

Finance Committee

This committee is also responsible for submitting a proposed annual budget to the commission for consideration.

Planning and Zoning/LPA (P&Z)

This committee conducts the comprehensive planning program and prepares the comprehensive plan or elements or portions thereof for the Town of Melbourne Village.

Historical Preservation Commission (HPC)

The HPC conducts an ongoing educational program on historic sites and important events and personalities related to Melbourne Village.

Board of Adjustments (BOA)

The board of adjustment Hear and decide applications for such special exceptions hear and decide appeals where it is alleged there is error in any order, requirement, decision or determination.

Code Enforcement

This committee is designed to enforce town codes, including, but not limited to, occupational license, fire, building, zoning, litter, environmental, animal control, abandoned property, land use and sign codes and ordinances.

Development

Melbourne Village is nearly built out. It is a town of about 700 residents and one half of one square mile surrounded by Melbourne and West Melbourne. The Town is approximately 90% residential and is mostly owner occupied. There is about 20 acres of commercial land in 5 parcels, four of which are currently developed and occupied. The remaining parcel is vacant land and is anticipated to be developed in the next ten years. There have been no changes in vulnerability over the last 5 years.

Mitigation Mechanisms

Melbourne Village		
Comprehensive Plan		
IE.4-4.1.1	Incorporate regulations to retain open space for all new development to preserve water	All areas
IE.4-1.1.4	Adopt LDR's re: potable water and wastewater consistent With land use	All areas
IE.4-1.3.1	Existing package plants and septic tanks OK until centralized available-	All areas
FLUE.1-1.1.2	Regulate areas of flooding, protect aquifer recharge and wellfields	All areas
CE.P5125	Require retention of open space for development to protect surficial areas	All areas
IE.4-3.1.1	Town shall develop buffer zone requirements for areas adjacent to drainage	All areas
IE.4-1.3.4	On-site wastewater treatment systems must comply with current standards-	All areas
IE.4-3.1.2	Town shall revise stormwater management and floodplain regulations based on plan	All areas
IE.1-1.1.6	Land development regs to Include protection of wetlands	All areas
CE.P5122	Agricultural activities shall not be conducted next to existing waterways	All areas
FLUE.1-1.5.6	Potable water supply shall be conserved by enforcing standards	

Mitigation Capabilities and Development Summaries

Palm Bay

Land Development Division

The Land Development Division processes all applications for annexations, comprehensive plan amendments, rezonings, subdivision plats, conditional uses, and formal site plans. The Division is responsible for ensuring that the Comprehensive Plan meets all statutory requirements including coastal management components such as the designation of coastal high hazard areas and principles for hazard mitigation. The Division ensures that all development and redevelopment is consistent with the City's Comprehensive Plan and Land Development Regulations. The Division's Floodplain Administrator works with the Building Official to ensure consistency between the Floodplain Management Ordinance and the Florida Building Code. The Division maintains all flood zone mapping, Elevation Certificates and Letters of Map Amendment or Map Revision.

Building Division

The Building Division reviews building permit applications for new structures, demolition of existing structures, as well as renovations and additions to existing buildings. The Building Division reviews all permit applications for compliance with NFIP in consultation with the City's Floodplain Administrator as well as all local Code regulations. The Division also ensures that all new structures meet wind hazard standards in accordance with the Florida Building Code

Public Works Department

The Public Works Department maintains all City owned roadways and drainage facilities. Such infrastructure includes stormwater conveyance and flood control structures as well as all City owned roadways. This Department also plays an important role regarding hurricane preparedness and post-storm recovery. The Department administers the Stormwater Utility and ensures compliance with the City's National Pollutant Discharge Elimination System permits. Annually, the City adopts a Capital Improvements Budget that includes specific stormwater projects designed to prevent flooding and other drainage problems that is consistent with the adopted Comprehensive Plan Capital Improvement Schedule.

Police Department

The Police Department is responsible for coordinating evacuation procedures during times of emergencies or natural disasters in addition to their primary law enforcement duties. The Police Department also provides supervision and direction during post-storm recovery periods (including re-entry into the City after a storm). They are the lead agency regarding emergency operations for the City. The Code Compliance Division within the Police Department ensures continued compliance with city codes by all property owners within the City. The Police Department, along with the Fire Department, sponsors an annual Hurricane Expo to educate citizens on proper planning and preparation for hurricane season and other disasters.

Fire Department

The Fire Department is heavily involved in hurricane preparation and other potential emergency conditions, in conjunction with the Police Department. The Department provides full fire and rescue services throughout the City. The Fire Department, along with the Police Department, sponsors an

annual Hurricane Expo to educate our citizens on proper planning and preparation for hurricane season and other disasters.

Utilities Department

The Utilities Department is responsible for providing potable drinking water, wastewater treatment, and reclaimed water for properties within the City's service areas. The city operates two utilities' campuses with a total of four water treatment plants (including one Aquifer Storage and Recovery well) capable of providing up to 15.5 million gallons per day (MGD) of potable water. Palm Bay receives its water supply from groundwater drawn from 41 wells located throughout the city. These wells pull from the Floridan and surficial aquifers. The raw water is treated through reverse osmosis and lime-softening processes, then disinfected and distributed across 595 miles of water lines to customers.

The Department also operates a wastewater and a water reclamation plant; the combined treatment capacity for these two facilities is 5.2 MGD. The utility provides sanitary sewer service to approximately 40,000 residents (over 15,000 accounts) through 105 lift stations, 202 miles of sanitary sewer gravity mains, 2,500 manholes, and 58 miles of force main. Additionally, there are nine miles of reclaimed water distribution lines, providing service to several businesses, residents, and a local park for irrigation and beneficial reuse purposes.

Development

The city is experiencing a moderate rate of development. According to the City's Building Division records there have been Certificates of Occupancy issued for 650 residential units in 2019. A new Interstate 95 interchange and 1.7-mile connector road to Babcock Street SE will be opened in January of 2020 and expectations are that development will pick-up even more. They are not participating in this plan.

Mitigation Mechanisms

Palm Bay		
Capital Improvement Plan		
INF-1.1	Updated sanitary sewer master plan adopted***Applies to subdivisions of less than one acre.	New Development/ Construction Only
Comprehensive Plan		
CE.2.1E	Protect remaining natural retention areas in city***	All areas
CE.2.1I	Develop surface water management plan to abate surface water pollution***	All areas
CE.2.1L	Develop criteria to keep hazmat out of ground and surface water***	All areas
CE.2.1Q	Establish and overlay zone for areas prone to erosion and sedimentation***	All areas
CE.3.1E	Develop regs to limit percent of impervious surfaces in recharge areas***	All areas
CE.3.1F	Development in recharge areas must maintain level of groundwater recharge***	All areas
CE.3.1K	Require hookup of sanitary sewer when it becomes available***	All areas
CE.4.3A	Develop program to protect wetlands covering 5+ acres from development***	All areas
CIE.-1.2	City has not funded any infrastructure in high hazard coastal areas***	All areas
CIE-1.2	City shall not subsidize development beyond those identified in CZME plan***Four additional sites being acquired.	All areas
CME.1.1G	City will work toward acquiring vacant shoreline***	All areas
CME.1.3B	City will operate public facilities to avoid detrimental impact on water***	All areas
CME.1.3C	Develop regs to require vegetated buffer zones along Indian River***	All areas
CME.1.3E	Marinas required to provide sewage pumpout and treatment facilities***	All areas
CME.1.6A	Developer must provide infrastructure if not served now with public type***	All areas
CME.1.6B	Post-disaster redevelopment plans to include public expense analysis***	All areas
CMZ-1.3	LDR's adopted to prevent degradation of water quality in coastal zone***	All areas
CON-2.1	Adopting stormwater management plan to improve water quality***	All areas
CON-2.2	Floodplain management ordinance adopted and updated***	All areas

CON-4.2	Pilot erosion More than 125 acres of sensitive land has been acquired since 1988***	All areas
CON-4.3	35 acres of wetland habitat was acquired by city and preserved***Use may not adversely impact wellfields, aquifer recharge areas or other conservation	All areas
CON-4.5	control project completed to reduce rate of soil erosion***	All areas
CZM.1-5	Fire Dept. implemented revised emergency plan re: evacuation, sheltering***	All areas
CZM-1.3E	Require marinas to provide sewage pumpout and treatment facilities***	All areas
CZM-1.4	LDR's adopted addressing flood protection and shoreline stabilization***	All areas
CZM-1.5A	City requests appropriate agencies to have emergency power in shelters***	All areas
FLU-1.1	LDR's to provide stormwater/flood protection, protect wellfields adopted***	Redevelopment/ Reconstruction Only
FLU-1.1.B	Include in LDR's that development permitting will not cause drop in LOS***	All areas
FLU-2.1C	LDR's amended to protect sensitive areas, mitigate flood hazards***	All areas
FLU-2.2	Subdivision code adopted to require water and sewer services***	All areas
FLU-2.2E	Assess impact of development on evacuation times prior to approval***	All areas
FLU-5.1H	City shall design services, facilities to mitigate environmental impacts***	All areas
FLU-5.1J	Amend ordinance to require developers maintain common facilities***	All areas
FLU-6.1	LDR's adopted addressing floodplains, wetlands, wellfields, conservation***	All areas
FLU-6.1B	Modify LDR's to protect and preserve wetlands***	All areas
FLU-6.1C	Adopt LDR's to protect aquifer recharge areas and potable water wellfields***	All areas
FLU-6.1G	Develop a conservation district to protect sensitive lands, recharge area***	All areas
FLU-61A	Land use decisions to be based on support capability of environment***	All areas
FLUE-1.1A	Adopt LDR's to provide stormwater, aquifer, and flood protection***	All areas
ICE-1.4	Four shoreline sites acquired for preservation and conservation***	All areas
INF-1.3E	Permits shall not be issued until sewer/water facilities meet LOS standards***	All areas

INF-3.1C	City shall establish water quality characteristics for runoff and discharge***Developer to mitigate projected reductions in these times.	All areas
INF-3.1H	City shall develop urban stormwater runoff monitoring program***	All areas
INF-4.2B	City shall study feasibility of using water from canal system drinking***	All areas
INF-4.3D	Permits shall not be issued until water facilities meet adopted LOS***Includes roads and drainage	All areas
INF-4.4H	Adopt LDR's to encourage large water users to use lowest acceptable quality***	All areas
INF-4.4I	Adopt LDR's which encourage most efficient irrigation methods***	All areas
TCE-1.2F	Transportation improvements shall include environmental impact analysis***	Development/ Construction Only
Land Development Code		
170.116-117	Prohibits fencing or walls upon easements, drainage or street right-of-way***	All areas
174	Floodplain permit required prior to any development activities***	All areas
174.036(A)(3)	New construction and substantial improvements anchored to prevent flotation***	All areas
174.033(c)	Manufactured homes shall be anchored to prevent flotation, collapse***	All areas
174.036(A)(4)	New construction and substantial improvement use flood resistant materials***	All areas
174.036(A)(1)	New construction/substantial improvements use methods to minimize damage***	All areas
174.036(A)(5)	Mechanical, plumbing and electrical above design flood elevation***	All areas
Chapter.180.	City may remove from its property trees or limbs unsafe to public utilities***	All areas
Chapter.181.	Watering/irrigation of plants, yards, limited to 7-9 a.m. and 7-9 p.m.***	All areas
Chapter.186.	No communication towers at height or location that toppled would block evacuation***	All areas

Mitigation Capabilities and Development Summaries

Palm Shores

Police and Fire

Brevard County provides police and fire protection to the Town through the Municipal Service Taxation Unit (MSTU) process. This entity provides public safety to the Town, and during emergency situations they are responsible for assisting with evacuation and post-disaster operations. The Town's COOP will help to ensure the continuous function of essential operations and help to reduce the vulnerability of residents and the Town to loss of life and injury including damage to or loss of property.

Building Official

The Building Official is assisted by a Town Planning Consultant to review plans, subdivision plats, and building permits. The Town has adopted the latest Flood Insurance Maps and updates to the Florida Building Code. Development requests are reviewed for consistency with the Town's adopted Comprehensive Plan, Zoning Ordinance, Building Code, and Subdivision Regulations.

Mayor

The Town has a Strong Mayoral form of government. The Mayor is the head of the government and the chief administrator of the Town. The Mayor coordinates with other governmental officials and ensures that any disaster recovery efforts are expedited, essential functions are continuous during an emergency, and that damage assessments and debris removal are carried out.

Development

There has been a decrease in vulnerability in the Town based on the following items. The Town currently has approximately 100 plus acres remaining to be developed with much of this acreage being low density residential. This acreage is, for the most, part buffered from US1 and the Indian River by commercial land use on the east side of US1. The Town has upgraded and hardened its riverfront park and fishing pier area to better withstand wind and water damage. The Town has also purchased shutters and a generator for the Town Hall. The Town Council has adopted the latest Flood Maps and Florida Building Codes. The Town has adopted a Continuation of Operations Plan (COOP) in conjunction with Federal, State and County governments, and it adheres to its Coastal Management Policy 5.3 which states, "When considering Comprehensive Plan Amendments within the designated Coastal High Hazard Area, the Town will direct population concentrations away from the Coastal High Hazard Areas."

Mitigation Mechanisms

Palm Shores		
Building Code		
Section 16-1	Water supply systems designed to minimize infiltration of flood waters***	All areas
Section 16-9	Drainage swales shall be designed to carry storm runoff, be easily maintain***	All areas
Capital Improvement Plan		
5. Miller Cove Drainage Improvements	Clean out drainage ditch on the south side of Miller Cove RD and replace pipes as necessary. 2012-13 $15,000.	Redevelopment/ Reconstruction Only
Road Paving Project	Grading and paving approx. 800 feet along with drainage improvements. 2011-12-- $50,000	Redevelopment/ Reconstruction Only
Comprehensive Plan		
CE.1.2	Open burning of materials will be restricted***	All areas
CE.2.2	Adopt measures to protect quality and quantity of water***	All areas
CE.5.1	Activities known to adversely affect water quality/quantity restricted***Also, that residential densities are consistent with hurricane evacuation plans.	All areas
CME.7.1		All areas
CE.3.1	Development within the 100-year floodplain shall not impact properties***	All areas
CE.4.1	Site plans must assure maintenance of wetlands or mitigate destruction***	All areas
CE 5.2	Ensure that retention areas maximize aquifer recharge and flow attenuation***	All areas
CE.6.2	Town will limit percent of impervious surface covered in recharge areas***	All areas
CME.4.4	Filling of wetlands or open water for water-related uses not allowable***	All Facilities
CME.P.3.1	Require first inch of runoff to reduce pollutants entering lagoon***	All areas
CME.P.4.4	Dredging and filling to accommodate water related uses not allowed***or structures must be modified to eliminate areas prone to storm damage	All areas
CME.P.5.1	New sewers shall be floodproofed; new septic tanks have back flow preventer***	All areas
FLUE.1.1	Adopt regulations to protect wellfields, recharge areas, regulate floodland***	All areas
FLUE.3.2	Secondary aquifer recharge areas protected from effects of development***	All areas
FLUE.3.3	Development in floodplain only if significant alteration does not occur***	All areas

HE.3.1	Existing mobile home parks encouraged to upgrade through code	All areas
IE.1.3	Encourage diversion of stormwater runoff to recharge areas preferably***	All areas
IE.2.1	Untreated wastewater shall not be discharged into aquifers, surface waters***	All areas
Zoning		
Section 11.1	Mobile home stand shall not settle unevenly under weight of structure***	All areas

Mitigation Capabilities and Development Summaries

Rockledge

Community Development

The Planning Director is responsible for the Building Division, the Planning Division and the Community Redevelopment Agency. The Building Division is responsible for building permits and inspections, code compliance and contractor registrations. The Planning Division is responsible for site plan review, the comprehensive plan, and land development regulations. The Community Redevelopment Agency is responsible for economic development and façade grants.

Public Safety Department

Police Division -- The Rockledge Police Department is comprised of 58 sworn full-time law enforcement officers, 3 part-time sworn law enforcement officers, 9 part-time School Crossing Guards and 4 alternate part-time Crossing Guards, 11 Public Safety Tele-communicators (PST) along with 3 sworn officers and 1 civilian employee who are dual certified to also work in the Communications Division as PST's. The City of Rockledge Code Enforcement Officer also works under the auspices of the Police Department. The Rockledge Police Arson Investigator is also dual certified as a law enforcement officer and firefighter and also acts as the City's Fire Marshall and Fire Inspector. The police division also has 6 civilian employees and 6 volunteers to complete their mission. The Rockledge Police Division provides full service law enforcement protection, which also incorporates an Emergency Response Team, Crisis Negotiation Team, 5 School Resource Officers along with 2 Canine officers. We are a CFA Accredited police agency made up of a progressive and diverse group of highly trained men and women, both sworn and non-sworn, who are committed to keeping the 27,000 citizens and visitors in Rockledge a safe, family-friendly city. We are ready to react, respond and recover from any unusual occurrence or disaster that occurs in the City and will work together with other city departments to bring normalcy to our citizenry as soon as practical after such occurrences.

Fire Division -- As an all services response agency Rockledge Fire and EMS provides fire suppression, fire prevention and emergency medical services. In preparing for a storm event additional supplies are procured including standard station supplies and medical supplies. In addition, fuel is obtained for generators, apparatus and fuel powered machinery. All apparatus and machinery is thoroughly checked assuring absolute reliability throughout the event. Fire Stations are made as secure as possible against the winds via the use of shutters and all loose items are brought inside. Finally, an Incident/Accident Plan is created, and all personnel are familiarized with both the plan and their role in carrying it out. The plan entails all aspects of pre-storm, storm and post-storm activities with an emphasis placed on safety and both short and long term recovery.

Public Works Department

The Public Works department maintains city property in a safe and acceptable manner and supports other departments in the performance of their daily functions and in emergency situations. This includes the sanitation division which is responsible for all garbage, recycling and yard debris collection for the entire community. This is in addition to the Storm water division which is responsible for maintaining over 77 miles of storm water.

Waste Water Department

The Waste Water department maintains 57 lift stations, 94 miles of sanitary sewer gravity mains and 25 miles of force main. Additionally, there are 26 miles of reclaimed water distribution lines, providing service to many businesses and residents for irrigation and beneficial reuse purposes.

Development

The current rate of development and redevelopment seems to be on upward trend. Since the last plan update the City of Rockledge has decreased overall vulnerability. The City has developed a variety of Stormwater projects. The Lake Betsi retention area is a 60-acre lake that provides retention and treatment for almost 800 acres. In addition to Lake Betsi, the City of Rockledge has also constructed Huntington Lake which is 31 acres in size and will provide retention and treatment for an additional 100 acres that were previously untreated. That is a total of over 900 acres that the City is now treating.

In 2018, the City of Rockledge constructed a new Fire Station that is capable of sustaining 160 mph winds; this is in addition to reconstructing the master headwall which takes all of the storm water out to the river.

Mitigation Mechanisms

Rockledge		
Capital Improvement Plan		
P.4	Casa Loma Drainage Basin 10. 2015	All areas
P.4	Create 60-acre master stormwater retention in Drainage Basin 9. 2015	All areas
Comprehensive Plan		
CE.O.6.2	The City shall continue to reduce per capita consumption of fresh groundwater by its residents through conservation and reuse of existing water supplies, and through the establishment and use of non-potable supplies as appropriate.	All areas
CE.P.6.2.1	The City shall adopt specific standards which regulate the installation and operation of air/water heat pumps in a manner consistent with county policy, in order to reduce the wasteful use of groundwater by such systems.	All areas
CE.P.6.2.2	The City shall require the use of reclaimed wastewater for irrigation or other non-potable uses wherever such water is reasonably available to water users, and its use is economically feasible.	All areas
CE.P.6.2.6	New development shall not be approved unless a demonstrably secure source of potable and/or non-potable water is available to meet the projected water use demands of the development.	All areas
CE.O.6.4	Representative samples of one (1) percent or more of the natural vegetative communities found in the city shall be protected and preserved. These areas will be used for preservation, open space and recreational purposes for the citizens of Rockledge. The amount of each vegetative community which is preserved shall be adequate to ensure the persistence of all native vegetation found in the city.	All areas
CE.P.6.4.2	Areas of natural habitat within the 100-year floodplain shall be given priority consideration in the identification of lands which are publicly acquired to address passive recreational demand and open space objectives.	All areas

CE.P.6.4.8	The City shall not approve any development which would significantly and adversely alter the ecological functions of freshwater wetlands or deep water habitat. Ecological functions include: (a) Provision of wildlife and fisheries habitat; (b) Maintenance of in-stream flows and lake levels during periods of high and/or low rainfall; (c) Erosion control; and (d) Water quality enhancement	All areas
CE.O.6.5	The abundance and diversity of submerged aquatic vegetation and fish species found in the Indian River Lagoon within the zone between the Rockledge shoreline and the Intracoastal Waterway shall continue to be as great or greater, than they were in 1988.	All areas
CE.P.6.5.1	The City shall implement alternative means of wastewater effluent discharge (such as effluent reuse) which will reduce the volume of wastewater discharged to the Indian River Lagoon in order to ameliorate the adverse effects of wastewater pollution on estuarine habitat.	All areas
CE.P.6.5.3	The City shall identify means for reducing the volume of untreated stormwater discharged to surface waters, and shall develop a program to take corrective action to the greatest extent feasible, via retrofit of stormwater treatment practices.	All areas
CE.P.6.5.4	The City shall not permit shoreline development activities which would destroy or degrade the function of estuarine shoreline or deep water habitat, except where such activities are clearly in the public interest and there is no practical alternative which reduces or avoids impacts to estuarine habitat.	All areas
CE.P.6.5.5	The City shall take steps toward establishment of an estuarine buffer zone which would specify the setback from the Indian River Lagoon required to protect estuarine habitat (including intertidal, wetland and deep water habitat) and water quality from impacts caused by new development or redevelopment.	All areas
CE.O.6.7	The City shall continue to establish procedures and regulations which support state and county hazardous material management objectives, and which will reduce the number of sites at which improper use, storage or disposal of hazardous materials occurs.	All areas
CE.P.6.7.1	The City shall coordinate with the FDEP and Brevard County in the establishment of amnesty days for the collection of hazardous domestic wastes.	All areas
CE.P.6.7.3	All businesses which use hazardous materials or generate hazardous wastes shall be required to: (a) Prepare hazardous materials spill containment and clean-up plans; (b) Design drainage and sewer facilities to prevent the contamination of soils, groundwater or surface waters from hazardous materials spills; and, (c)Provide interim storage facilities for hazardous wastes generated on-site.	All areas
CE.P.6.8.1	In order to reduce the adverse consequences of floodplain development and simultaneously encourage the conservation of natural habitat, the City shall evaluate revising its flood damage prevention ordinance to limit construction within the floodplain through the provision of compensatory storage for fill placed within the 100-year floodplain.	All areas

CE.O.5.3	The City will ensure that building and development activities are carried out in a manner, which minimizes the danger to life and property from hurricanes.	All areas
CE.P.5.3.1	Guidelines for post-disaster redevelopment and hazard mitigation have been developed and are included in development regulations. These guidelines are designed to reduce or eliminate the exposure of human life and public and private property to hurricane hazards. The guidelines will incorporate the Brevard County Comprehensive Emergency Management Plan (CEMP) recommendations on hazard mitigation and other applicable interagency reports, as well as specific chapters of the City Code or articles thereof including, but not limited to, Chapter 6--Building and construction regulations.	All areas
CE.O.5.4	Over the course of the ten-year planning period, no public funds (to the effect of direct construction subsidies) will be expended which would serve to subsidize the cost of new private development or redevelopment within the coastal high hazard area (CHHA).	All areas
CE.P.5.4.2	The City shall only approve the expenditure of public funds within the CHHA for the following purposes: (1) Provide upkeep to existing infrastructure in order to maintain adopted facility standards as identified in the comprehensive plan; (2) Correct existing infrastructure deficiencies in order to meet adopted facility standards; (3) Assist in the restoration or enhancement of the area's natural resources; (4) Provide recreational facilities which support the City's objective of providing increased public access to the Indian River.	All areas
CE.O.5.5	Future development in the CHHA will be limited to water dependent or water related land uses, as identified in the comprehensive plan.	All areas
CE.P.5.5.3	Land uses within the coastal high hazard area shall be limited to recreational uses with construction limited to docks associated with neighboring single-family residential development or recreational facilities identified in the recreation and open space element.	All areas
CE.O.5.6	Within one (1) year after plan submittal or as required by Florida State Statutes, whichever is greater, levels of service standards established for public facilities in the capital improvements element will be applied in the review of all land developments in the coastal area.	All areas
CE.P.5.6.1	No development shall be approved unless sufficient public facilities are available to serve the development consistent with the level of service standards adopted as part of the comprehensive plan and identified in the capital improvements element.	All areas
CE.O.1.1	Future development and redevelopment activities shall be directed toward appropriate areas as depicted on the future land use map, coordinated with the topography, soil conditions and availability of facilities and services, and consistent with the goals, objectives, and policies of the comprehensive plan.	All areas
CE.P.1.1.2	The City shall undertake efforts to amend where necessary the existing ordinance and regulations to bring them into consistency with the adopted comprehensive plan within one (1) year of plan submittal or as required by Florida State Statute, whichever is greater. At a minimum this will include	All areas

	the following: (1) Subdivision of land within the City; (2) Signage; (3) Areas subject to seasonal and periodic flooding.	
CE.O.4.8	The present treatment system will operate at the advanced secondary level or that level required by the type of treatment. System modification and expansion (i.e. deep well, reuse) will include consideration of appropriate changes in treatment level. The City will correct existing facility deficiencies and will have chosen an alternative method for disposing of wastewater effluent.	All areas
CE.P.4.8.1	The City will investigate wastewater effluent disposal alternatives and provide coordination with the Florida Department of Environmental Protection.	All areas
CE.P.4.8.5	Wastewater reuse for irrigation, spray and fire emergencies will be included in future modification/expansion whenever cost-effective as determined by the city council.	All areas
CE.O.4.9	Throughout the planning period, the permitting and installation of additional septic tanks within the incorporated city limits will not be allowed unless an area is considered to be suitable for such use based on factors such as soils, density and land use.	All areas
CE.P.4.9.3	The City will develop a strategy to reduce septic tank use, except as identified in objective 4.9.	All areas
CE.O.4.10	Upon plan adoption, wastewater package plants will not be allowed within the incorporated city limits except in cases of overriding public benefit as determined on a case-by-case basis by the city council.	All areas
CE.P.4.10.1	The City has adopted regulations placing limitations on the use of package plants within the incorporated city limits.	All areas
CE.O.4.11	Throughout the planning period, future development within the incorporated limits of the City will be considered for approval only if it is compatible with the City's wastewater treatment plans.	All areas
CE.P.4.11.1	Approval of new development will be based in part, upon an evaluation of the impact of the development on the City's wastewater treatment system.	All areas
CE.P.4.11.3	The City will require the total costs (extension of lines, alterations to lift stations and the cost of plant capacity) for providing new wastewater service to be borne by the specific users of the service system.	All areas
CE.O.4.14	To accomplish effective groundwater recharge where soil conditions permit through the establishment and implementation of ordinance containing groundwater recharge standards, with such ordinances being submitted for adoption consideration no later than September 30, 1991, with final adoption within one (1) year following the initial submittal.	All areas
CE.P.4.14.2	Post-development groundwater recharge rates equal to or greater than pre-development rates will be used by the City to represent the minimum standard in all ordinances involving groundwater recharge.	All areas
CE.O.4.15	To protect, preserve or improve the quality of surface drainage waters being discharged from existing and future drainage systems in the City so that such discharges do not contribute to the degradation of water quality conditions in receiving water bodies or prevent the improvement of degraded conditions, and promote the continuance of establishment of health, balanced natural environments through the implementation of	All areas

	ordinances, engineering studies, inspection programs, and coordinated actions with regulatory agencies.	
CE.P.4.15.3	The City will identify various stormwater treatment measures and associated "best management practices" such as earthen berms, settling basins, filtration facilities, natural vegetation, oil/grease baffles and skimmers and similar devices intended to improve overall water quality and include them as a component of the City's site design standards and regulations, with emphasis being placed on the usage of the most efficient and cost-effective, nonpoint source pollution control techniques for each project whenever possible.	All areas
CE.P.4.15.5	The City will continue its program to reduce the number of existing points of direct stormwater discharge into receiving surface water bodies, where possible, consisting of the following procedures: a. Engineering studies will be initiated for the purpose of identifying the comparative nonpoint pollution impact of each direct discharge point, and determining relative priorities for corrective actions (or "retrofit" projects) to be undertaken, based on extent of: • Adverse impacts on receiving water body. • System retrofitting required to eliminate or minimize the adverse impacts. • Projected benefits to be accomplished. • Overall implementation feasibility. b. Facility design studies will be initiated for those direct discharge points determined to have the highest priority. c. The estimated costs of individual corrective action projects will be included as components of the capital improvements program, as regularly amended.	All areas
CE.O.4.16	All surface drainage systems under the City's authority shall receive the proper levels of operation and maintenance necessary for the effective accomplishment of their intended water management functions, with inspections of systems components.	All areas
CE.P.4.16.1	City public works staff will inspect surface water management system components and provide the required maintenance on at least an annual basis, based on financial feasibility and the link to a proposed stormwater management utility.	All areas
CE.O.4.18	To reduce existing flooding problems and to prevent additional flooding problems from being created as a result of future development through actions identified in needs assessments and engineering studies, with the actions being undertaken on a priority basis as determined in the engineering studies, with individual prioritized actions being initiated no later than one (1) year following the completion of the engineering studies, consistent with the capital improvements plan.	All areas
CE.P.4.18.2	Drainage needs assessment investigations will be initiated by the City for areas within the City which have been identified as experiencing flooding problems, for the purpose of determining the nature and extent of the flooding problems, and possible actions to alleviate the problems.	All areas

CE.P.4.18.5	One (1) measure of flood control for new development will be implemented by the City through the limitation of fill in the 100-year floodplain. In cases where there are no alternatives to fill in the floodplain, compensatory storage for such fill will be provided through excavation in adjacent upland areas (above the 100-year floodplain) of a volume equivalent to the loss of storage within the 100-year floodplain resulting from the placement of fill, where such compensatory storage do not conflict with FDEP or SJRWMD requirements and can be accomplished in an environmentally sound and economically feasible manner.	All areas
CE.O.4.19	To accomplish the protection and preservation of existing wetlands as viable components of the City's surface water management systems, to include the establishment or maintenance of desirable hydro periods, water quality conditions, and natural ecosystems, applicable ordinances (including design criteria and standards). The City will maintain established wetland standards found in the Land Development Regulations.	All areas
CE.P.4.19.1	Public infrastructure improvements that encourage the development of wetlands will be avoided except in the case of overriding public interest, for the purpose of protecting and preserving wetland areas with appropriate measures such as ordinances and development standards being used to control development in affected wetland areas.	All areas
CE.O.4.20	In order for proper and adequate surface water management facilities to be provided in response to identified needs, existing deficiencies and needs will be determined, future needs based on an analysis of the future land use plan will be estimated, cost and time requirements of corrective actions will continue to be identified, and alternative sources of revenue will be evaluated, with the above information being compiled into a surface water management plan for the entire city and any external service areas.	All areas
CE.P.4.20.1	The City will undertake a comprehensive inventory of all components of the City's surface water management system as a project of highest priority, for the purpose of identifying and describing each system component, with the inventory representing the first phase of a possible stormwater management utility program.	All areas
CE.P.4.20.7	Stormwater management systems serving new development in the City will be required by the City to employ the most efficient and cost effective pollution control techniques available, consistent with or more restrictive than state and St. Johns River Water Management District regulations, standards and design criteria.	All areas
CE.P.4.20.8	New or redesigned stormwater management systems which will use detention-type stormwater treatment facilities will also provide for the diversion of the "first flush" of runoff to separate retention areas in order to protect the water quality in the detention system from the adverse effects of direct stormwater discharges, particularly in cases where direct bleed down techniques are employed.	All areas
CE.P.4.20.9	Individual on-site stormwater treatment facilities will be inspected following their construction. A periodic inspection program with regard to proper operation and maintenance is in place.	All areas

CE.O.4.24	Water conservation will continue to be included in development regulations and public information. These regulations and public information shall incorporate the goals, objectives, policies of the conservation element which pertain to use of potable water.	All areas
CE.P.4.24.1	City development regulations will be revised to include water conservation strategies. Conservation strategies will include at least the following: (a) Installation of water conserving plumbing fixtures in new or renovated building construction which are, at minimum, consistent with the requirements of the State Water Conservation Act. (F.S. § 553.14). (b) Water reuse and/or reclamation, where appropriate, for irrigation, industrial use and other appropriate non-potable water use applications. (c) Encourage new development to use natural vegetation and/or drought resistant xeriscape plants. (d) Minimize the use of potable water by air/water heat pumps by adopting an ordinance based on the air/water heat pump model ordinance prepared by the St. Johns River Water Management District.	All areas
EAR		
PW.P.4.24.1	Revise regs to use water conserving plumbing fixtures in new/renovated bldg.***	All areas
PW.P.4.28	City will coordinate with Brevard Co. to reduce volume by 30% by 1994***	All areas
Land Development Regulations		
I.1.70.f	Provide for flood prevention, proper storm drainage, and ...***(a) Site and building regulations	All areas
I.1.95.4	... need to evacuate the recreational vehicle park ...***The objectives of this chapter are:	All areas
I.1.95.56	Coastal high hazard areas: ...***(A) DISTRICT AND INTENT. Mobile home parks developed in such a manner as to make efficient, economical and aesthetically pleasing use of the land, so restricted that same will be continually maintained by the owner, and when such is provided for in a carefully drawn plan, the city council may permit upon recommendation of the planning and zoning board such development providing the following conditions are met:	All areas
I.1.95.b	The hurricane vulnerability area ...***(6) To help maintain a stable tax base by providing for the sound use and development of floodprone areas in such a manner as to minimize future flood blight areas;	All areas
I.1.95.c	... minimum elevation requirements ...***	All areas
IV.42.10.a	The flood hazard areas of the city are subject to periodic inundation ...***(a) A Florida registered Professional Engineer or Architect must certify that the building has been designed and constructed so that below the flood protection elevation, the structure and attendant utility facilities are watertight and capable of resisting the effects of the regulatory flood. The design must take into account: flood velocities, duration, rate of rise, hydrostatic and hydrodynamic forces, the effect of buoyancy, and impacts from debris.	All areas
IV.42.10.b	... flood losses are caused by the cumulative effect ...***(b) Flood-proofing measures must be operable without human intervention and without an outside source of electricity.	All areas

IV.42.10.c	... minimum elevation requirements be established ... for streets, roads...***Sewage collection and treatment systems and potable water supply systems must be designed and located to prevent inflow or contamination of surface waters up to the flood protection elevation. Electrical and communications utilities must be designed to avoid flood damage up to the flood protection elevation.	All areas
IV.42.13.a	Restrict or prohibit uses which are dangerous to health safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;	All areas
IV.42.13.b	Require that uses vulnerable to floods, including facilities ...***No development shall be approved if such development will result in an increase in the elevation of the regulatory flood, additional threats to public safety, extraordinary public expense, nuisance impacts, or violation of the public interest, or local ordinance.	All areas
IV.42.13.c	Control the alteration of natural floodplains, stream channels ...***Individual septic tanks, aerobic septic, and individual wells must receive development orders from appropriate County and/or State entities. Land development code standards for specific individual uses may impose larger or more restrictive site/lot area requirements.	All areas
IV.42.13.d	Control filling, grading, dredging and other development which may increase erosion or flood damage.	All areas
IV.42.13.e	Prevent or regulate the construction of flood barriers which unnaturally divert floodwaters or which may increase flood hazards to other lands	All areas
IV.42.13.f	Regulate and control the minimum elevation for the construction of streets, roads, highways, buildings and other improvements; and thereby prevent damage or injury to persons or property from floods, surface drainage, storm runoff, overflow and other water conditions.	All areas
IV.42.14.a	To protect human life and health***Flood damage prevention	All areas
IV.42.14.b	To minimize expenditure of public money for costly flood-control projects***	All areas
IV.42.14.c	To minimize the need for rescue and relief efforts associated with flooding***	All areas
IV.42.14.d	To minimize prolonged business interruptions***These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities, and by the occupancy in flood hazard areas by uses vulnerable to floods or hazardous to other lands which are inadequately elevated, flood proofed, or otherwise unprotected from flood damages.	All areas
IV.42.14.e	To minimize damage to public facilities and utilities such as water and ...***It is the purpose of this chapter to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:	All areas
IV.42.14.f	To help maintain a stable tax base by providing for the sound use and development of flood-prone areas in such a manner as to minimize flood blight areas.	All areas
IV.42.14.g	... potential home buyers are notified that property is in a flood area ...***It is the purpose of this chapter to promote the public health, safety and	All areas

	general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:	
IV.42.14.h	To minimize damage to persons and properties from floodwaters....***(2) Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.	All areas
V.50.52.1.a	Twelve (12) inches above base flood elevation***(3) Control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of floodwaters.	All areas
V.50.52.1.c	Such height or elevation as may be necessary to cause all surface, storm...***It is the purpose of this chapter to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:	All areas
V.50.52.2	Nonresidential construction. New construction or substantial improvement...***(4) Control filling, grading, dredging and other development which may increase erosion or flood damage.	All areas
V.50.52.3	Elevated buildings. New construction or substantial improvements ...***It is the purpose of this chapter to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:	All areas
V.50.52.3.a.	Provide a minimum of two (2) openings ...***(5) Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.	All areas
V.50.52.3.b	... utility connections are prohibited below the base flood elevation;***The All Permit Applications objectives of this chapter are:	All areas
V.50.52.4.a	Prohibit encroachments, including fill, new construction ...***(1) To protect human life and health;	All areas
V.50.52.4.b	... shall comply with all applicable flood hazard reduction provisions ...***The objectives of this chapter are:	All areas
V.50.52.4.c	Prohibit the placement of manufactured homes (mobile homes)...***(2) To minimize expenditure of public money for costly flood control projects;	All areas
V.50.52.5.a	New construction of any street, road or highway ...***The objectives of this chapter are:	All areas
V.57.12.	A system shall be provided for draining all projects ...***It is the purpose of this chapter to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:	All areas
VI.62.76.1	... secure mobile home to the ground by the use of anchors and tie-downs...***(3) To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;	All areas
VI.62.76.1.a	mobile home ... "hurricane and windstorm resistive" ...***The objectives of this chapter are:	All areas
VI.62.76.1.b	... each mobile home shall be tied down by one of the following ....***(4) To minimize prolonged business interruptions;	All areas
VI.62.79.d.1	Suitability of land. Land subject to flooding, improper drainage ...***The objectives of this chapter are:	All areas

VI.62.83.a	Water supply. Each mobile home park, mobile home cooperative ...***(5) To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains;	All areas
VI.62.83.g	Tie down or anchorage. Mobile homes shall be tied down or anchored ...***The objectives of this chapter are:	All areas
VIII.85.36.B	On-site sewage disposal system. Where septic tanks are permitted ...***(7) To ensure that potential home buyers are notified that property is in a flood area.	All areas

Mitigation Capabilities and Development Summaries

Satellite Beach

Community Development

The Department is tasked with several responsibilities which include building and zoning issues. This includes reviewing and approving building permits to ensure compliance with the Florida Building Code and all relevant City requirements. Also included in the process is preforming the required inspection(s) for each permit issued.

Responsibilities also include the Community Redevelopment Agency, the comprehensive plan, economic development, grants and land development review. Programs developed to promote and ensure the City's sustainability initiatives are implemented and monitored by the Department.

Additionally, the Department is charged with directing both the Board of Adjustments (BOA) and the Planning Advisory Board (PAB). The BOA provides the resources to applicants and provide rulings on requests for variances from City Code. The PAB provides recommendations to City Council on matters related to zoning, land planning and code modifications.

Another facet of the Department is code enforcement which ensures compliance by both residents and business with the City Code. Codes include property maintenance issues, storage of recreational vehicles, outside storage and a host of other items.

The issuance and renewing of Business Tax Receipts also is incorporated into the Departments duties. This includes processing applications and requesting inspection by the Fire Department as required.

Fire Department

The Fire Department provides fire suppression, paramedic level advanced life support, technical rescue, hazardous materials technical response, water rescue, public education programs, community health programs, injury prevention programs and fire life safety (fire code inspections) programs. All of these programs make the City resilient to disaster and able to respond as necessary. In anticipation of the arrival of a hurricane or tropical storm, the department also communicates appropriate preparation measures and post-disaster information to citizens.

Police Department

The Satellite Beach Police Department is comprised of 23 sworn law enforcement officers and 12 full or permanent part time civilian support personnel including dispatchers. The department is committed to providing professional services to those who live in and visit Satellite Beach, including but not limited to public safety, disaster communications, hurricane evacuation operations, and enforcement, all of which contribute to a community more resilient to loss of life, injury, and damage to property. In anticipation of the arrival of a hurricane or tropical storm, the department also communicates appropriate preparation measures and post-disaster information to citizens.

Public Works

The Public Works Department maintains City property, including roadways and stormwater drainage, in a safe and acceptable manner and supports other departments in the performance of their daily functions and in emergency situations. Public Works is heavily involved in hurricane preparation and post-

hurricane clean-up operations. The department administers the Stormwater Improvement Plan for the City and undertakes projects for improvements to drainage and flood prone areas.

Support Services

Support Services coordinates with all City departments, other municipalities, and government officials, including county emergency management. Additionally, the department is heavily involved in ensuring proper communication between departments, other governmental entities, citizens, and the elected officials of the City.

Development

The city of Satellite Beach has annexed decommissioned military housing community increasing the town density by 500 residences. The annexation of these areas decreased the overall vulnerability of the city as their construction meets current building codes. Most development in the city, which is nearly built out, has been redevelopment or upgrades that must also meet current construction codes and thereby further reducing the city's vulnerability to disaster.

Mitigation Mechanisms

Satellite Beach		
Capital Improvement Plan		
CIE.O.1.3	Prohibit expenditures for development/ redevelopment east of Coastal Construction Control Line***	All areas
CIE.P.1.1.4	Fund drainage improvements to mitigate hazardous street flooding***	All areas
CIE.P.1.3.1	Protect and renourish dunes and beach excluding additional development***	All areas
Table.8-1	Stormwater drainage for flooding/pipe failure $160,000 annually through 01***	All areas
City Code		
I.30.4.5.e	Improperly managed stormwater runoff increases the incidence ...***(4) Evacuation. It shall be the responsibility of the park management to notify all park occupants of the need to evacuate the recreational vehicle park in case of fire, wind, water or other manmade disasters or acts of God.	All areas
I.30.4.6.a	Flooding is a natural, recurring phenomenon in the city.***On-site sewage disposal system. Where septic tanks are permitted by applicable City regulations and are to be utilized, the Brevard County Consumer Health Services Division shall utilize the standards of Chapter 10-6, Florida Administrative Code, to determine that on-site sewage disposal systems are permitted and under what conditions, if any. Unless a Development Order is issued pursuant to Subsection (A) hereof, no Development Order shall be issued, unless conditioned upon hook-up to an on-site disposal system operated in compliance with Chapter 10D-6, Florida Administrative Code. No Final Development Order shall be granted until the applicant shall submit to the Development Director, a certificate from the Brevard County Health Department that certifies that the site is or will be made suitable for the use of	All areas
I.30.4.6.b.1	They provide natural storage and conveyance of floodwaters.***(56)Coastal high hazard areas: Areas designated by local governments (pursuant to s. 163.3178(2)(h), F.S.) and includes areas which have historically experienced destruction or severe damage, or are scientifically predicted to experience destruction or severe damage, from storm surge, waves, erosion, or other manifestations of rapidly moving or storm driven water. These areas shall include all areas where public facilities have been damaged or undermined by coastal storms, Federal Emergency Management Agency designated V zones, areas seaward of the coastal construction control line established by the Florida Department of Natural Resources pursuant to Chapter 161, F.S., and inlets which are not structurally controlled.	All areas
I.30.4.6.b.2	They facilitate groundwater recharge.***	All areas
I.30.4.6.b.3	They provide temporary storage of surface waters that moderates flood ...***	All areas
I.30.4.6.d.1	Structures located in floodprone areas are placed at unreasonable risk ...*** (c) It is imperative that minimum elevation requirements be established for the construction of streets, roads, highways, buildings and other improvements in these areas of the City other than the flood hazard areas determined by the Federal Emergency Management Agency, in order to control, storm runoff and other water conditions.	All areas

I.30.4.6.d.2	Expensive and dangerous search, rescue and disaster relief operations...***Provide for flood prevention, proper storm drainage, and appropriate utility systems.	All areas
I.30.4.6.d.3	Roads ... may be damaged by flooding ...***Except as herein provided, the surface of the lowest level of any building or structure designed for human occupancy, excluding parking garages, shall be not less than twelve (12) inches above the mean crown of the adjoining street or streets to the lot or parcel upon which the building is constructed. The building official may waive this requirement when he is satisfied through submittal of a topographic survey and other supporting engineering documentation, that the conditions of terrain and soils provide adequate protection against the one-hundred-year flood criteria. Other considerations which must be addressed include sanitary waste disposal, either through public or private systems. In addition, the building official may require certification from a registered engineer that the finished floor is at least twelve (12) inches above the base flood elevation (one-hundred-year flood) for the area and may further require a release of liability signed by the property owner, duly recorded in the county records, releasing the city from any claims arising out of the granting of this waiver.	All areas
I.30.4.6.d.4	Flooding of developed properties ... projects to control floodwaters.***The flood hazard areas of the City of Titusville are subject to periodic inundation which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.	All areas
I.30.4.6.d.5	Normally flood-free lands are placed at risk of flooding ...***These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities, and by the occupancy in flood hazard areas by uses vulnerable to floods or hazardous to other lands which are inadequately elevated, flood proofed, or otherwise protected from flood	All areas
I.30.4.6.d.6	Water quality is degraded, the supply of fresh water to estuaries is...***Warning and disclaimer of liability. The degree of flood protection required by this article is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This article does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages.	All areas
I.30.4.6.d.7	Property values are lowered and economic activity is disrupted ...*** (a)It is the purpose of this article to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:	All areas
I.30.4.7.c.3	The dune provides protection from wave erosion for oceanfront properties ..*** (a) It is the purpose of this article to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:	All areas

I.30.6.5.a	Protect ... groundwater and surface water.*** (1)Restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion (hazards, or which result in damaging increases in erosion) or in flood heights or	All areas
I.30.6.5.b	Prevent activities which adversely affect groundwater and surface water.*** (a) It is the purpose of this article to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:	All areas
I.30.6.5.c	... stormwater management systems ... approximate natural systems.*** (2)Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;	All areas
I.30.6.5.d	Protect natural drainage systems.*** (a)It is the purpose of this article to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions	All areas
I.30.6.5.e	Minimize runoff pollution of groundwater and surface water.***(3)Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of floodwaters;	All areas
I.30.6.5.f	Maintain and restore groundwater levels.*** (a)It is the purpose of this article to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions	All areas
I.30.6.5.g	Protect and maintain natural salinity levels in estuarine areas.***(4)Control filling, grading, dredging and other development which may increase erosion or flood damage; and,	All areas
I.30.6.5.h	Minimize erosion and sedimentation.*** (a)It is the purpose of this article to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions	All areas
I.30.6.5.i	Protect, maintain and restore the habitat of fish and wildlife.***(5)Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.	All areas
I.30.6.6.a	Protect human life and health.***(b) The objectives of this article are:	All areas
I.30.6.6.b	Minimize expenditure of public money for costly flood control projects.*** (1) To protect human life and health;	All areas
I.30.6.6.c	Minimize the need for rescue and relief efforts associated with flooding ..***(b) The objectives of this article are:	All areas
I.30.6.6.d	Minimize prolonged business interruptions and damage to public facilities*** (2) To minimize expenditure of public money for costly flood control projects;	All areas
I.30.6.6.e	... providing for the sound use and development of floodprone areas.***	All areas
I.30.6.6.f	... purchasers ... are notified that the property is in a floodprone area.***(b) The objectives of this article are:	All areas
I.30.6.6.g	... vulnerable to floods are designed ... to resist flood damage.*** (3)To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;	All areas
I.30.6.6.h	Preserve natural floodplains, stream channels and natural protective ...***	All areas
I.30.6.6.i	Limit filling, grading, dredging and other development ... erosion ...***	All areas
I.30.6.6.j	Prevent unnatural diversion of floodwater to lands that are ... flood free.***(b) The objectives of this article are:	All areas

I.30.6.6.k	Maintain the normal movement of surface waters, the optimum storage ...*** (4)To minimize prolonged business interruptions;	All areas
I.30.6.6.l	Avoid the need of costly and environmentally disruptive flood management ..***	All areas
I.30.6.6.m	Encourage the use of floodprone lands as open space.***	All areas
I.30.6.6.n	Make the city eligible for participation in the National Flood Insurance Program***(b) The objectives of this article are:	All areas
II.34.41.a.5	... in the interest of public safety because of fire, flood, storm ...***(b) As used in the "Hurricane Evacuation Planning Sub-Element": The hurricane vulnerability area (Level of Threat A) as defined by the Hurricane Evacuation Study (East Central Florida Regional Planning Council). Includes the area bounded by Rockledge Drive on the west and the Indian River Lagoon on the east.	All areas
II.66.54	No person shall, by any means of locomotion, traverse or cross the crest...***(b) The objectives of this article are:	All areas
III.30.173.c	For purposes of determining concurrency, ...*** (6)To help maintain a stable tax base by providing for the sound use and development of floodprone areas in such a manner as to minimize future flood blight areas; and	All areas
IV.30.229.f.	Every use shall be so operated so that no solid material or nonsolid ...***(b) The objectives of this article are:	All areas
IV.30.231.d.	...generation, storage, disposal or use of toxic or dangerous chemicals ...*** (7)To ensure that potential home buyers are notified that property is in a flood	All areas
IV.50.143	... debris or refuse has accumulated by reason of any storm, ...***	All areas
V.	Make the city eligible for participation in the National Flood Insurance Program*** (5)To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains;	All areas
V.30.261.2	Provide for adequate minimum standards and procedures ...***(5) Street, road and highway construction. New construction of any street, road or highway shall have the crown of such street, road or highway elevated to or above the level of the highest of the following described elevations, to wit:	All areas
V.30.278	New structures or substantial improvements of structures located east ...***	All areas
VI.30.311	... regulations for protecting the city's natural and manmade resources ...***(a) Nineteen (19) feet above mean sea level; or	All areas
VI.30.362.a	Estuarine shoreline protection zone (canal/river shoreline). ...***(1) Each owner or other person having possession or control of a mobile home in an MH (mobile home) district shall secure such mobile home to the ground by the use of anchors and tie-downs so as to resist wind overturning and sliding. However, nothing herein shall be construed as requiring that anchors and tie-downs be installed to secure mobile homes which are permanently attached to a permanent structure. A permanent structure shall have a foundation and such other structural elements as are required pursuant to rules and regulations promulgated from time to time by the state department of highway safety and motor vehicles which assure the rigidity and stability of the mobile home.	All areas

VI.30.362.b	Ocean bluff protection zone ...***(a) A mobile home manufactured in accordance with the code standards, as defined by Florida Statutes and "hurricane and windstorm resistive" shall be anchored to [at] each anchor point provided on the mobile home. A mobile home not meeting these standards must be anchored with anchor points spaced as required by the state department of highway safety and motor vehicles, starting at each end of	All areas
VI.30.364.a.	... historical storm and hurricane tides ...***(b) In addition, each mobile home shall be tied down by one of the following means:	All areas
VI.30.364.c	... protect the integrity of the coastal beach and dune ...***1. A mobile home having built-in, over-the-roof ties shall be secured by the tie-down points; provided, that such built-in ties and points meet the standards promulgated by the state department of highway safety and motor vehicles.	All areas
VI.30.364.f.	No permit shall be granted unless the applicant shall have sufficient ...***2. A mobile home not having built-in, over-the-roof ties and tie-down points meeting state department of highway safety and motor vehicles standards shall be secured in accordance with standards promulgated by such department.	All areas
VI.30.391	The degree of flood protection required by this division is reasonable ...*** (d) Design requirements for mobile home parks, mobile home cooperatives, and mobile home condominiums. All mobile home parks, mobile home cooperatives, and mobile home condominiums established within the city shall conform with the following requirements:	All areas
VI.30.392	... located or maintained within any area of special flood hazard ...*** (1) Suitability of land. Land subject to flooding, improper drainage or erosion, or that is for topographic or other reasons [is] unsuitable for use as a mobile home park, mobile home cooperative, mobile home condominium shall not be used for same unless these hazards can be and are corrected.	All areas
VI.30.395	.a Dune-crossing structures, dune construction or restoration, or ...***Water supply. Each mobile home park, mobile home cooperative, [and] mobile home condominium shall be connected to a municipal water supply system. At least one above ground water service connection shall be provided for each mobile home site.	All areas
VI.30.395.b	... cause an absolute minimum disruption to the dunes, bluff or ...***Tie down or anchorage. Mobile homes shall be tied down or anchored in accordance with the requirements of Florida Statutes, Section 320.8325, and Appendix H, Standard Building Code, and regulations adopted pursuant thereto.	All areas
VII.30.472.2	Impervious surface areas of a residential lot shall not exceed ...***(c) The intent of this Article is to preserve and protect floodplains and their functions through the limitation of development in these areas.	All areas
VII.30.473.2	Impervious surface areas of a lot shall not exceed the maximum ...*** (a) In all areas of special flood hazard the following provisions are required:	All areas
VII.30.473.3	... provide pervious areas to reduce stormwater runoff ...***(1) New construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure;	All areas

VII.30.476	The use of non-permeable or impervious plastic and similar material ...*** (a) In all areas of special flood hazard the following provisions are required:	All areas
VII.30.572.a	The design and performance of all stormwater management systems...*** (2)Manufactured homes shall be anchored to prevent flotation, collapse or lateral movement. Methods of anchoring may include, but are not limited to, the use of over-the-top or frame ties to ground anchors. This standard shall be in addition to and consistent with applicable state requirements for resisting wind forces;	All areas
VII.30.572.b	The following development activities are exempt from the stormwater ...*** (a) In all areas of special flood hazard the following provisions are required:	All areas
VII.30.573.1	While development activity is underway and after it is completed...***(3) New All areas construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;	All areas
VII.30.573.2	... development activity shall not violate the water quality standards ...***(a)In all areas of special flood hazard the following provisions are required:	All areas
VII.30.574.1	Detention and retention systems shall be designed in conformance ...***(4) New construction and substantial improvements shall be constructed by methods and practices that minimize flood damage;	All areas
VII.30.574.2	To the maximum extent practicable, natural systems shall be used ...***(a)In all areas of special flood hazard the following provisions are required:	All areas
VII.30.574.3	The proposed stormwater management system shall be designed to...***(5) Electrical, heating, ventilation, plumbing, air conditioning equipment and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of	All areas
VII.30.574.4	... shall be designed to function properly for a minimum 20-year life.***(a)In all areas of special flood hazard the following provisions are required:	All areas
VII.30.574.5	The design and construction of the proposed stormwater management...***(6) New and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;	All areas
VII.30.574.6	No surface water may be channeled or directed into a sanitary sewer.***(a) In all areas of special flood hazard the following provisions are required:	All areas
VII.30.574.7	The proposed stormwater management system shall be compatible...***(7)New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters;	All areas
Comprehensive Plan		All areas
CCME.O.1.3	Prohibits public subsidization of land development/redevelopment***	
CCME.O.1.4A.2	Requires new construction rules apply to storm damage more than 67%	All areas
CCME.O.1.7	Shoreline Protection Ordinance	Redevelopment
CCME.O1.10	City shall conserve, protect, make appropriate use of soils, minerals, and native vegetative communities within the City	All areas
CCME.P.1.1.3	Establish Ocean Bluff Protection Area prohibiting construction in area***	All areas
CCME.P.1.5.4	Work with other agencies to preserve/enhance wetlands, beach, habitat***	All areas
CCME.P.1.5.5	Administer water conservation and floodplain management regulations and implement watershed and shoreline protection ordinances	

CCME.P.1.5.6	Work with SJRWMD, FDEP, FIND, etc. to clear waterways of organic rich sediments (muck)***	All areas
CCME.P.1.6.3	The City will protect from development and inappropriate alteration, natural reservations identified in the Recreation and Open Space Element	All areas
CCME.P.1.6.4	Designation environmentally sensitive lands in accordance with LDR***	All areas
CCME.P.1.6.5	City will ensure that it has the ability to manage hazardous wastes in a manner that protects natural resources and human health and safety	All areas
FLUE.P.1.7.1	Encourages elimination/reduction of uses in an interagency hazmat report***	All areas
FLUE.P1.1.1	LDR's shall prohibit development where LOS is diminished***	All areas
FLUE.P1.1.6	Correlate coastal population densities with OEMs' evacuation plans***	All areas
FLUE.P1.2.1	Minimize conditions affecting nonresidential areas of flooding***	All areas
HE.P.1.4.5	Continue ban on mobile homes within the city***	All areas
IE.O.1.2	Develop program of phased improvements over 20 years to storm drainage***	All areas
IE.P.1.1.4	Support projects to achieve water quality standards, service levels***	All areas
IE.P.1.10	City supports improvements to countywide hazardous waste program***	All areas
IE.P.1.6	Monitor progress toward reducing groundwater infiltration to 10% of flow***	All areas
IE.P.1.6	Continue sampling, testing, analysis of stormwater discharges***	All areas
IE.P.1.9	Support County's solid waste disposal service and recycling system***	All areas
Policy 1.2.9.a	Post-disaster redevelopment shall be governed by all applicable codes, city charter provisions and standards, in regard to setbacks, off-street parking and landscaping and shall decrease future public and private vulnerability to future storms by applying with applicable state and county construction regulations.	All areas
Policy 1.4A.4	The city has participated in the development of the County's Emergency Management Plan.	Redevelopment/ Reconstruction Only
Policy 1.4B.1	The city will support mitigation activities to eliminate or reduce disaster damages and to coordinate recovery efforts with long term development and hazard mitigation plans of the city. 1. S.B. Departments/agencies are encouraged to support mitigation efforts that fall within their respective missions.	All Facilities
Policy 1.4B.2	When the President makes a Disaster Declaration, the Disaster Relief Act of 1974, Section 408, as amended, sets forth certain conditions for receiving any federal disaster loans or grants, specifically the mitigation measures will be taken to prevent such damages from reoccurring.	All Permit Applications
TE.O.1.7	Recommend improvement of flooding conditions across Pineda Causeway***	All Permit Applications

Mitigation Capabilities and Development Summaries

Titusville

The City of Titusville has participated in the NFIP program since 1975. Participation in the NFIP is based on an agreement between local communities and the federal government which states that if a community will adopt and enforce a floodplain management ordinance to reduce future flood risks to new construction in Special Flood Hazard Areas (SFHA), the federal government will make flood insurance available within the community as financial protection against flood losses.

When the 2001 Florida Insurance Rate Maps Building Code (FBC) was developed, the Florida Building Commission made an administrative decision to remove the flood provisions from international codes that the FBC was based on. Instead, the code referred to local floodplain management ordinances.

That changed with the 2010 FBC (adopted in March of 2012) which now includes flood provisions that FEMA states are consistent with the NFIP requirements for buildings and structures. By law, only the FBC governs the design of buildings therefore upon adoption of the 2010 FBC there became potential conflicts with existing local floodplain ordinances. This, and numerous inconsistencies identified by the Florida Division of Emergency Management (DEM) and FEMA, prompted DEM to develop a new model ordinance and to work to get FEMA approval.

In January 2014, the City adopted an ordinance prepared by the Florida Division of Emergency Management and coordinated with the Florida Building Code in 2012. The ordinance contains language for local administrative code amendments, is specifically designed to repeal and replace existing regulations (Chapter 30, Article VII Flood Management), to satisfy the NFIP requirements, to coordinate with the FBC, and to meet the requirements of section 53.73(5) of the Florida Statue. Some improvements in the model ordinance include provisions that are clearer and more detailed, definitions that match the FBC, administrative provisions and requirements for development other than buildings.

While the NFIP has successfully required new buildings to be protected from damage by a 100 yr. flood, the program had few incentives for communities to do more than enforce the minimum regulatory standards. In an effort to encourage communities participating in the NFIP to reduce flood damages to existing buildings, manage development in areas not mapped by the NFIP, and protect new buildings beyond the minimum NFIP protection level, FEMA created a Community Rating System (CRS). Currently the citizens of Titusville receive a 15% premium discount of flood insurance policies due to the City's CRS rating of 7.

In 2012, the Federal Emergency Management Agency (FEMA) presented proposed changes to their Flood Insurance Rate Maps (FIRM) in Brevard County. The last change to this map was in 1989 and subsequently adopted by the City of Titusville.

In 2021 the City adopted Low Impact Development (LID) incentives and Best Management Practices to the City's Land Development Regulations (Ord. No. 30-2021. § 15(Exh. A), 10-26-2021). The City encourages the use of Low Impact Development (LID) Best Management Practices (BMPs) in the design of sites and subdivisions to better protect water quality and reduce flooding risks. LID is a stormwater and land use management strategy that strives to mimic pre-disturbance

hydrologic processes of infiltration, filtration, storage, evaporation, and transpiration by emphasizing conservation, use of on-site natural features, improved site planning, and distributed stormwater management practices that are integrated into a project's design, especially it's landscaping and open space. One of the goals of Low Impact Development (LID) is to *Manage stormwater close to the source*. Using source controls to minimize the generation of stormwater or pollutants that can get into stormwater needs to be the first step in managing stormwater.

Development

During the planning period, the rate of development activity has increased significantly from the previous period. Economic development efforts by State, regional and local organizations have seen an increase in private aerospace and manufacturing jobs in and adjacent to the City. In addition, an increased number of launches has resulted in increased tourism to the area.

The improved economic conditions have given rise to redevelopment of several areas of the City, including antiquated shopping malls and the downtown area. In addition, construction of hotel, single-family subdivisions and multi-family developments is occurring at a rapid pace. Due to environmental constraints, much of the remaining undeveloped land can be considered difficult to develop. The City is aware of these challenges and has adopted policies related to the Perils of Flood to reduce locating vulnerable populations in areas likely to be impacted by flooding and storm surges. In addition, the City is developing a resiliency plan to address long-term issues related to sea level rise and other vulnerabilities.

Mitigation Mechanisms

Titusville		
Capital Improvement Plan		
CIE.1.2.1	City shall only expend funds in CHHA for replacement of public facilities***	All areas
Capital Improvement Schedule		
CI Schedule for Water Resources	Water Distribution Improvements	All Utilities
CI Schedule for Water Resources	Water System Improvements FY 24-28--$6.049M total	All Utilities
CI Schedule for Sanitary Sewer	Sewer System Improvements - FY24-28 $14.002M Total	All Utilities
CI Schedule for Stormwater	Baffle Boxes BMAP FY 24-28 -- $ 1,389,000 Total	All Utilities
CI Schedule for Stormwater	Filtration Boxes BMAP FY24 – 28 -- $612,257 Total	All Utilities
CI Schedule for Stormwater	Tree Box BMAP FY24 -28 -- $210,040	All Utilities
CI Schedule for Stormwater	Titusville Causeway shoreline stabilization – FY24-25 $3,526,440 Total	All Utilities
CI Schedule of Stormwater	Stormwater infrastructure (CRA) FY 24-28 -- $240,000	All Utilities
CI Schedule of Stormwater	Dewatering Pump FY 24 -- $40,000	All Utilities
CI Schedule of Stormwater	Max Brewer Causeway Hurricane Storm Damage Reduction FY24 -- $500,000	All Utilities
Code of Ordinances		
IV.1.6.91.a	provide adequate protection against the one-hundred-year flood criteria...***(A) ... the following conditions are met:	All areas
Ch 9	Fire prevention and protection*** for the purposes of prescribing regulations governing conditions hazardous to life and property from fire or explosion, those certain codes known as the Florida Fire Prevention Code	All areas
12-27	Regulates fertilizers Overgrowth of algae and vegetation hinder the effectiveness of flood attenuation provided by natural and constructed stormwater conveyances. Regulation of nutrients, including both phosphorus and nitrogen contained in fertilizer, will help improve and maintain water and habitat quality	All areas
12-23	It shall be unlawful to permit any accumulation of any such waste materials to be in or upon any yard, lawn, garden, out-building or premises, in the city, if it constitutes a fire	All Areas

	hazard, a hazard to the safety of persons or property, or an unsanitary condition.	
Ch 13, Article II	Public Nuisances *** in the manner that it constitutes or may reasonably become a menace to life, property, the public health, the public welfare; creates a fire hazard; or provides a nest and/or breeding ground for sandflies, mosquitoes, rats, mice, other rodents, snakes, and other types of pests and vermin shall be unlawful…	All Areas
Sec21-101	Prohibited discharge standards	All Areas
Comprehensive Plan		
CME.1.1.1	Erosion control practices shall be employed for development and agriculture***	Redevelopment/ Reconstruction Only
CME.1.1.3	Industries using hazmat shall insure water is not contaminated***	All areas
CME.1.2.1	Removal of native vegetation in littoral zone of waterbody shall be eliminated***	All areas
CME.2.1.1	New construction shall adhere to NFIP standards*** 2.1.1 - The City will not consider amendments to the FLUM which result in a net increase in residential density in the CHHA. The City shall work to direct population concentrations, including nonresidential development, away from the CHHA	All areas
CME.2.1.2	Development which may jeopardize the public shall not be allowed***	All areas
CME.2.2.1	Public subsidization of infrastructure in CHHZ shall be avoided***	All areas
CME.2.2.2	Programs shall be developed to mitigate forces of hurricane events***	All areas
FLUE.1.18.1	Maintain disaster operations plan coordinated with County and KSC***	All areas
FLUE.1.18.2	Identify inland structures to function as temporary housing for evacuees***	All areas
FLUE.1.18.3	Police and fire departments shall coordinate with County in evacuating***	All areas
FLUE.1.18.4	Post-hurricane mitigation includes mechanisms for relocation of structures***	All areas
IE.3.1.3	City will initiate maintenance program for major drainage systems annually***	All areas
CE 1.1.11	Cost of restoration of environmentally damaged areas shall be borne by the party directly responsible for the damage	All areas

CE.1.2.3	The City will not allow total removal of vegetation during land development	All areas
CE 1.3.2	Development of land shall take into consideration natural constraints such as flood hazard, wetlands, soil suitability and aquifer recharge potential, and shall be restricted depending upon the severity of those constraints.	All areas
CE.1.5.2	Storage of hazardous material with "areas of critical concern" shall be regulated in accordance with the City's Aquifer Protection Ordinance	All areas
CE.1.6.1	The development of wetlands shall be addressed in the City development regulations	All areas
CE.1.10.1	The City shall provide standards or programs to protect or restore littoral vegetation in and adjacent to a waterbody in order to prevent shoreline erosion, filter out nutrients and provide wildlife habitat.	All areas
CE.1.6.6	Mitigation for unavoidable impacts to wetlands, which possess significant functional value, as determined by a functional assessment, will be addressed in the land development regulations	All areas
CE.1.10.2	Erosion and sedimentation control practices shall be employed for all urban development and agricultural activities where needed to protect natural waterbodies, water courses, and wetlands from siltation.	All areas
CE.1.12.1	The City shall develop a comprehensive surface water basin management plan for the major waterways. The planning and approval of new development, new public wastewater or stormwater facilities, and the retrofitting of existing wastewater or stormwater facilities shall conform to the comprehensive surface water basin management plans.	All areas
CE.1.12.2	The City shall institute a maintenance program for public stormwater management systems so as to ensure the proper functioning and expected pollutant removal efficiency of stormwater management systems.	All areas
CE.1.12.3	The City shall promote the conservation of natural vegetation in flood plain areas and freshwater swamps for the purpose of storing stormwater run-off.	All areas
CE.1.12.4	Flood control for new development shall be accomplished through the limitation of fill in the 100-year flood plain as defined by Federal Emergency Management Agency (FEMA). Where no practical alternative to fill in the 100-year flood plain exists, compensatory storage for such fill shall be as provided for in Strategy 1.12.4.1.	All areas

CE.1.12.5	Land exhibiting the following conditions shall be developed at a density no greater than one unit per acre unless site specific verifiable data is presented which contradicts such limiting conditions.; Flood hazard areas show on the Federal Flood Rate Maps	All areas
CE.1.13.1	The City shall require applicable best management practices for the use, handling, storage or disposal of regulated substances so as to prevent ground water contamination.	All areas
CE.1.13.2	The City shall continue to protect groundwater quality and quantity by regulating impervious surface coverage in its prime recharge area (Area of Critical Concern)	All areas
CE.1.13.3	The City shall encourage SJRWMD, FEDP and other applicable regulatory agencies to pursue additional groundwater monitoring studies on the quality of the surficial aquifer water resources within the City.	All areas
CE.1.13.4	The City shall make all reasonable efforts to coordinate with Brevard County and other municipalities supplying potable water to facilitate measures to protect groundwater quality and groundwater resources capacity.	All areas
CE.1.14.1	The City shall maintain its water conservation plan	All areas
CE.1.14.6	The City shall utilize the emergency conservation techniques in accordance with the regional water management district in times of a 'declared' severe water shortage.	All areas
Land Development Regulations		
30-96	Development for which a floodplain development permit or approval is required shall be subject to inspection.	
Sec 27-11(h)	... promote the public health, safety and general welfare ...***(a) Site and building regulations	All areas
Sec 27-11(e)	…Preserve water resources.***(LDR – intent)	All areas
Sec 27-11(f)	… Provide for flood prevention, proper storm drainage, and appropriate utility systems…***(LDR – intent)	All area
Sec 28-8(10)	... prohibit uses which are dangerous to health ...***(8) ... All mobile home parks must be connected to public water and sewer lines....	All areas
Sec 28-26	…(d) Encourage public and civic spaces for recreation, water resource management, public gatherings, and placemaking. (e) Assure flood prevention, proper storm drainage, and appropriate utility systems so development is not a burden to the DCRA….	Downtown CRA
Sec 28-27	Implement public sector initiative of the Stormwater Park Project in the downtown mixed use area	Downtown CRA

Sec 29-25	…properties abut the Indian River Lagoon,… shall be set back from the mean annual flood line (MAFL) of the Indian River Lagoon	Shoreline area overlays
Sec 29-26	All properties in the Titusville Shoreline Overlay District shall have twenty-five (25) percent of the lot width open to breeze. Breezeways are encouraged adjacent to side lot lines.	Shoreline area overlays
Sec 29-28	Submerged lands located within the shoreline district, regardless of ownership, shall not be included in any calculations of allowable residential density within any zoning district permitted in the shoreline district.	Shoreline area overlays
Sec 29-51	Regional Airport shall adhere to all provisions of Chapter 30, Article II, Division 7, Subdivision 3, Flood-Resistant Development. e	Airports
Ch 30, Article II, Div 4	Shoreline Protection is intended to improve the quality of Class II and Class III surface waters surrounding and within the City, minimize shoreline erosion, manage stormwater runoff, and protect and enhance the natural functions of these waters.	
Ch 30, Article II, Div 6	Protect the natural topography to thereby preserve the land's ability to…prevent flooding and other harmful effects***	All areas
Ch 30, Article II, Div 7	Floodplain Management Ordinance establishes the requirements to safeguard public health and property from flooding through development controls, flood-resistant construction, and management of flood hazard areas, while aligning with National Flood Insurance Program standards.	All Areas
Ch 30, Article II, Div 8	Hazardous and Toxic Materials outlines the City's commitment to minimizing environmental harm through strict regulation of hazardous materials and emphasizes regional coordination for effective management and implementation	All areas
Ch 30, Article III, Div 6	Stormwater Management and Aquifer to protect and enhance surface and groundwater resources by ensuring that stormwater runoff peak rates and volumes after development are no more than predevelopment conditions; that groundwater tables are not artificially lowered; and that precautions are taken to prevent erosion, sedimentation, flooding and water pollution	All Areas
Ch 34, Article III, Div 1	Approval of a subdivision must include adequate prevention of seasonal flooding through provisions of protective flood control and drainage facilities***	All Areas

Mitigation Capabilities and Development Summaries

West Melbourne

Planning Department

The Planning Department and Planning Director are responsible for reviewing site plans, subdivisions and business tax receipts. The City reviews development requests for consistency with the Comprehensive Plan and Land Development Regulations.

Building Department

The Building Department and Building Official are responsible for reviewing building permits and floodplain compliance. The City has adopted the Florida Building Code and the Building Official/Fire Marshall works with the County Fire Department with respect to Fire Prevention and Plan Review.

Fire Department

The Building Official is the Fire Marshall and the City conducts annual fire compliance inspections of non-residential establishments. Brevard County Fire Rescue provides fire and medical emergency response services for the City.

Police Department

The City's Police Department consists of 35 sworn officers. The department is responsible for public safety and plays a primary role in hurricane evacuation and post disaster operations. This includes re-entry to the City after a disaster.

Development

The City of West Melbourne maintains its commitment to decreasing hazard vulnerability. Several stormwater improvement projects have been implemented, and several more are in the CIP, some under design. Since the adoption of the plan, West Melbourne has seen some of the highest development rates in the state. Most of the development has been multi-family and commercial uses, with some single-family development as well. Development is also beginning to occur on land west of I-95. As of April 2019, West Melbourne's population had increased to approximately 23,607 and now occupies 10.55 square miles. 53% of land use is residential. 11% of the jurisdiction remains to be developed that equates to 1.1 square miles. The floodplain previously identified for properties near I-95 has been reduced in the 2010 update of the FEMA maps thus decreasing vulnerabilities there. Commercial, Industrial, and Institutional uses are 12%, 6% and 4% respectively. All development must follow land development regulations and building codes, including stormwater attenuation and floodplain requirements.

Mitigation Mechanisms

West Melbourne		
Capital Improvement Plan		
CIE.Roadway	Improving intersection of Henry & Dougherty--Construction Fund	Redevelopment/ Reconstruction Only
CIE.Wastewater	Sewer pipe lining--Wastewater Utility/Stormwater Special Revenue	Redevelopment/ Reconstruction Only
Capital Improvement Plan Budget		
Sewer	Lift Station rehab at Garretts Run 2009-10--$160,000	Redevelopment/ Reconstruction Only
Sewer	Lift Station renovation at Laila Park 2009-10--$160,000	Redevelopment/ Reconstruction Only
Stormwater	Mapping and Master Plan 2009-10--$130,000	Redevelopment/ Reconstruction Only
Transportation	Dairy RD construction 2012013--$2,500,000	New Development/ Construction Only
Transportation	Dairy RD widening--design 2009-10--$250,000	Redevelopment/ Reconstruction Only
Water	Emergency intertie for fire flow 2009-10--$200,000	Redevelopment/ Reconstruction Only
Comprehensive Plan		
Cons.5.4	Stormwater management ordinance enforced to maintain water quality***	All areas
Cons.5.3	Uses causing adverse effects to groundwater recharge area is prohibited***	All areas
Cons.5.1	Amount of pre-development runoff shall not exceed post-development runoff***	New
Cons.5.3	Direct channeling of surface water runoff into waterbodies is prohibited***	All areas
CE.P.2.8	Compliance with effluent standards in operation wastewater treatment plant***	All areas
CE.P.2.9	Continue to operate deep well injection system, alleviating pollution***	All areas
CE.P.3.1	Public water and sewer shall be required for all development projects***	New
Cons.5.1	Amount of pre-development runoff shall not exceed post-development runoff***	New
Cons.4.7	Educate the public about irrigation	All areas
Cons.4.6	Requires reclaimed water lines and connection to reuse system***	New
Cons.4.9	Septic tanks allowed only in areas where public sewer is unavailable***	New

Cons.4.10	Require installation of backflow preventers on non-residential services***	All areas
Intergov.2.5	Coordinate disposal resources with Brevard County	
Pub.Fac.5.4	Educate about unsafe disposal of hazardous wastes***	All areas
Cons.3.7	Environmental report required for all development in 1/2 ac wetlands***	New
Pub.Fac.4.7	New subdivisions required to connect to major wastewater system.***	New
Cons.3.9	Limited development permitted in wetlands	All areas
Pub.Fac.6.10	The city will develop a master drainage inventory as part of the master drainage plan and plan during the ten-year time frame of this Comprehensive Plan.	All Utilities
Pub.Fac.	Amend land development regulations to be consistent with FEMA	All areas
Cons.3.8	Environmental assessment to be done prior to development in wetlands***	New
Pub.Fac.	Contain sanitary sewer facilities during a storm event	New
HE.1.8	Update/enforce building codes to assure safe and healthful structures*** Applies to multiple family, industrial, mobile home and commercial development.	New
Cons.5.8	Continue deep well injection system***	All areas
Cons.5.4	Enforce stormwater management for private facilities***	All areas
Pub.Fac.6.10	Develop Master Storm Drainage Plan for entire city***	All areas
PFE.1.4	Development expansion tied to available capacity	New
Pub.Fac.6.3	Public Works will evaluate city drainage systems	All areas
Pub.Fac.2.6	Minimize use of potable water sources for irrigation purposes	All areas
Pub.Fac.5.5	City shall continue to require recycling of solid waste***	All areas
Pub.Fac.1.3	City shall ensure adequate facilities/services are available and implement growth management	New
Pub.Fac.6.3	City will insure drainage systems be inspected and maintained annually***	All areas
Table 12 p. 41 Stormwtr. Improv.	Baffle box installation 2009--$613,400	Required Retrofit Only
Table 14 p. 48 Sanitary Swr Proj.	Haven DR lift station 2009-- $210,000	Required Retrofit Only
Table 14 p. 48 Sanitary Swr Proj.	Lift Station Rehabilitation 2010-2013-- $240,000 each year	Required Retrofit Only
Fire Prevention Code		
Sec.7-4	Burning permit required for outdoor fire unless 50 feet from any structure***	All areas
Land Development Code		
LDR Sec.71-8	Runoff from impervious areas shall be directed to retention/detention areas***	All areas

LDR Sec.71-10	Land cleared for development shall be protected from erosion***	All areas
LDR Sec 71-8	New construction/improvements anchored to prevent movement of structure***	All areas

Appendix G: Critical Facilities