

Volusia County Floodplain Management Plan 2012

Introduction

The National Flood Insurance Program (NFIP) provides federally supported flood insurance in communities that regulate development in floodplains. The Community Rating System (CRS) grades the various Community Floodplain Management Programs and reduces flood insurance premiums in those communities that meet certain requirements. In order to reduce the potential for personal/property losses in flood prone areas and ensure the lowest possible flood insurance premiums for our residents, Volusia County has developed this Floodplain Management Plan. The Plan was developed and is updated annually with input from the Volusia County Local Mitigation Strategy Steering Committee, *Volusia Prepares*; and the Volusia County Growth & Resource Management and Public Works Departments. On June 13, 2012, the *Volusia Prepares* Steering Committee voted unanimously to incorporate the Plan into the Volusia County portion of the Local Mitigation Strategy.

Activity section 510 of the *CRS Coordinator's Manual* requires an annual update of the Plan's implementation be made available to the local governing body, the community, and the media. Copies of this plan are available for review at the Volusia County Kelly Administration Building, 123 West Indiana Avenue, DeLand, and the Daytona Beach Regional Library, 105 East Magnolia Avenue, Daytona Beach. Additionally, copies may be obtained by calling the Volusia County Emergency Management Division, 386-254-1500. A copy of this report has also been sent to the *Daytona Beach News-Journal*, the *Orlando Sentinel*, and the State of Florida NFIP Coordinating Official. This memorandum documents the current status of the Plan's implementation.

Background

Volusia County is a coastal county that is affected by storm surge along its coastline and riverine flooding from two rivers: The St Johns and the Halifax. Additionally, certain low-lying inland areas in the northwest, north, southeast and southwest are considered flood-prone areas.

The County consists of approximately 1,210 square miles with 50 miles of Atlantic coastline. Approximately 982 square miles are located in unincorporated Volusia County. On the east side of the County, the Halifax River and the Indian River North/Mosquito Lagoon make up the Intracoastal Waterway and form long, narrow estuaries which separate the mainland from the barrier island. There is one inlet, Ponce DeLeon Inlet, located near the middle of the coastline which serves as the County's only passage through which ocean tides and hurricane surges propagate into the Intracoastal Waterway.

The St. Johns River is the largest river in the County and flows along the west side of the County. Besides the St. Johns River, the other two major streams are the Tomoka River and Spruce Creek located on the eastern side of the County. The Tomoka River has a tributary area of 159 square miles, which serves the northeastern and central portions of the County. The river

flows from south to north and discharges through the Tomoka Basin to the Halifax River, which can be subject to storm surge.

The last major storm surge was from the 2004 storms; hurricanes Charley, Frances, and Jeanne. The most recent significant fresh water flooding was the “No-Name” rain event occurring in May of 2009, impacting numerous homes on the east side of the County. In 2008, Tropical Storm Fay caused severe flooding on the west side of the County. Although no official flooding depth measurements were taken during the events, it has been estimated that storm surge flooding during the 2004 storms caused tidal waters to rise three to five feet above mean high tide. The most recent freshwater flooding left some properties in the affected areas two feet underwater.

Base flood elevations have been calculated in the Flood Insurance Study for Volusia County and flood zones are published in the Flood Insurance Rate Maps dated April 2002. Coastal flooding caused by tropical storms, hurricanes and unusually high tides combined with strong easterly or northeasterly winds also poses a continuing threat to the County. Storm surge produces most of the flood damage and loss of life associated with storms that make landfall or that closely approach a coastline. Of the hurricane hazards, the storm surge is considered to be the most dangerous since nine out of ten hurricane related deaths are attributed to drowning. The principal tool utilized in assessing the hazard of storm surge is the Sea, Lake and Overland Surges from Hurricane (SLOSH) model. The computerized SLOSH model predicts the tidal surge heights that result from hypothetical hurricanes with selected various combinations of pressure, size, forward speed, track and winds. The SLOSH model, which is utilized locally for hazard and vulnerability analysis, has been digitized into the County’s GIS (Geographical Information System) mapping system. Estimated storm surge heights range from two to four feet in a Category 1 storm to in excess of twenty feet in a Category 5 storm.

Assessing the Hazard

Volusia County’s primary and most often occurring hazard is from flooding caused by hurricanes, tropical storms, and subtropical events that are associated with extremely heavy rain. As of 2012, best estimates indicate that there are over 12,500 properties that have flood insurance in the unincorporated areas of the County. An analysis of properties located in the flood zones reveals that there are 5,700 properties totally, or in part, located in a flood zone. The improved property value for those sites is estimated at \$1.2 billion.

Plan Goals & Objectives

Goal 1 - Prevent new development in the floodplain from increasing runoff and resulting increases in flood volumes in the floodplain.

- Achieved through Volusia County Floodplain Development Ordinance, building permitting process and stormwater management plans – on-going.

Goal 2 - Develop a public awareness program that informs all property owners in the flood zones that they are located in a flood zone.

- Brochure complete, at printer. Mail-out tentatively planned for late July 2012 – on-going.

Goal 3 - Provide advice and assistance to property owners concerning the protection of their properties from flooding, local drainage and sewer back-up problems.

- Information available and provided to property owners by Growth & Resource Management, Library, Public Presentations, Mail-outs – on-going.

Goal 4 - Continue flood hazard mitigation program to identify and obtain funding for both pre-and-post disaster residential mitigation projects.

- Identify cost-beneficial residential units for various flood mitigation grants; Community Services shuttering program – ongoing.

Goal 5 - Prioritize capital projects that will mitigate flood impacts in those areas of the County that have experienced significant flooding problems.

- Stormwater drainage programs – on-going.

Goal 6 - Utilize “Volusia Prepares” Local Mitigation Strategy to guide and assist the County in establishing priorities for hazard mitigation projects.

- LMS Steering Committee meets quarterly to review mitigation initiatives and identify potential funding sources – on-going.

Goal 7 - Review the locations and effects on areas that experience flooding and determine what steps, if any, the County can take to alleviate future impacts.

- Stormwater conducts inspections of flood prone areas to determine best mitigation activities – on-going.

Goal 8 – Develop Floodplain Management Plans for participating CRS municipalities in Volusia County (and others as desired).

- RSQ in development, tentative issue date July 2012 – on-going.

Repetitive Loss Properties

The unincorporated area of Volusia County has been identified as a National Flood Insurance Program category “C” community by the Federal Emergency Management Agency. (A repetitive loss property is defined as two (2) or more insurance claims in excess of \$1,000 each for the same property within a ten year period). A category “C” community is one in which ten (10) or more repetitive losses have occurred in the community. The Federal Emergency Management Agency (FEMA) has identified 87 properties in unincorporated Volusia County as repetitive loss properties. Because repetitive loss properties represent approximately one third of the flood insurance claims processed by FEMA, they have made the adoption of a plan to address the specific properties in this classification a mandatory requirement for participation in the Community Rating System (CRS).

The possible activities that could be undertaken to reduce potential flooding to repetitive loss properties must be balanced with the rights of the land owners, the ability of the County to finance various activities and the potential benefits of those activities. Considering these variables, the County will undertake the following:

1. The Volusia County Building & Zoning Department will continue to identify repetitive loss properties within unincorporated Volusia County and will monitor these structures closely to ensure they do not receive building permits for substantial improvements as defined in Section 72-745 of Division 7 of the Volusia County Code of Ordinances.
2. The Community Rating System Coordinator shall ensure that annually, each un-mitigated repetitive loss property in unincorporated Volusia County is sent a letter explaining that the structure is susceptible to flooding and include information on retrofitting, elevation, relocation, and flood insurance.
3. The Volusia County Public Works Department will inspect any new repetitive loss properties to determine the cause of flooding and suggest possible cost-effective methods to prevent future flooding of the properties.
4. The Community Rating System Coordinator shall request that the State NFIP Officer annually notify the County of all flood claims processed within the County.
5. The Community Rating System Coordinator shall notify the Growth & Resource Management Director on any emerging patterns of flooding so that these patterns can be used in the decision process for zoning changes and prioritization of capital projects.

Action Plan

Taking into consideration the existing fiscal constraints experienced by Volusia County, and the realization that all floodplain management activity is conducted through the operating budgets of various County departments, the following action plan is designed to serve as a balanced, comprehensive program to mitigate and manage the impact of development activity in the floodplain.

Prevention

Planning and Zoning - Through the regulatory/review activities of the Growth & Resource

Management Department, the preservation of open space and the restriction of development in the floodplain will be a priority. The County's Land Development Code (LDC) provides regulations that restrict and manage development activity in the floodplain by limiting wetlands encroachment and preserving open space. This will be primarily accomplished by ensuring limitations on impervious surface and preservation of critical upland habitat and wetland areas.

Stormwater Management - The enforcement of the Land Development Code so that all new development mitigate for its stormwater impacts. State-of-the-art stormwater management techniques will continue to be used to regulate all stormwater, whether it is located within or outside of the floodplain. The Road and Bridge Division of the Public Works Department will evaluate each flood event to determine the effectiveness of recently constructed projects and identify potential additional projects or improvements.

Drainage System Maintenance - The County will continue to take the appropriate actions to maintain the County's stormwater management systems. The Road and Bridge Division, through maintenance programs funded by its operating budget, maintains the stormwater conveyance systems to ensure that flooding impacts are minimized.

Mitigation - The County will continue its flood hazard mitigation program that provides for the acquisition & demolition, elevation, mitigation reconstruction, and relocation of properties that have experienced repetitive losses due to flooding. The continuing impact of this program on flood mitigation is important, as the mitigation of repetitive loss properties located in the floodplain improves quality of life, benefits the NFIP, and increases revenue to the County through increased property values. To date, the County has mitigated, or is in the process of mitigating, 36 of the 87 repetitive loss properties identified by the NFIP in unincorporated Volusia County through a combination of project types; elevation, mitigation reconstruction, and acquisition & demolition.

Insurance - The County will continue to actively participate in the National Flood Insurance Program. A major contribution to this effort is the recognition that the Community Rating System program is managed by a full-time staff member. As part of the program, it is recognized that a major emphasis should be placed on the education of those property owners who are located in the floodplain that they should secure flood insurance. FEMA identifies 12,256 properties in the County that participate in the NFIP.

Emergency Management

The coordination of emergency services during flood events is through the Public Protection Department's Emergency Management Division. In April 2012, the Emergency Management Division re-certified Volusia County as a National Weather Service "Storm Ready" community. As part of the re-certification process, Emergency Management had to demonstrate its Flood Warning System, which includes multiple methods of warning the public of NWS issued flood warning products.

Public Information

The County has undertaken various activities that advise property owners concerning the hazards and potential mitigating activities associated with building in the floodplains.

Map information - Residents, both existing and potential, can access information relating to the floodplains at the Building & Zoning Office in the Kelly Administration Building, 123 W. Indiana Avenue DeLand. Floodplain determinations can be requested that provide an official determination of whether a property is located, fully or partially, within a floodplain. Additionally, the County has shape files of the floodplain on its Geographical Information System (GIS). The County also included shape files of the storm surge from hurricanes based on the SLOSH model. Both models are accessible via the Emergency Management website, www.volusia.org/emergency.