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Introduction

Under Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) enacted under the Disaster Mitigation Act of 2000 (DMA2K), the State of Florida is required to have a Federal Emergency Management Agency (FEMA)-approved hazard mitigation plan in order to be eligible for federal hazard mitigation funding. The purpose of the State Hazard Mitigation Plan (SHMP) is to reduce death, injuries and property losses caused by natural or manmade hazards in Florida. The 2013 Plan identifies hazards based on the history of disasters within the state and lists goals, objectives, strategies, and actions for reducing future losses. Implementation of planned, pre-identified, and cost-effective mitigation measures not only helps reduce losses to lives, property and the environment but it streamlines the disaster recovery process. Hazard mitigation is most effective when based on an inclusive, comprehensive, long-term plan that is developed before a disaster occurs.

Section 322, along with other sections of DMA2K, provides an opportunity to reduce the nation's disaster losses through hazard mitigation. The Stafford Act authorizes money to be made available to states through the Hazard Mitigation Grant Program (HMGP) after presidentially declared disasters. In addition, the Stafford Act sets the requirements for state hazard mitigation plans and requires local jurisdictions to develop and adopt a local mitigation plan in order to receive federal funding for hazard mitigation too. The DMA2K is implemented by the FEMA and requires that all mitigation plans, both at the state and local level, be maintained and updated periodically.



According to the federal regulations outlined in DMA2K, state hazard mitigation plans are required to be updated and re-approved by FEMA every three years, while local plans must be updated every five years. The Florida SHMP was originally developed and officially approved by FEMA on August 24, 2004. Since 2004, the SHMP has been updated and re-approved in 2007 and 2010. Recently, there has been talk at the federal level of changing the state plan update cycle from three years to five years in order to allow more time for plan implementation and to better coincide with local mitigation plan update cycles. Despite extensive support at the state level to change the timeframe, as of January 2013, no official changes have been made.

In support of the Stafford Act and DMA2K, the 2013 SHMP update addresses all required elements in order to achieve enhanced status. Achieving enhanced status means that states are able to successfully implement federal grant programs and have built successful mitigation programs. Receiving enhanced status provides states additional HMGP funds when a major disaster is declared. Florida achieved enhanced status on September 5, 2008 and then again in August 2010, resulting in the addition of millions of mitigation dollars to the state.

The 2013 SHMP provides a framework that links pre- and post-disaster mitigation planning and measures with both public and private interests. The intent is to ensure an integrated and comprehensive approach to disaster loss reduction. This approach supports state administration of HMGP and the non-disaster programs such as the Pre-Disaster Mitigation grant program (PDM) and the Flood Mitigation Assistance program (FMA). The Plan represents a clear state commitment to mitigation activities, comprehensive state mitigation planning, and improved state program management.

The planning process, described in **Section 2: Planning Process**, provides a link between state and local mitigation programs as well as the efforts to coordinate mitigation information between all levels of government. The State Hazard Mitigation Plan Advisory Team (SHMPAT) believes that an all-inclusive mitigation planning approach results in a better understanding of the risks and vulnerabilities Florida faces which is reflected in **Section 3: State Risk Assessment**. The relationship between local and state mitigation stakeholders is discussed throughout the plan and featured in **Section 4: Goals and Capabilities**. Section 4 also identifies new goals and state level priorities and reinforces links between pre-disaster planning, mitigation efforts, post-disaster recovery, and reconstruction efforts. Further, the SHMP encourages the incorporation of post-disaster mitigation strategies as well as sustainable recovery actions at all levels to enhance mitigation capabilities.

The newly updated plan illustrates that:

- The State has developed a comprehensive mitigation program.
- The State effectively uses available mitigation funding.
- The State is capable of managing all funding, including that which results from achieving enhanced status.

A major goal of the SHMP is for state and local governments to develop comprehensive and integrated plans. Plans are coordinated through appropriate state, local, and regional agencies, as well as non-governmental interest groups. This 2013 Plan, and its future revisions, will provide guidance in merging the planning efforts of all state agencies, local governments, the private sector, and non-profit organizations into one viable, comprehensive, and state-wide mitigation program.

1.1 What is Hazard Mitigation?

The first step to understanding the SHMP is to understand what hazard mitigation is. Hazard mitigation is defined as any action taken to reduce or eliminate the long term risk to human life and property from manmade or natural hazards. A hazard is any event or condition with the potential to cause fatalities, injuries, property damage, infrastructure damage, agricultural loss, environmental damage, business interruption, or other structural and financial loss. As Florida's communities continue to grow, hazard mitigation will play an even more important role in the government's primary objective of protecting its citizens' health, safety, and welfare.

Hazard mitigation aims to make human development and the natural environment safer and more resilient. Hazard mitigation generally involves altering the built environment to significantly reduce risks and vulnerability to hazards so that life and property losses can be avoided or reduced. Mitigation can also include removing the built environment from disaster prone areas and maintaining natural mitigating features, such as wetlands or floodplains. Hazard mitigation makes it easier and less expensive to respond to and recover from disasters by breaking the damage and repair cycle.

Examples of hazard mitigation measures include, but are not limited to, the following:

- Development of mitigation standards, regulations, policies, and programs
 - Land use/zoning policies
 - Strong statewide building code and floodplain management regulations
 - Dam safety program, seawalls, and levee systems
- Acquisition of flood prone and environmentally sensitive lands
- Retrofitting/hardening/elevating structures and critical facilities
- Relocation of structures, infrastructure, and facilities out of vulnerable areas
- Public awareness/education campaigns
- Improvement of warning and evacuation systems

Benefits of hazard mitigation include:

- Saving lives and protecting public health
- Preventing or minimizing property damage
- Minimizing social dislocation and stress
- Reducing economic losses
- Protecting and preserving infrastructure
- Reducing legal liability of government and public officials
- Less expenditures on response and recovery efforts

In 2005, a study by the National Institute of Building Sciences reported to Congress that, on average, every dollar spent on mitigation yields four dollars in future benefits. To see the value and long term impacts mitigation can have, Florida also conducts post disaster assessments on completed mitigation projects. The post incident evaluation, or loss avoidance report, that was prepared after 2012's Tropical Storm Debby has been included with the Plan as **Appendix M: Tropical Storm Debby Loss Avoidance Report** and confirms the cost effectiveness of mitigating.

1.2 What is at Stake?

Florida is famous for its pristine beaches, historic heritage, beautiful nature preserves, and unrivaled entertainment parks making Florida one of the top tourist destinations in the world. Another attraction is the temperate climate which boasts an average annual high temperature of

81 degrees Fahrenheit (27 degrees Celsius), while the average annual low temperature remains a comfortable 60 degrees Fahrenheit (16 degrees Celsius).

Florida is the fourth largest state by population with over 18 million residents according to the 2010 US Census. Florida's population is particularly vulnerable because 38% of the population is composed of children (18 years or younger) or seniors (65 years or older). Another vulnerability for Florida is the concentration of its population. Florida is home to four metropolitan areas with over one million residents, three of which are coastal cities, making them even more vulnerable to certain hazards:

- Miami 5.6 million residents
- Tampa 2.8 million residents
- Orlando 2.1 million residents
- Jacksonville 1.3 million residents

According to the University of Florida's Office of Economic and Demographic Research (2011), the population of Florida is expected to grow at a rate of 1.4% between 2010 and 2030 resulting in a projected population of approximately 24 million people by the year 2030.

Florida's top economic driver is tourism, which attracted 85.9 million visitors who spent more than \$67.2 billion and generated 23% of the state's sales tax revenue in 2011 alone. The tourism industry is extremely susceptible to hazards potentially causing instability in Florida's economy when disasters strike.

Florida is vulnerable to both natural and manmade disasters. The most common hazards to Florida are wildfires and floods, however, hurricanes have historically inflicted catastrophic destruction. Florida has been affected by eight of the ten costliest tropical cyclones in the United States over the past 110 years. Table 1.1 below shows the storms that have caused the most economic damage in the United States over this time frame.

Table 1.1 The 10 Costliest United States Tropical Cyclones, 1900-2010¹

<i>Rank</i>	<i>Tropical Cyclone</i>	<i>Year</i>	<i>Category</i>	<i>Damage (U.S. \$)</i>
1	Katrina (FL, LA, MS)	2005	3	\$ 120,583,410,138
2	Andrew (SE FL, SE LA)	1992	5	\$ 41,186,439,771
3	Ike (N TX, SW LA)	2008	2	\$ 29,897,324,236
4	Wilma (SW/ SE FL)	2005	3	\$ 23,454,589,784
5	Ivan (NW FL, AL)	2004	3	\$ 21,724,696,135
6	Charley (SW FL)	2004	4	\$ 17,445,554,340
7	Rita (FL, LA, TX)	2005	3	\$ 13,439,467,665
8	Allison (N TX)	2001	TS	\$ 11,087,542,372
9	Frances (SE FL)	2004	2	\$ 10,974,319,137
10	Jeanne (SE FL)	2004	3	\$ 8,842,251,455

¹ Adjusted for inflation, NOAA, <http://www.nhc.noaa.gov/pdf/nws-nhc-6.pdf>

In the past 20 years (1992-2012), Florida has received 38 major disaster declarations.² Of the 38 major disaster declarations, 22 were due to tropical cyclones, 14 were a variety or combination of severe storms, tornadoes, and floods, one was due to a severe freeze, and one was due to a wildfire. A major disaster can cause significant hardship for residents to restore their way of life, restart economies, and repair infrastructure. The recovery process from a major or catastrophic disaster can span 10 years or more. By successfully implementing mitigation, not only can Florida reduce the impacts but it can significantly reduce the recovery time span.

² http://www.mms.fema.gov/news/disasters_state.fema?id=12